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Detailed results of the comparison of basis functions used in interval-based optimization process

Sébastien Lengagne

August 27, 2024

1 Introduction

In this paper, we assess the results of the method proposed in [1] by addressing Optimization Problems (OP) to find the posture of a robot that optimally fits robot constraints and desired end-effector position such as :

$$\begin{aligned} & \text{Find} && q \in \mathbb{Q} \subset \mathbb{R}^n \\ & \text{such as} && \min_q \mathcal{F}(q) \\ & \text{with } \forall j \in \{1, \dots, m\} && \mathcal{G}_j(q) \in [\underline{g}_j, \bar{g}_j] \end{aligned} \tag{1}$$

Where n is called the number of degrees of freedom.

2 Detail of the basis functions

The different basis functions presented in [1] are more deeply presented here. Table 1 to 8 represents the coefficient of the matrix \mathbf{B} and the coefficient of the matrix \mathbf{B}^{-1} . Eventually, Table 9 shows the plot for the different functions from order 2 to 6.

We consider basis functions of the difference types :

- Bernstein,
- MinVariance,
- B-Splines,
- MinNorm,
- MinVolume
- Approximation of MinVolume (ApproxMinVo),
- Recursive,
- Recursive2.

3 Bisection mode

The goal of this document is to evaluate the efficient of the evaluation process in the case of optimization. We do not focus on the bisection process that will be study in future works. Here, we consider the results of two different bisection process :

- **MinFirst** : Cut the largest interval and store in a FILO (First In Last Out) stack the higher part and then the lower part. So the lower part will be the next to be evaluated.
- **MaxFirst** : Cut the largest interval and store in a FILO (First In Last Out) stack the lower part and then the higher part. So the higher part will be the next to be evaluated.

4 Presentation of the Planar robot problem

First, we assess our method on multi degrees-of-freedom 2D-robots, and considering possible constraints on the end effector, the Center of Mass position and maximum torque:

4.1 End effector position

We define the end effector by recursively computing :

$$i \in 1, \dots, n \quad T_i = T_{i-1} \times \begin{bmatrix} \cos(q_i) & -\sin(q_i) & l \\ \sin(q_i) & \cos(q_i) & 0 \\ 0 & 0 & 1 \end{bmatrix} \quad (2)$$

With the number of a link $l = 2/n$ and $T_0 = I_{3 \times 3}$ and the end-effector position $\{P_x, P_y\}$ and orientation θ are defined as:

$$T_n = \begin{bmatrix} \cos(\theta) & -\sin(\theta) & P_x \\ \sin(\theta) & \cos(\theta) & P_y \\ 0 & 0 & 1 \end{bmatrix} \quad (3)$$

4.2 Considering several targets

We assess our method on nine different target positions considering shape as a square of size 0.2 by 0.2, as a circle target with a radius of 0.1 and as a ring target with an external radius of 0.15 and an interval radius of 0.05. The targets are localized at three different positions :

- problem 1,4,7 : $x = 0.2, y = 1.7$
- problem 2,5,8 : $x = 0.4, y = 1.4$
- problem 3,6,9 : $x = 0.6, y = 1.1$

We defined the following constraints :

$$\text{square:} \quad \begin{cases} P_x \in [x - 0.1; x + 0.1] \\ P_y \in [y - 0.1; y + 0.1] \end{cases} \quad (4)$$

$$\text{circle:} \quad (P_x - x)^2 + (P_y - y)^2 \in [0; 0.01] \quad (5)$$

$$\text{ring:} \quad (P_x - x)^2 + (P_y - y)^2 \in [0.05^2; 0.15^2] \quad (6)$$

4.3 Center of Mass

To assess the performance of the evaluation for more complex functions we consider the Center of Mass (COM) of the robot. We consider that all the links have the same length $l = 2/n$ and same weight 1 and the same Center Of Mass located in the middle of each links. Thus the x-coordinate of the COM of each link c_i can be computed through :

$$c_i = [1 \quad 0 \quad 0] T_i \times \begin{bmatrix} l/2 \\ 0 \\ 0 \end{bmatrix} \quad (7)$$

and the global COM as :

$$COM = \frac{1}{n} \sum_{i=1}^n c_i \quad (8)$$

Finally we consider that the COM of the robot must remain in $[0.1, 0.1]$ on the horizontal plane.

4.4 Cost function

We consider two different cost functions to minimize. The first one is the sum of joint position square and the second is the sum of torque square:

$$\text{problem 1 to 9 position :} \quad \sum_{i=1}^n q_i^2 \quad (9)$$

$$\text{problem 11 to 19 torque :} \quad \sum_{i=1}^n \Gamma_i^2 \quad (10)$$

$$(11)$$

4.5 Results of the Planar robot problem

We assess our contribution with 18 different constraint satisfaction problems, with the two bisection processes (MinFirst and MaxFirst) such as presented in Table 11.

4.6 Results of the Bisection process

The results are summarized in the tables 12 to 47 and summarized in table 48. For all the cases, it appears that using basis functions reduce the number of iterations regarding to the state-of-the-art interval bisection process. This phenomenon is all the more important as the number of degrees of freedom increases and as the precision decreases. Regarding the computation time the BSplines basis function is the worst cases (even worse than interval bisection process). Excluding the preparation phase the other basis functions allows the optimization process to be faster than interval bisection. Taking into account the preparation phase, the basis function (except BSplines) are faster for degrees of freedom bigger than 4.

Regarding the global performances the Bernstein function seems to be the best solution, very close to the MinVariance (for computation time and number of iterations). Then the MinNo, the Recursive and the Reclusve2 produce quite good performances and the MinVo and ApproxMinVo are the less effective methods whereas BSplines is the worst one.

5 3D robot

5.1 Presentation fo the robot

In this section we consider the same kind of problem as presented in Equation 1 but with 3D-robots. To assess the effectiveness of our method on more complex systems, we consider the following problem:

$$\begin{aligned}
 &\text{Find} && q \in \mathbb{Q} \subset \mathbb{R}^n \\
 &\text{such as} && \min_q F(q) \\
 &\text{with} && x \in x_d + [-0.01; 0.01] \\
 &&& y \in y_d + [-0.01; 0.01] \\
 &&& z \in z_d + [-0.01; 0.01] \\
 &\forall j \in \{1, \dots, n\} && \Gamma_j \in [-\alpha \bar{\Gamma}_j : \alpha \bar{\Gamma}_j]
 \end{aligned} \tag{12}$$

We present the results for two different 3D robots (with $n = 4$ and $n = 6$ degrees of freedom) which derive from the KUKA LWR as presented on Figure 1. The 4-dof robot is obtained by considering the joint number 3 and 5 equal to zero.

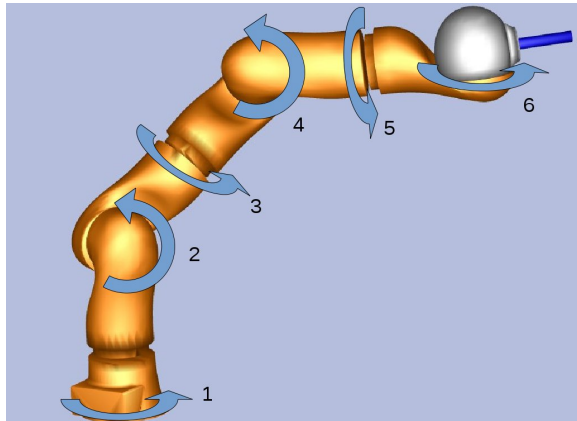


Figure 1: The 3D robot : KUKA LWR

The solution of Problem 12 is the static posture, i.e. the joint position, that minimizes the cost function $F(q)$ and ensures that the end effector position $\{x, y, z\}$ is within a 0.02 meter width box centered on a desired position $\{x_d, y_d, z_d\}$, and checks the joint torque Γ_i are within the joint limits $[-\bar{\Gamma}_j : \bar{\Gamma}_j]$ considering different coefficient α . Theses function can be obtained by using the forward kinematic model and the inverse dynamics model as presented in [2].

5.2 Constraint evaluation

First, Table 49 and 50 presents the results of the constraint and cost function computation considering several inputs to compare the effectiveness of the different basis function on the evaluation performances.

Figure 2 represents the diameter of the sum of square torque regarding the diameter of the input $[q]$. It shows that for large boxes (diameter of 2), the interval evaluation is quite similar using interval analysis or basis function based evaluation. For smaller intervals, the basis-functions produce tighter evaluation than interval analysis, except for the worst case of B-Splines.

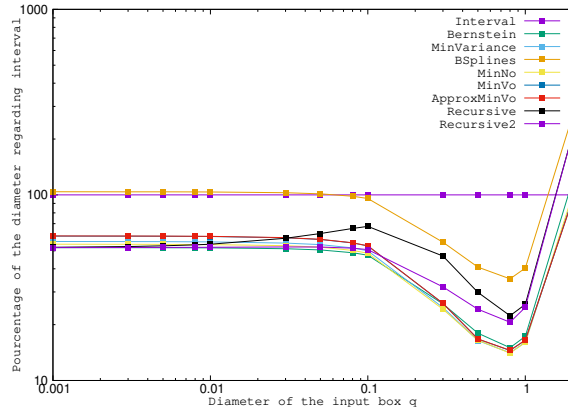


Figure 2: Representation of the diameter of the evaluation using basis function regarding interval analysis.

5.3 Optimization Results of the 3D robot problem

We assess our contribution with 12 different constraint satisfaction problems, with the two bisection processes (MinFirst and MaxFirst) such as presented in Table 51, with n the number of degrees of freedom. Some computation with 6-dof robot and sum of square torques are still in progress with huge computation time (more than 60 days), hence we do not present the results here.

5.4 Results of the Bisection process

We can note that the preparation time is quite important: around 100s for 4-dof-robot and around 400s for the 6-dof-robot. This will greatly impact the performance for fast resolution, but can be neglected for more complex problem that are solved in several hours or days.

As for the 2D-cases, we notice that the number of iterations of basis-function based method is lower than state-of-the-art interval analysis. This point emphasizes that the evaluation produce tighter boxes that was already showed in Section 5.2.

Regarding the performances of the different basis functions, it is clear that the BSplines are the worst case. The other basis function produce similar results in terms of reducing the number of bisection process or the computation even if we can notice that the Bernstein functions seems too be the best choice.

6 Result summary

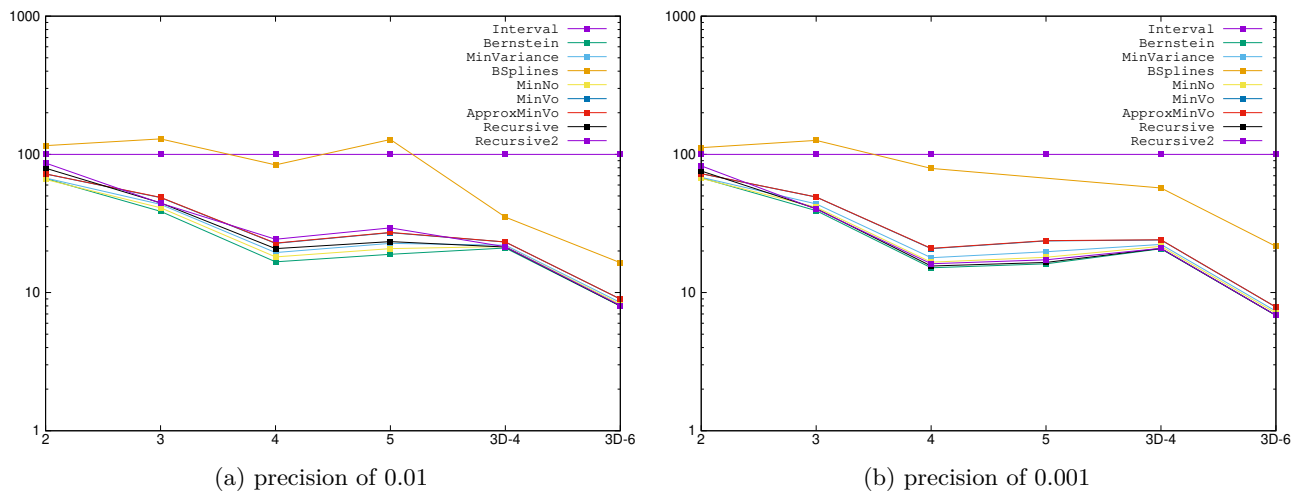


Figure 3: Comparison of the number of iterations

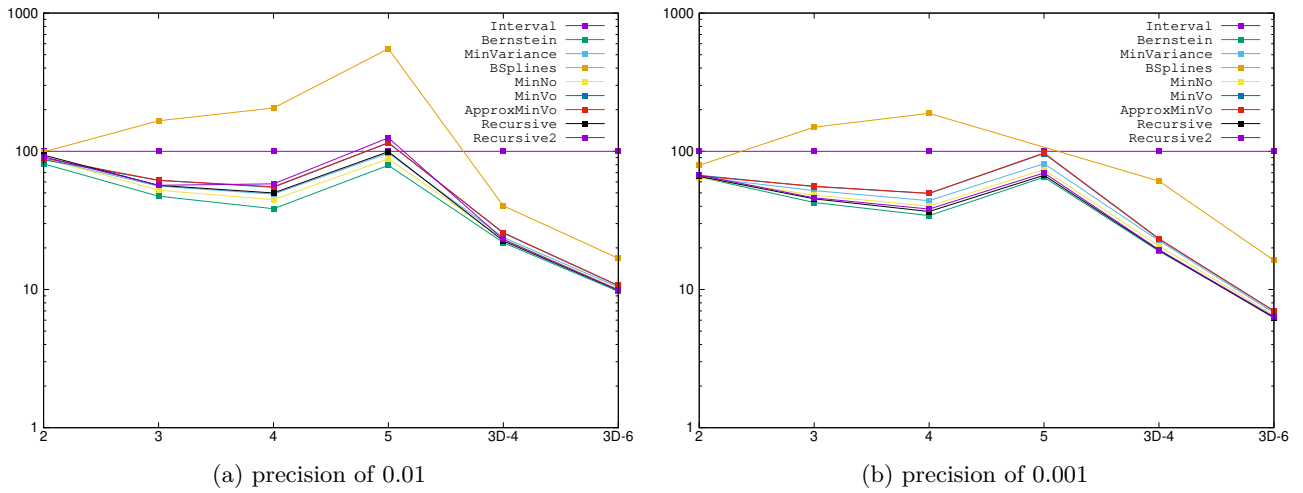


Figure 4: Comparison of the computation time.

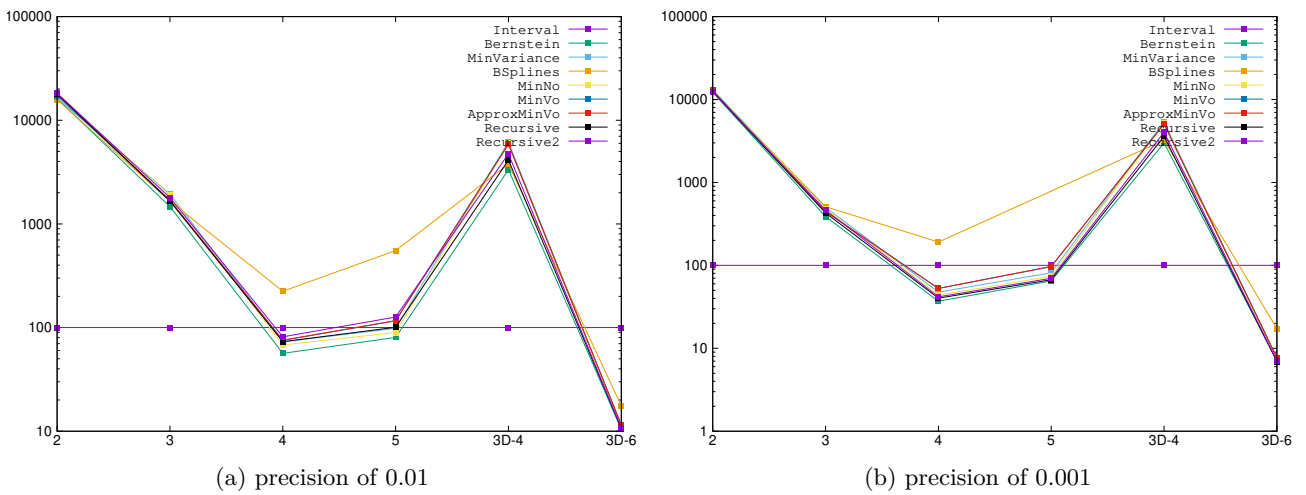


Figure 5: Comparison of the total computation time (including preparation phase).

Acknowledgment

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References

- [1] Sébastien Lengagne. Comparison of the basis-functions for interval-based optimization. submitted to International Journal of Approximate Reasoning, -.
- [2] Bruno Siciliano and Oussama Khatib. Springer Handbook of Robotics. Springer-Verlag, Berlin, Heidelberg, 2007.

matrice	order	value								
B	1					0.500000	0.500000			
						-0.500000	0.500000			
	2				0.250000	0.500000	0.250000			
					-0.500000	0.000000	0.500000			
					0.250000	-0.500000	0.250000			
	3			0.125000	0.375000	0.375000	0.125000			
			-0.375000	-0.375000	0.375000	0.375000				
			0.375000	-0.375000	-0.375000	0.375000				
			-0.125000	0.375000	-0.375000	0.125000				
4		0.062500	0.250000	0.375000	0.250000	0.062500				
		-0.250000	-0.500000	0.000000	0.500000	0.250000				
		0.375000	0.000000	-0.750000	0.000000	0.375000				
		-0.250000	0.500000	0.000000	-0.500000	0.250000				
		0.062500	-0.250000	0.375000	-0.250000	0.062500				
5		0.031250	0.156250	0.312500	0.312500	0.156250	0.031250			
		-0.156250	-0.468750	-0.312500	0.312500	0.468750	0.156250			
		0.312500	0.312500	-0.625000	-0.625000	0.312500	0.312500			
		-0.312500	0.312500	0.625000	-0.625000	-0.312500	0.312500			
		0.156250	-0.468750	0.312500	0.312500	-0.468750	0.156250			
		-0.031250	0.156250	-0.312500	0.312500	-0.156250	0.031250			
6		0.015625	0.093750	0.234375	0.312500	0.234375	0.093750	0.015625		
		-0.093750	-0.375000	-0.468750	0.000000	0.468750	0.375000	0.093750		
		0.234375	0.468750	-0.234375	-0.937500	-0.234375	0.468750	0.234375		
		-0.312500	0.000000	0.937500	0.000000	-0.937500	0.000000	0.312500		
		0.234375	-0.468750	-0.234375	0.937500	-0.234375	-0.468750	0.234375		
		-0.093750	0.375000	-0.468750	0.000000	0.468750	-0.375000	0.093750		
		0.015625	-0.093750	0.234375	-0.312500	0.234375	-0.093750	0.015625		
B⁻¹	1					1.000000	-1.000000			
						1.000000	1.000000			
	2				1.000000	-1.000000	1.000000			
					1.000000	0.000000	-1.000000			
					1.000000	1.000000	1.000000			
	3			1.000000	-1.000000	1.000000	-1.000000			
			1.000000	-0.333333	-0.333333	1.000000				
			1.000000	0.333333	-0.333333	-1.000000				
			1.000000	1.000000	1.000000	1.000000				
4		1.000000	-1.000000	1.000000	-1.000000	1.000000				
		1.000000	-0.500000	-0.000000	0.500000	-1.000000				
		1.000000	-0.000000	-0.333333	-0.000000	1.000000				
		1.000000	0.500000	0.000000	-0.500000	-1.000000				
		1.000000	1.000000	1.000000	1.000000	1.000000				
5		1.000000	-1.000000	1.000000	-1.000000	1.000000	-1.000000			
		1.000000	-0.600000	0.200000	0.200000	-0.600000	1.000000			
		1.000000	-0.200000	-0.200000	0.200000	0.200000	-1.000000			
		1.000000	0.200000	-0.200000	-0.200000	0.200000	1.000000			
		1.000000	0.600000	0.200000	-0.200000	-0.600000	-1.000000			
		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000			
6		1.000000	-1.000000	1.000000	-1.000000	1.000000	-1.000000	1.000000		
		1.000000	-0.666667	0.333333	-0.000000	-0.333333	0.666667	-1.000000		
		1.000000	-0.333333	-0.066667	0.200000	-0.066667	-0.333333	1.000000		
		1.000000	0.000000	-0.200000	-0.000000	0.200000	0.000000	-1.000000		
		1.000000	0.333333	-0.066667	-0.200000	-0.066667	0.333333	1.000000		
		1.000000	0.666667	0.333333	0.000000	-0.333333	-0.666667	-1.000000		
		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		

Table 1: Values of the matrices **B** and **B⁻¹** for the Bernstein basis functions from order 1 to 6.

matrice	order	value					
B	1			0.500000	0.500000		
				-0.500000	0.500000		
	2			0.155869	0.688262	0.155869	
				-0.463203	0.000000	0.463203	
				0.344131	-0.688262	0.344131	
	3			0.019243	0.480757	0.480757	0.019243
			-0.175647	-0.592928	0.592928	0.175647	
			0.474214	-0.474214	-0.474214	0.474214	
			-0.317810	0.599471	-0.599471	0.317810	
4			0.000358	0.223129	0.553025	0.223129	0.000358
			0.017719	-0.754489	0.000000	0.754489	-0.017719
			0.198449	0.414677	-1.226252	0.414677	0.198449
			-0.510994	0.754489	0.000000	-0.754489	0.510994
			0.297927	-0.637806	0.679758	-0.637806	0.297927
5			0.001914	0.054005	0.444081	0.444081	0.054005
			0.020330	-0.413584	-0.682843	0.682843	0.413584
			-0.000905	0.916831	-0.915926	-0.915926	0.916831
			-0.272851	-0.227279	1.473726	-1.473726	0.227279
			0.496226	-0.970088	0.473862	0.473862	-0.970088
			-0.244714	0.641611	-0.792900	0.792900	-0.641611
			0.002525	0.009926	0.212042	0.551016	0.212042
			0.005469	-0.147132	-0.828820	0.000000	0.828820
			-0.051546	0.691264	0.368931	-2.017299	0.368931
			-0.013728	-1.008610	1.734068	0.000000	-1.734068
			0.343248	-0.088754	-1.475367	2.441746	-1.475367
			-0.489013	1.155742	-0.906977	0.000000	0.906977
			0.203216	-0.612436	0.896951	-0.975463	0.896951
B⁻¹	1			1.000000	-1.000000		
				1.000000	1.000000		
	2			1.000000	-1.079440	1.000000	
				1.000000	0.000000	-0.452934	
				1.000000	1.079440	1.000000	
	3			1.000000	-1.020433	1.013797	-1.009295
			1.000000	-0.540983	-0.040579	0.298991	
			1.000000	0.540983	-0.040579	-0.298991	
			1.000000	1.020433	1.013797	1.009295	
4			1.000000	-1.013632	1.008328	-1.013632	1.005414
			1.000000	-0.686505	0.328883	-0.023804	-0.220271
			1.000000	-0.000000	-0.266696	0.000000	0.176443
			1.000000	0.686505	0.328883	0.023804	-0.220271
			1.000000	1.013632	1.008328	1.013632	1.005414
5			1.000000	-1.005471	1.005090	-1.006392	1.005581
			1.000000	-0.758010	0.483305	-0.240705	-0.002976
			1.000000	-0.303057	-0.063107	0.115827	-0.003972
			1.000000	0.303057	-0.063107	-0.115827	-0.003972
			1.000000	0.758010	0.483305	0.240705	-0.002976
			1.000000	1.005471	1.005090	1.006392	1.005581
6			1.000000	-1.003855	1.004594	-1.005696	1.005546
			1.000000	-0.792904	0.578203	-0.378065	0.182506
			1.000000	-0.469135	0.106350	0.060478	-0.078809
			1.000000	0.000000	-0.111888	0.000000	0.044865
			1.000000	0.469135	0.106350	-0.060478	-0.078809
			1.000000	0.792904	0.578203	0.378065	0.182506
			1.000000	1.003855	1.004594	1.005696	1.005546

Table 2: Values of the matrices **B** and **B⁻¹** for the MinVariance basis functions from order 1 to 6.

matrice	order	value							
B	1			0.500000	0.500000				
				-0.500000	0.500000				
	2			0.125000	0.750000	0.125000			
				-0.250000	0.000000	0.250000			
				0.125000	-0.250000	0.125000			
	3			0.020833	0.479167	0.479167	0.020833		
			-0.062500	-0.312500	0.312500	0.062500			
			0.062500	-0.062500	-0.062500	0.062500			
			-0.020833	0.062500	-0.062500	0.020833			
4			0.002604	0.197917	0.598958	0.197917	0.002604		
			-0.010417	-0.229167	0.000000	0.229167	0.010417		
			0.015625	0.062500	-0.156250	0.062500	0.015625		
			-0.010417	0.020833	0.000000	-0.020833	0.010417		
			0.002604	-0.010417	0.015625	-0.010417	0.002604		
5			0.000260	0.061719	0.438021	0.438021	0.061719	0.000260	
			-0.001302	-0.097656	-0.200521	0.200521	0.097656	0.001302	
			0.002604	0.054688	-0.057292	-0.057292	0.054688	0.002604	
			-0.002604	-0.007812	0.036458	-0.036458	0.007812	0.002604	
			0.001302	-0.003906	0.002604	0.002604	-0.003906	0.001302	
			-0.000260	0.001302	-0.002604	0.002604	-0.001302	0.000260	
6			0.000022	0.015668	0.228798	0.511024	0.228798	0.015668	0.000022
			-0.000130	-0.030729	-0.188151	0.000000	0.188151	0.030729	0.000130
			0.000326	0.024089	0.025716	-0.100260	0.025716	0.024089	0.000326
			-0.000434	-0.008681	0.018663	0.000000	-0.018663	0.008681	0.000434
			0.000326	0.000651	-0.005534	0.009115	-0.005534	0.000651	0.000326
			-0.000130	0.000521	-0.000651	-0.000000	0.000651	-0.000521	0.000130
			0.000022	-0.000130	0.000326	-0.000434	0.000326	-0.000130	0.000022
B⁻¹	1			1.000000	-1.000000				
				1.000000	1.000000				
	2			1.000000	-2.000000	3.000000			
				1.000000	0.000000	-1.000000			
				1.000000	2.000000	3.000000			
	3			1.000000	-3.000000	7.666667	-15.000000		
			1.000000	-1.000000	-0.333333	3.000000			
			1.000000	1.000000	-0.333333	-3.000000			
			1.000000	3.000000	7.666667	15.000000			
4			1.000000	-4.000000	14.333333	-44.000000	105.000000		
			1.000000	-2.000000	2.333333	2.000000	-15.000000		
			1.000000	0.000000	-1.666667	0.000000	9.000000		
			1.000000	2.000000	2.333333	-2.000000	-15.000000		
			1.000000	4.000000	14.333333	44.000000	105.000000		
5			1.000000	-5.000000	23.000000	-95.000000	337.800000	-945.000000	
			1.000000	-3.000000	7.000000	-9.000000	-14.200000	105.000000	
			1.000000	-1.000000	-1.000000	5.000000	1.800000	-45.000000	
			1.000000	1.000000	-1.000000	-5.000000	1.800000	45.000000	
			1.000000	3.000000	7.000000	9.000000	-14.200000	-105.000000	
			1.000000	5.000000	23.000000	95.000000	337.800000	945.000000	
6			1.000000	-6.000000	33.666667	-174.000000	809.266667	-3254.000000	10395.000000
			1.000000	-4.000000	13.666667	-36.000000	49.266667	124.000000	-945.000000
			1.000000	-2.000000	1.666667	6.000000	-22.733333	-18.000000	315.000000
			1.000000	0.000000	-2.333333	0.000000	17.266667	0.000000	-225.000000
			1.000000	2.000000	1.666667	-6.000000	-22.733333	18.000000	315.000000
			1.000000	4.000000	13.666667	36.000000	49.266667	-124.000000	-945.000000
			1.000000	6.000000	33.666667	174.000000	809.266667	3254.000000	10395.000000

Table 3: Values of the matrices **B** and **B⁻¹** for the BSplines basis functions from order 1 to 6.

matrice	order	value												
B	1	0.500000 0.500000				-0.500000 0.500000								
	2	0.178806 0.642387 0.178806		-0.479297 0.000000 0.479297		0.321194 -0.642387 0.321194								
	3	0.028323 0.471677 0.471677 0.028323		-0.208384 -0.572950 0.572950 0.208384		0.466241 -0.466241 -0.466241 0.466241		-0.286180 0.578386 -0.578386 0.286180						
	4	0.001808 0.232346 0.531691 0.232346 0.001808		-0.040769 -0.719547 0.000000 0.719547 0.040769		0.270116 0.324740 -1.189712 0.324740 0.270116		-0.454129 0.719547 0.000000 -0.719547 0.454129		0.224324 -0.557086 0.665525 -0.557086 0.224324				
	5	0.000548 0.087040 0.412412 0.412412 0.087040 0.000548		-0.013185 -0.484330 -0.611879 0.611879 0.484330 0.013185		0.104674 0.774368 -0.879042 -0.879042 0.774368 0.104674		-0.313820 0.006407 1.345160 -1.345160 -0.006407 0.313820		0.390724 -0.861075 0.470351 0.470351 -0.861075 0.390724		-0.168943 0.478256 -0.737001 0.737001 -0.478256 0.168943		
	6	0.000246 0.039541 0.234007 0.452411 0.234007 0.039541 0.000246		-0.004996 -0.286016 -0.769529 0.000000 0.769529 0.286016 0.004996		0.040290 0.715108 0.132833 -1.776461 0.132833 0.715108 0.040290		-0.162385 -0.572706 1.643712 0.000000 -1.643712 0.572706 0.162385		0.336335 -0.398220 -1.084518 2.292808 -1.084518 -0.398220 0.336335		-0.328442 0.858721 -0.877742 0.000000 0.877742 -0.858721 0.328442		0.119119 -0.356428 0.721688 -0.968758 0.721688 -0.356428 0.119119
B⁻¹	1	1.000000 -1.000000				1.000000 1.000000								
	2	1.000000 -1.043194 1.000000		1.000000 0.000000 -0.556693		1.000000 1.043194 1.000000								
	3	1.000000 -1.016520 1.011659 -1.006966		1.000000 -0.502965 -0.060748 0.366237		1.000000 0.502965 -0.060748 -0.366237		1.000000 1.016520 1.011659 1.006966						
	4	1.000000 -1.010308 1.009359 -1.010308 1.005456		1.000000 -0.637638 0.264341 0.057244 -0.326362		1.000000 -0.000000 -0.237895 -0.000000 0.278399		1.000000 0.637638 0.264341 -0.057244 -0.326362		1.000000 1.010308 1.009359 1.010308 1.005456				
	5	1.000000 -1.006914 1.008556 -1.009297 1.008081 -1.006181		1.000000 -0.712459 0.409683 -0.145518 -0.111157 0.325908		1.000000 -0.231515 -0.087805 0.136932 0.022119 -0.236290		1.000000 0.231515 -0.087805 -0.136932 0.022119 0.236290		1.000000 0.712459 0.409683 0.145518 -0.111157 -0.325908		1.000000 1.006914 1.008556 1.009297 1.008081 1.006181		
	6	1.000000 -1.005823 1.007968 -1.009204 1.008783 -1.008078 1.006174		1.000000 -0.755246 0.509137 -0.274875 0.056328 0.147388 -0.333314		1.000000 -0.362511 0.014527 0.108716 -0.086189 -0.048237 0.236376		1.000000 -0.000000 -0.105121 0.000000 0.078218 -0.000000 -0.187359		1.000000 0.362511 0.014527 -0.108716 -0.086189 0.048237 0.236376		1.000000 0.755246 0.509137 0.274875 0.056328 -0.147388 -0.333314		1.000000 1.005823 1.007968 1.009204 1.008783 1.008078 1.006174

Table 4: Values of the matrices **B** and **B⁻¹** for the MinNorm basis functions from order 1 to 6.

matrice	order	value									
B	1					0.500000	0.500000				
						-0.500000	0.500000				
	2					0.125000	0.750000	0.125000			
						-0.433013	0.000000	0.433013			
						0.375000	-0.750000	0.375000			
	3					0.000410	0.499590	0.499590	0.000410		
					-0.026982	-0.792093	0.792093	0.026982			
					0.456775	-0.456775	-0.456775	0.456775			
					-0.430204	0.834907	-0.834907	0.430204			
4					0.030227	0.148259	0.643029	0.148259	0.030227		
					0.138091	-0.810775	0.000000	0.810775	-0.138091		
					-0.094352	0.960202	-1.731700	0.960202	-0.094352		
					-0.575789	0.810775	0.000000	-0.810775	0.575789		
					0.525520	-1.108461	1.165882	-1.108461	0.525520		
5					0.045894	0.002895	0.451210	0.451210	0.002895	0.045894	
					-0.036501	-0.120977	-1.064403	1.064403	0.120977	0.036501	
					-0.377284	1.333003	-0.955718	-0.955718	1.333003	-0.377284	
					0.330192	-1.365550	2.776543	-2.776543	1.365550	-0.330192	
					0.776885	-1.319318	0.542433	0.542433	-1.319318	0.776885	
					-0.739186	1.503106	-1.750066	1.750066	-1.503106	0.739186	
6					0.018328	0.031209	0.152009	0.596907	0.152009	0.031209	0.018328
					-0.136709	0.243263	-1.080915	0.000000	1.080915	-0.243263	0.136709
					0.105859	-0.084538	1.580291	-3.203224	1.580291	-0.084538	0.105859
					0.834817	-2.298575	2.468184	0.000000	-2.468184	2.298575	-0.834817
					-0.736850	2.281168	-4.269993	5.451350	-4.269993	2.281168	-0.736850
					-1.134019	2.055312	-1.408577	0.000000	1.408577	-2.055312	1.134019
					1.060626	-2.227839	2.589730	-2.845034	2.589730	-2.227839	1.060626
B⁻¹	1					1.000000	-1.000000				
						1.000000	1.000000				
	2					1.000000	-1.154701	1.000000			
						1.000000	0.000000	-0.333333			
						1.000000	1.154701	1.000000			
	3					1.000000	-1.149096	1.093732	-1.090170		
					1.000000	-0.592096	-0.000898	0.037136			
					1.000000	0.592096	-0.000898	-0.037136			
					1.000000	1.149096	1.093732	1.090170			
4					1.000000	-1.142338	1.106977	-1.142338	1.092669		
					1.000000	-0.811256	0.378336	-0.194562	0.010409		
					1.000000	-0.000000	-0.278531	-0.000000	-0.107525		
					1.000000	0.811256	0.378336	0.194562	0.010409		
					1.000000	1.142338	1.106977	1.142338	1.092669		
5					1.000000	-1.129437	1.109754	-1.147162	1.123459	-1.133082	
					1.000000	-0.933700	0.605476	-0.457764	0.234967	-0.158376	
					1.000000	-0.324894	-0.116762	0.091367	-0.115779	0.056856	
					1.000000	0.324894	-0.116762	-0.091367	-0.115779	-0.056856	
					1.000000	0.933700	0.605476	0.457764	0.234967	0.158376	
					1.000000	1.129437	1.109754	1.147162	1.123459	1.133082	
6					1.000000	-1.120437	1.105897	-1.147175	1.129137	-1.150340	1.128210
					1.000000	-0.990939	0.751557	-0.630814	0.445470	-0.344918	0.217191
					1.000000	-0.543877	0.088407	0.003123	-0.111657	0.067865	-0.103675
					1.000000	0.000000	-0.191530	0.000000	-0.059053	0.000000	-0.039190
					1.000000	0.543877	0.088407	-0.003123	-0.111657	-0.067865	-0.103675
					1.000000	0.990939	0.751557	0.630814	0.445470	0.344918	0.217191
					1.000000	1.120437	1.105897	1.147175	1.129137	1.150340	1.128210

Table 5: Values of the matrices **B** and **B⁻¹** for the MinVolume basis functions from order 1 to 6.

matrice	order	value												
B	1					0.500000	0.500000							
						-0.500000	0.500000							
	2					0.124377	0.751246	0.124377						
						-0.432291	0.000000	0.432291						
						0.375623	-0.751246	0.375623						
	3					0.000649	0.499351	0.499351	0.000649					
					-0.033676	-0.803260	0.803260	0.033676						
					0.453110	-0.453110	-0.453110	0.453110						
					-0.420083	0.849501	-0.849501	0.420083						
4					0.035652	0.146138	0.636420	0.146138	0.035652					
					0.149222	-0.808622	0.000000	0.808622	-0.149222					
					-0.125047	0.972447	-1.694798	0.972447	-0.125047					
					-0.588448	0.808622	0.000000	-0.808622	0.588448					
					0.554424	-1.118584	1.128320	-1.118584	0.554424					
5					0.046170	0.000790	0.453040	0.453040	0.000790	0.046170				
					-0.030551	-0.064281	-1.047189	1.047189	0.064281	0.030551				
					-0.376843	1.346724	-0.969881	-0.969881	1.346724	-0.376843				
					0.299901	-1.536987	2.717358	-2.717358	1.536987	-0.299901				
					0.773030	-1.326775	0.553745	0.553745	-1.326775	0.773030				
					-0.711707	1.622007	-1.707074	1.707074	-1.622007	0.711707				
6					0.018148	0.034239	0.143952	0.607323	0.143952	0.034239	0.018148			
					-0.137219	0.252439	-1.058872	0.000000	1.058872	-0.252439	0.137219			
					0.112414	-0.122731	1.632940	-3.245245	1.632940	-0.122731	0.112414			
					0.836717	-2.293984	2.375355	0.000000	-2.375355	2.293984	-0.836717			
					-0.765241	2.327842	-4.313797	5.502391	-4.313797	2.327842	-0.765241			
					-1.138248	2.041545	-1.331193	0.000000	1.331193	-2.041545	1.138248			
					1.088642	-2.239350	2.582942	-2.864469	2.582942	-2.239350	1.088642			
B⁻¹	1					1.000000	-1.000000							
						1.000000	1.000000							
	2					1.000000	-1.156628	1.000000						
						1.000000	0.000000	-0.331122						
						1.000000	1.156628	1.000000						
	3					1.000000	-1.160380	1.102051	-1.097218					
					1.000000	-0.573815	-0.001433	0.046001						
					1.000000	0.573815	-0.001433	-0.046001						
					1.000000	1.160380	1.102051	1.097218						
4					1.000000	-1.138365	1.097973	-1.138365	1.085173					
					1.000000	-0.828408	0.391487	-0.210072	0.023992					
					1.000000	-0.000000	-0.302808	0.000000	-0.132602					
					1.000000	0.828408	0.391487	0.210072	0.023992					
					1.000000	1.138365	1.097973	1.138365	1.085173					
5					1.000000	-1.140533	1.111718	-1.156170	1.129029	-1.140767				
					1.000000	-0.909198	0.600007	-0.443176	0.232770	-0.147718				
					1.000000	-0.388384	-0.114344	0.060935	-0.115468	0.042349				
					1.000000	0.388384	-0.114344	-0.060935	-0.115468	-0.042349				
					1.000000	0.909198	0.600007	0.443176	0.232770	0.147718				
					1.000000	1.140533	1.111718	1.156170	1.129029	1.140767				
6					1.000000	-1.120708	1.091898	-1.139451	1.112410	-1.141768	1.111816			
					1.000000	-0.992297	0.764313	-0.638222	0.458383	-0.349528	0.226618			
					1.000000	-0.563536	0.093807	-0.004494	-0.108458	0.064632	-0.102596			
					1.000000	0.000000	-0.195905	0.000000	-0.066752	0.000000	-0.043363			
					1.000000	0.563536	0.093807	0.004494	-0.108458	-0.064632	-0.102596			
					1.000000	0.992297	0.764313	0.638222	0.458383	0.349528	0.226618			
					1.000000	1.120708	1.091898	1.139451	1.112410	1.141768	1.111816			

Table 6: Values of the matrices **B** and **B⁻¹** for the ApproxMinVo basis functions from order 1 to 6.

matrice	order	value									
B	1			0.500000	0.500000						
				-0.500000	0.500000						
	2			0.500000	0.250000	0.250000					
				-0.500000	0.000000	0.500000					
				0.000000	-0.250000	0.250000					
	3			0.500000	0.250000	0.125000	0.125000				
			-0.500000	0.000000	0.125000	0.375000					
			0.000000	-0.250000	-0.125000	0.375000					
			0.000000	0.000000	-0.125000	0.125000					
4			0.500000	0.250000	0.125000	0.062500	0.062500				
			-0.500000	0.000000	0.125000	0.125000	0.250000				
			0.000000	-0.250000	-0.125000	0.000000	0.375000				
			0.000000	0.000000	-0.125000	-0.125000	0.250000				
			0.000000	0.000000	0.000000	-0.062500	0.062500				
5			0.500000	0.250000	0.125000	0.062500	0.031250	0.031250			
			-0.500000	0.000000	0.125000	0.125000	0.093750	0.156250			
			0.000000	-0.250000	-0.125000	0.000000	0.062500	0.312500			
			0.000000	0.000000	-0.125000	-0.125000	-0.062500	0.312500			
			0.000000	0.000000	0.000000	-0.062500	-0.093750	0.156250			
			0.000000	0.000000	0.000000	0.000000	-0.031250	0.031250			
6			0.500000	0.250000	0.125000	0.062500	0.031250	0.015625	0.015625		
			-0.500000	0.000000	0.125000	0.125000	0.093750	0.062500	0.093750		
			0.000000	-0.250000	-0.125000	0.000000	0.062500	0.078125	0.234375		
			0.000000	0.000000	-0.125000	-0.125000	-0.062500	0.000000	0.312500		
			0.000000	0.000000	0.000000	-0.062500	-0.093750	-0.078125	0.234375		
			0.000000	0.000000	0.000000	0.000000	-0.031250	-0.062500	0.093750		
			0.000000	0.000000	0.000000	0.000000	0.000000	-0.015625	0.015625		
B⁻¹	1			1.000000	-1.000000						
				1.000000	1.000000						
	2			1.000000	-1.000000	1.000000					
				1.000000	1.000000	-3.000000					
				1.000000	1.000000	1.000000					
	3			1.000000	-1.000000	1.000000	-1.000000				
			1.000000	1.000000	-3.000000	5.000000					
			1.000000	1.000000	1.000000	-7.000000					
			1.000000	1.000000	1.000000	1.000000					
4			1.000000	-1.000000	1.000000	-1.000000	1.000000				
			1.000000	1.000000	-3.000000	5.000000	-7.000000				
			1.000000	1.000000	1.000000	-7.000000	17.000000				
			1.000000	1.000000	1.000000	1.000000	-15.000000				
			1.000000	1.000000	1.000000	1.000000	1.000000				
5			1.000000	-1.000000	1.000000	-1.000000	1.000000	-1.000000			
			1.000000	1.000000	-3.000000	5.000000	-7.000000	9.000000			
			1.000000	1.000000	1.000000	-7.000000	17.000000	-31.000000			
			1.000000	1.000000	1.000000	1.000000	-15.000000	49.000000			
			1.000000	1.000000	1.000000	1.000000	1.000000	-31.000000			
			1.000000	1.000000	1.000000	1.000000	1.000000	1.000000			
6			1.000000	-1.000000	1.000000	-1.000000	1.000000	-1.000000	1.000000		
			1.000000	1.000000	-3.000000	5.000000	-7.000000	9.000000	-11.000000		
			1.000000	1.000000	1.000000	-7.000000	17.000000	-31.000000	49.000000		
			1.000000	1.000000	1.000000	1.000000	-15.000000	49.000000	-111.000000		
			1.000000	1.000000	1.000000	1.000000	1.000000	-31.000000	129.000000		
			1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	-63.000000		
			1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		

Table 7: Values of the matrices **B** and **B⁻¹** for the Recursive basis functions from order 1 to 6.

matrice	order	value							
B	1			0.500000	0.500000				
				-0.500000	0.500000				
	2			0.250000	0.250000	0.500000			
				-0.500000	0.000000	0.500000			
				0.250000	-0.250000	0.000000			
	3			0.125000	0.125000	0.250000	0.500000		
			-0.375000	-0.125000	0.000000	0.500000			
			0.375000	-0.125000	-0.250000	0.000000			
			-0.125000	0.125000	0.000000	0.000000			
4			0.062500	0.062500	0.125000	0.250000	0.500000		
			-0.250000	-0.125000	-0.125000	0.000000	0.500000		
			0.375000	0.000000	-0.125000	-0.250000	0.000000		
			-0.250000	0.125000	0.125000	0.000000	0.000000		
			0.062500	-0.062500	0.000000	0.000000	0.000000		
5		0.031250	0.031250	0.062500	0.125000	0.250000	0.500000		
		-0.156250	-0.093750	-0.125000	-0.125000	0.000000	0.500000		
		0.312500	0.062500	0.000000	-0.125000	-0.250000	0.000000		
		-0.312500	0.062500	0.125000	0.125000	0.000000	0.000000		
		0.156250	-0.093750	-0.062500	0.000000	0.000000	0.000000		
		-0.031250	0.031250	0.000000	0.000000	0.000000	0.000000		
6		0.015625	0.015625	0.031250	0.062500	0.125000	0.250000	0.500000	
		-0.093750	-0.062500	-0.093750	-0.125000	-0.125000	0.000000	0.500000	
		0.234375	0.078125	0.062500	0.000000	-0.125000	-0.250000	0.000000	
		-0.312500	0.000000	0.062500	0.125000	0.125000	0.000000	0.000000	
		0.234375	-0.078125	-0.093750	-0.062500	0.000000	0.000000	0.000000	
		-0.093750	0.062500	0.031250	0.000000	0.000000	0.000000	0.000000	
		0.015625	-0.015625	0.000000	0.000000	0.000000	0.000000	0.000000	
B⁻¹	1			1.000000	-1.000000				
				1.000000	1.000000				
	2			1.000000	-1.000000	1.000000			
				1.000000	-1.000000	-3.000000			
				1.000000	1.000000	1.000000			
	3			1.000000	-1.000000	1.000000	-1.000000		
			1.000000	-1.000000	1.000000	7.000000			
			1.000000	-1.000000	-3.000000	-5.000000			
			1.000000	1.000000	1.000000	1.000000			
4			1.000000	-1.000000	1.000000	-1.000000	1.000000		
			1.000000	-1.000000	1.000000	-1.000000	-15.000000		
			1.000000	-1.000000	1.000000	7.000000	17.000000		
			1.000000	-1.000000	-3.000000	-5.000000	-7.000000		
			1.000000	1.000000	1.000000	1.000000	1.000000		
5		1.000000	-1.000000	1.000000	-1.000000	1.000000	-1.000000		
		1.000000	-1.000000	1.000000	-1.000000	1.000000	31.000000		
		1.000000	-1.000000	1.000000	-1.000000	-15.000000	-49.000000		
		1.000000	-1.000000	1.000000	7.000000	17.000000	31.000000		
		1.000000	-1.000000	-3.000000	-5.000000	-7.000000	-9.000000		
		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		
6		1.000000	-1.000000	1.000000	-1.000000	1.000000	-1.000000	1.000000	
		1.000000	-1.000000	1.000000	-1.000000	1.000000	-1.000000	-63.000000	
		1.000000	-1.000000	1.000000	-1.000000	1.000000	31.000000	129.000000	
		1.000000	-1.000000	1.000000	-1.000000	-15.000000	-49.000000	-111.000000	
		1.000000	-1.000000	1.000000	7.000000	17.000000	31.000000	49.000000	
		1.000000	-1.000000	-3.000000	-5.000000	-7.000000	-9.000000	-11.000000	
		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	

Table 8: Values of the matrices **B** and **B⁻¹** for the Recursive2 basis functions from order 1 to 6.

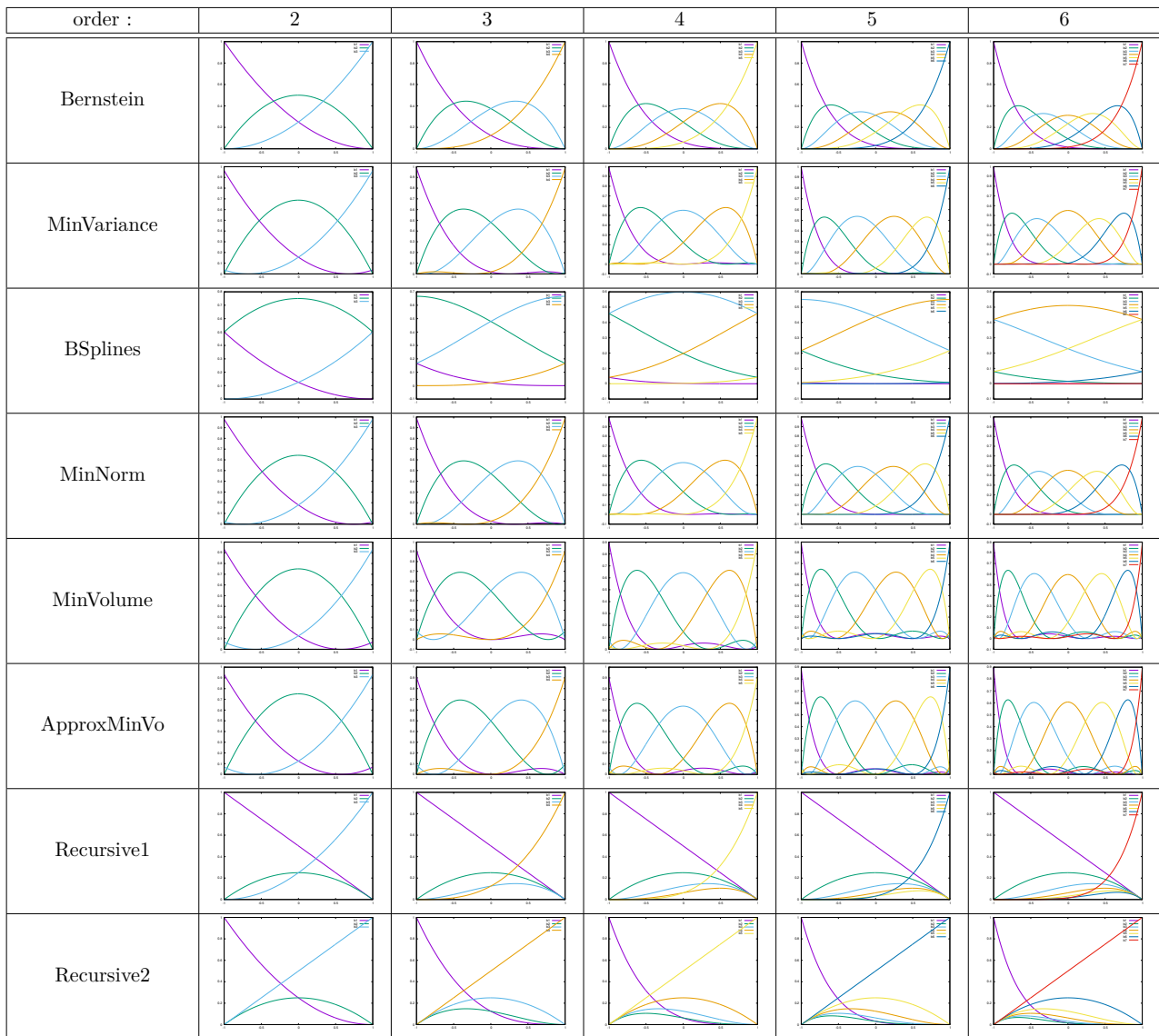


Table 9: Representation of the basis functions for the order 2 to 6

order	type	MinVolume $-\det(\mathbf{B})^2$	MinNorm $\ \mathbf{B}^{-1}\ ^2$	MinVariance $\ \mathbf{B}^{-1} - \text{Average}(\mathbf{B}^{-1})\ ^2$
1	Bernstein	-0.25	4	2
	MinVariance	-0.25	4	2
	BSplines	-0.25	4	2
	MinNorm	-0.25	4	2
	MinVolume	-0.25	4	2
	ApproxMinVo	-0.25	4	2
	Recursive	-0.25	4	2
	Recursive2	-0.25	4	2
2	Bernstein	-0.0625	8	4.66667
	MinVariance	-0.101637	7.53553	3.73773
	BSplines	-0.00390625	30	18.6667
	MinNorm	-0.094799	7.48641	3.79204
	MinVolume	-0.105469	7.77778	3.85185
	ApproxMinVo	-0.105467	7.78522	3.85684
	Recursive	-0.015625	17	13.3333
	Recursive2	-0.015625	17	13.3333
3	Bernstein	-0.0197754	12.4444	8
	MinVariance	-0.0776098	10.9429	5.99574
	BSplines	-1.69542e-06	609.778	552
	MinNorm	-0.0703759	10.9231	6.01885
	MinVolume	-0.110146	12.1142	6.91991
	ApproxMinVo	-0.110036	12.1925	6.98117
	Recursive	-0.000244141	96	90
	Recursive2	-0.000244141	96	90
4	Bernstein	-0.00878906	17.1111	11.3556
	MinVariance	-0.138639	14.5243	7.75466
	BSplines	-1.14978e-11	26930.6	19580.8
	MinNorm	-0.101192	14.449	7.84653
	MinVolume	-0.322429	16.826	9.49568
	ApproxMinVo	-0.321755	16.8275	9.52516
	Recursive	-9.53674e-07	665	656
	Recursive2	-9.53674e-07	665	656
5	Bernstein	-0.00582077	21.92	15.0133
	MinVariance	-0.477859	18.1917	10.1726
	BSplines	-7.79745e-19	2.06027e+06	1.98912e+06
	MinNorm	-0.255511	18.0599	10.3167
	MinVolume	-2.88564	22.0832	13.3504
	ApproxMinVo	-2.86456	22.1827	13.446
	Recursive	-9.31323e-10	5076	5063.33
	Recursive2	-9.31323e-10	5076	5063.33
6	Bernstein	-0.00596719	26.8444	18.6438
	MinVariance	-3.65267	22.0119	12.2725
	BSplines	-3.67221e-28	2.40738e+08	1.87088e+08
	MinNorm	-1.19714	21.7376	12.5152
	MinVolume	-82.8592	27.6542	16.6707
	ApproxMinVo	-82.3749	27.5176	16.5483
	Recursive	-2.27374e-13	40537	40520
	Recursive2	-2.27374e-13	40537	40520

Table 10: Values of the different criteria from the basis function from order 1 to 6.

problem	center of the target	shape of the target	criteria
1	{0.2; 1.7}	square	$\sum_i q_i^2$
2	{0.4; 1.4}	square	$\sum_i q_i^2$
3	{0.6; 1.1}	square	$\sum_i q_i^2$
4	{0.2; 1.7}	circle	$\sum_i q_i^2$
5	{0.4; 1.4}	circle	$\sum_i q_i^2$
6	{0.6; 1.1}	circle	$\sum_i q_i^2$
7	{0.2; 1.7}	ring	$\sum_i q_i^2$
8	{0.4; 1.4}	ring	$\sum_i q_i^2$
9	{0.6; 1.1}	ring	$\sum_i q_i^2$
11	{0.2; 1.7}	square	$\sum_i \Gamma_i^2$
12	{0.4; 1.4}	square	$\sum_i \Gamma_i^2$
13	{0.6; 1.1}	square	$\sum_i \Gamma_i^2$
14	{0.2; 1.7}	circle	$\sum_i \Gamma_i^2$
15	{0.4; 1.4}	circle	$\sum_i \Gamma_i^2$
16	{0.6; 1.1}	circle	$\sum_i \Gamma_i^2$
17	{0.2; 1.7}	ring	$\sum_i \Gamma_i^2$
18	{0.4; 1.4}	ring	$\sum_i \Gamma_i^2$
19	{0.6; 1.1}	ring	$\sum_i \Gamma_i^2$

Table 11: Problem list and their specificities.

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	28.85e-6	22.30e-3	22.33e-3	0.022	3367	6.623e-6	955.68e-3	100.0	100.0	100.0	
		Bernstein	706.9e-3	5.474e-3	712.4e-3	0.712	991	5.524e-6	951.92e-3	24.55	3190.4	29.43	
		MinVariance	726.6e-3	5.426e-3	732.1e-3	0.732	1029	5.273e-6	952.00e-3	24.33	3278.6	30.56	
		BSplines	729.4e-3	6.341e-3	735.8e-3	0.736	1535	4.131e-6	952.86e-3	28.43	3295.1	45.59	
		MinNorm	737.9e-3	5.136e-3	743.0e-3	0.743	1017	5.050e-6	951.96e-3	23.03	3327.7	30.20	
		MinVolume	723.2e-3	5.240e-3	728.4e-3	0.728	1047	5.005e-6	952.07e-3	23.50	3262.3	31.10	
		ApproxMinVolume	728.5e-3	5.654e-3	734.1e-3	0.734	1049	5.390e-6	952.07e-3	25.35	3287.9	31.16	
		Recursive	728.3e-3	5.229e-3	733.6e-3	0.734	1005	5.203e-6	951.92e-3	23.45	3285.3	29.85	
		Recursive2	720.3e-3	4.852e-3	725.2e-3	0.725	1007	4.818e-6	951.92e-3	21.76	3247.9	29.91	
	3	Interval	28.85e-6	4.499	4.499	4.499	703327	6.397e-6	656.18e-3	100.0	100.0	100.0	
		Bernstein	1.218	568.2e-3	1.786	1.786	116043	4.897e-6	653.31e-3	12.63	39.71	16.50	
		MinVariance	1.307	604.3e-3	1.912	1.912	124251	4.863e-6	653.39e-3	13.43	42.49	17.67	
		BSplines	1.224	1.033	2.257	2.257	238083	4.337e-6	654.29e-3	22.95	50.17	33.85	
		MinNorm	1.370	609.4e-3	1.980	1.980	120347	5.064e-6	653.35e-3	13.55	44.00	17.11	
		MinVolume	1.272	598.1e-3	1.870	1.870	132195	4.524e-6	653.46e-3	13.29	41.56	18.80	
		ApproxMinVolume	1.286	644.7e-3	1.930	1.930	132393	4.869e-6	653.46e-3	14.33	42.91	18.82	
		Recursive	1.217	559.5e-3	1.776	1.776	116609	4.798e-6	653.31e-3	12.44	39.49	16.58	
		Recursive2	1.258	579.5e-3	1.838	1.838	116689	4.966e-6	653.31e-3	12.88	40.85	16.59	
	4	Interval	24.08e-6	845.2	845.2	14.05	98257105	8.602e-6	546.04e-3	100.0	100.0	100.0	
		Bernstein	3.932	114.7	118.6	01:58	9779187	11.73e-6	543.02e-3	13.57	14.04	9.953	
		MinVariance	4.808	130.2	135.0	02:15	10554147	12.34e-6	543.10e-3	15.41	15.98	10.74	
		BSplines	3.878	235.0	238.9	03:58	22194981	10.59e-6	544.03e-3	27.80	28.26	22.59	
		MinNorm	4.704	132.8	137.5	02:17	10195429	13.03e-6	543.06e-3	15.71	16.27	10.38	
		MinVolume	4.165	133.8	138.0	02:17	11323765	11.82e-6	543.17e-3	15.83	16.33	11.52	
		ApproxMinVolume	4.317	136.3	140.6	02:20	11343677	12.02e-6	543.18e-3	16.13	16.64	11.54	
		Recursive	3.911	130.0	134.0	02:13	9800513	13.27e-6	543.02e-3	15.39	15.85	9.974	
		Recursive2	3.887	114.6	118.5	01:58	9803491	11.69e-6	543.02e-3	13.56	14.02	9.977	
	5	Interval	31.00e-6	173650	173650	2:00:14.10	18810829203	9.231e-6	463.96e-3	100.0	100.0	100.0	
		Bernstein	57.31	51490	51547	14:19:07	1682985771	30.59e-6	461.15e-3	29.65	29.68	8.947	
		MinVariance	60.87	57862	57923	16:05:23	1817885635	31.83e-6	461.22e-3	33.32	33.36	9.664	
		BSplines	57.88	110975	110975	1:06:49:35	4035420446	27.50e-6	462.14e-3	63.91	63.91	21.45	
		MinNorm	59.77	55678	55737	15:28:57	1755309023	31.72e-6	461.19e-3	32.06	32.10	9.331	
		MinVolume	58.58	60358	60417	16:46:57	1953182331	30.90e-6	461.30e-3	34.76	34.79	10.38	
		ApproxMinVolume	59.84	60693	60753	16:52:33	1956747259	31.02e-6	461.30e-3	34.95	34.99	10.40	
		Recursive	58.09	51883	51941	14:25:41	1685327733	30.79e-6	461.15e-3	29.88	29.91	8.959	
		Recursive2	57.64	52007	52065	14:27:45	1686154457	30.84e-6	461.15e-3	29.95	29.98	8.964	
	0.01	2	Interval	30.04e-6	9.402e-3	9.432e-3	0.009	1001	9.392e-6	1.1075	100.0	100.0	100.0
			Bernstein	998.4e-3	7.095e-3	1.005	1.005	549	12.92e-6	1.0801	75.46	10660.5	54.85
			MinVariance	998.2e-3	9.334e-3	1.008	1.008	557	16.76e-6	1.0808	99.28	10682.1	55.64
			BSplines	998.3e-3	10.52e-3	1.009	1.009	709	14.84e-6	1.0884	111.9	10695.6	70.83
			MinNorm	997.4e-3	4.675e-3	1.002	1.002	551	8.484e-6	1.0804	49.72	10624.2	55.04
			MinVolume	997.8e-3	5.835e-3	1.004	1.004	569	10.25e-6	1.0814	62.06	10641.5	56.84
			ApproxMinVolume	998.1e-3	8.696e-3	1.007	1.007	569	15.28e-6	1.0814	92.49	10674.4	56.84
			Recursive	981.0e-3	5.225e-3	986.3e-3	0.986	553	9.448e-6	1.0801	55.57	10456.8	55.24
			Recursive2	997.7e-3	4.313e-3	1.002	1.002	553	7.799e-6	1.0801	45.87	10623.7	55.24
3		Interval	30.04e-6	730.5e-3	730.5e-3	0.731	103227	7.077e-6	708.82e-3	100.0	100.0	100.0	
		Bernstein	1.203	130.8e-3	1.334	1.334	24313	5.381e-6	684.89e-3	17.91	182.6	23.55	
		MinVariance	1.352	136.6e-3	1.488	1.488	25717	5.310e-6	685.53e-3	18.70	203.7	24.91	
		BSplines	1.205	204.7e-3	1.410	1.410	43997	4.652e-6	692.89e-3	28.02	193.0	42.62	
		MinNorm	1.330	142.2e-3	1.472	1.472	25099	5.666e-6	685.24e-3	19.47	201.5	24.31	
		MinVolume	1.264	151.3e-3	1.415	1.415	27047	5.595e-6	686.12e-3	20.72	193.7	26.20	
		ApproxMinVolume	1.258	152.3e-3	1.411	1.411	27093	5.623e-6	686.14e-3	20.85	193.1	26.25	
		Recursive	1.278	137.9e-3	1.416	1.416	24743	5.572e-6	684.89e-3	18.87	193.8	23.97	
		Recursive2	1.264	142.6e-3	1.406	1.406	24791	5.751e-6	684.89e-3	19.52	192.5	24.02	
4		Interval	22.17e-6	58.27	58.27	58.269	7499637	7.770e-6	600.02e-3	100.0	100.0	100.0	
		Bernstein	3.931	12.21	16.14	16.144	970109	12.59e-6	574.62e-3	20.96	27.71	12.94	
		MinVariance	4.914	14.06	18.98	18.976	1041705	13.50e-6	575.28e-3	24.13	32.57	13.89	
		BSplines	3.873	23.72	27.59	27.589	2089791	11.35e-6	582.96e-3	40.70	47.35	27.87	
		MinNorm	4.756	13.38	18.13	18.135	1008885	13.26e-6	574.98e-3	22.96	31.12	13.45	
		MinVolume	4.194	13.95	18.15	18.148	1113227	12.53e-6	575.90e-3	23.95	31.14	14.84	
		ApproxMinVolume	4.438	14.08	18.51	18.514	1115167	12.62e-6	575.91e-3	24.16	31.77	14.87	
		Recursive	4.064	12.07	16.14	16.136	985009	12.26e-6	574.62e-3	20.72	27.69	13.13	
		Recursive2	3.963	12.33	16.29	16.290	985651	12.51e-6	574.62e-3	21.16	27.96	13.14	
5		Interval	26.94e-6	5051	5051	01:24:11	580056931	8.709e-6	518.93e-3	100.0	100.0	100.0	
		Bernstein	57.09	2720	2777	46:17	86138425	31.58e-6	494.87e-3	53.85	54.98	14.85	
		MinVariance	60.34	3072	3132	52:12	91934425	33.42e-6	495.51e-3	60.82	62.02	15.85	
		BSplines	57.63	5523	5580	01:33:00	180189305	30.65e-6	503.11e-3	109.3	110.5	31.06	
		MinNorm	60.35	2963	3023	50:23	89237027	33.20e-6	495.22e-3	58.65	59.85	15.38	
		MinVolume	58.38	3314	3372	56:12	97738955	33.91e-6	496.13e-3	65.61	66.77	16.85	
		ApproxMinVolume	59.59	3178	3238	53:58	97890755	32.47e-6	496.14e-3	62.92	64.10	16.88	
		Recursive	57.54	2823	2881	48:01	86945127	32.48e-6	494.87e-3	55.90	57.04	14.99	
		Recursive2	57.78	2830	2888	48:08	87044285	32.51e-6	494.87e-3	56.02	57.17	15.01	

Table 12: Bisection of problem 2D with problem: 1, type: MinFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H-M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	45.06e-6	7.891e-3	7.936e-3	0.008	857	9.208e-6	2.7090	100.0	100.0	100.0	
		Bernstein	723.3e-3	4.526e-3	727.8e-3	0.728	451	10.04e-6	2.7057	57.36	9170.7	52.63	
		MinVariance	747.6e-3	4.444e-3	752.0e-3	0.752	471	9.435e-6	2.7058	56.32	9476.2	54.96	
		BSplines	719.7e-3	4.730e-3	724.5e-3	0.724	703	6.728e-6	2.7073	59.94	9129.1	82.03	
		MinNorm	755.4e-3	4.881e-3	760.3e-3	0.760	459	10.63e-6	2.7057	61.85	9580.6	53.56	
		MinVolume	753.2e-3	4.988e-3	758.2e-3	0.758	489	10.20e-6	2.7059	63.21	9553.6	57.06	
		ApproxMinVolume	741.2e-3	4.047e-3	745.3e-3	0.745	489	8.276e-6	2.7059	51.29	9391.1	57.06	
		Recursive	735.8e-3	4.295e-3	740.1e-3	0.740	451	9.523e-6	2.7057	54.43	9326.3	52.63	
		Recursive2	735.4e-3	4.268e-3	739.7e-3	0.740	451	9.464e-6	2.7057	54.09	9320.5	52.63	
		Interval	29.09e-6	2.089	2.089	2.089	302195	6.912e-6	2.4369	100.0	100.0	100.0	
		Bernstein	1.235	244.8e-3	1.480	1.480	44913	5.450e-6	2.4310	11.72	70.84	14.86	
		MinVariance	1.343	251.6e-3	1.595	1.595	48259	5.213e-6	2.4312	12.04	76.36	15.97	
	BSplines	1.235	468.0e-3	1.703	1.703	99953	4.682e-6	2.4329	22.40	81.51	33.08		
	MinNorm	1.371	257.9e-3	1.629	1.629	46669	5.527e-6	2.4311	12.35	77.98	15.44		
	MinVolume	1.324	277.6e-3	1.601	1.601	51647	5.376e-6	2.4313	13.29	76.66	17.09		
	ApproxMinVolume	1.267	265.7e-3	1.533	1.533	51749	5.134e-6	2.4313	12.72	73.40	17.12		
	Recursive	1.237	244.3e-3	1.481	1.481	45017	5.428e-6	2.4310	11.70	70.90	14.90		
	Recursive2	1.233	248.8e-3	1.482	1.482	45173	5.507e-6	2.4310	11.91	70.93	14.95		
	Interval	29.09e-6	672.1	672.1	11:12	83653481	8.034e-6	1.2775	100.0	100.0	100.0		
	Bernstein	3.891	110.9	114.8	01:54	9140617	12.13e-6	1.2731	16.50	17.08	10.93		
	MinVariance	4.791	126.4	131.2	02:11	9887775	12.78e-6	1.2732	18.81	19.52	11.82		
	BSplines	3.902	234.6	238.5	03:58	21844859	10.74e-6	1.2746	34.90	35.48	26.11		
	MinNorm	4.663	123.4	128.0	02:08	9542241	12.93e-6	1.2731	18.35	19.05	11.41		
	MinVolume	4.186	129.2	133.3	02:13	10629611	12.15e-6	1.2733	19.22	19.84	12.71		
	ApproxMinVolume	4.334	131.2	135.5	02:15	10649137	12.32e-6	1.2733	19.22	20.16	12.73		
	Recursive	3.961	110.1	114.0	01:54	9159043	12.02e-6	1.2731	16.38	16.97	10.95		
	Recursive2	3.933	112.9	116.8	01:56	9155733	12.33e-6	1.2731	16.79	17.38	10.94		
	Interval	27.00e-6	544923	544923	6-07:22:03	54998575207	9.908e-6	1.0796	100.0	100.0	100.0		
	Bernstein	57.47	126707	126707	1-11:11:47	4379742224	28.93e-6	1.0754	23.25	23.25	7.963		
	MinVariance	60.76	143554	143554	1-15:52:34	4778229866	30.04e-6	1.0755	26.34	26.34	8.688		
	BSplines	57.78	307706	307707	3-13:28:27	11931768794	25.79e-6	1.0770	56.47	56.47	21.69		
	MinNorm	60.24	137930	137930	1-14:18:50	4592853204	30.03e-6	1.0755	25.31	25.31	8.351		
	MinVolume	58.21	152631	152631	1-18:23:51	5182587620	29.45e-6	1.0757	28.01	28.01	9.423		
	ApproxMinVolume	60.04	152228	152229	1-18:17:09	5193302588	29.31e-6	1.0757	27.94	27.94	9.443		
	Recursive	57.99	129026	129027	1-11:50:27	4383611222	29.43e-6	1.0754	23.68	23.68	7.970		
	Recursive2	57.81	129292	129292	1-11:54:52	4386161158	29.48e-6	1.0754	23.73	23.73	7.975		
	0.01	2	Interval	36.95e-6	19.04e-3	19.08e-3	0.019	603	31.58e-6	2.7694	100.0	100.0	100.0
			Bernstein	1.008	4.885e-3	1.013	1.013	385	12.69e-6	2.7381	25.65	5306.5	63.85
			MinVariance	1.008	18.90e-3	1.027	1.027	389	48.60e-6	2.7392	99.26	5381.2	64.51
			BSplines	1.007	4.766e-3	1.012	1.012	509	9.363e-6	2.7517	25.03	5304.6	84.41
			MinNorm	1.007	16.94e-3	1.024	1.024	389	43.56e-6	2.7387	88.96	5365.2	64.51
			MinVolume	1.007	17.52e-3	1.025	1.025	397	44.14e-6	2.7402	92.00	5370.7	65.84
			ApproxMinVolume	1.007	15.83e-3	1.023	1.023	397	39.88e-6	2.7402	83.14	5361.0	65.84
			Recursive	1.008	18.40e-3	1.026	1.026	385	47.79e-6	2.7381	96.61	5377.3	63.85
			Recursive2	667.8e-3	4.380e-3	672.2e-3	0.672	385	11.38e-6	2.7381	23.00	3522.9	63.85
Interval			30.04e-6	549.0e-3	549.1e-3	0.549	82629	6.644e-6	2.5140	100.0	100.0	100.0	
Bernstein			1.173	119.2e-3	1.292	1.292	21145	5.637e-6	2.4634	21.71	235.3	25.59	
MinVariance			1.306	123.8e-3	1.429	1.429	22287	5.554e-6	2.4646	22.54	260.3	26.97	
BSplines		1.201	188.0e-3	1.389	1.389	37621	4.998e-6	2.4783	34.25	252.9	45.53		
MinNorm		1.357	128.2e-3	1.485	1.485	21751	5.893e-6	2.4641	23.35	270.5	26.32		
MinVolume		1.316	136.4e-3	1.453	1.453	23517	5.801e-6	2.4657	24.85	264.5	28.46		
ApproxMinVolume		1.311	143.5e-3	1.454	1.454	23551	6.093e-6	2.4658	26.14	264.9	28.50		
Recursive		1.252	121.1e-3	1.374	1.374	21245	5.702e-6	2.4634	22.06	250.2	25.71		
Recursive2		1.236	125.2e-3	1.361	1.361	21381	5.857e-6	2.4634	22.81	247.9	25.88		
Interval		30.04e-6	54.89	54.89	54.890	6777589	8.099e-6	1.3554	100.0	100.0	100.0		
Bernstein		3.992	14.87	18.86	18.857	1160499	12.81e-6	1.3191	27.08	34.35	17.12		
MinVariance		4.906	16.79	21.70	21.697	1243777	13.50e-6	1.3201	30.59	39.53	18.35		
BSplines		4.003	29.11	33.11	33.114	2450441	11.88e-6	1.3315	53.04	60.33	36.16		
MinNorm		4.822	16.20	21.03	21.026	1205215	13.44e-6	1.3196	29.52	38.31	17.78		
MinVolume		4.252	16.91	21.17	21.166	1324903	12.77e-6	1.3210	30.81	38.56	19.55		
ApproxMinVolume		4.483	17.09	21.57	21.573	1326975	12.88e-6	1.3211	31.14	39.30	19.58		
Recursive		4.067	14.72	18.78	18.783	1173425	12.54e-6	1.3191	26.81	34.22	17.31		
Recursive2		3.987	14.75	18.74	18.739	1169849	12.61e-6	1.3191	26.88	34.14	17.26		
Interval		24.80e-6	9826	9826	02:43:46	1087998677	9.031e-6	1.1612	100.0	100.0	100.0		
Bernstein		57.09	6345	6402	01:46:42	194269469	32.66e-6	1.1267	64.58	65.16	17.86		
MinVariance		60.35	6700	6760	01:52:40	207619475	32.27e-6	1.1277	68.19	68.80	19.08		
BSplines		57.29	11515	11572	03:12:52	405146443	28.42e-6	1.1391	117.2	117.8	37.24		
MinNorm		60.57	6694	6754	01:52:34	201431467	33.23e-6	1.1272	68.13	68.74	18.51		
MinVolume		58.83	6861	6920	01:55:20	220846803	31.07e-6	1.1286	69.83	70.43	20.30		
ApproxMinVolume		59.63	6863	6922	01:55:22	221191743	31.03e-6	1.1286	69.85	70.45	20.33		
Recursive		58.51	6388	6446	01:47:26	195322565	32.71e-6	1.1267	65.01	65.61	17.95		
Recursive2		58.03	6076	6134	01:42:14	195595667	31.07e-6	1.1267	61.84	62.43	17.98		

Table 13: Bisection of problem 2D with problem: 2, type: MinFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	40.05e-6	2.936e-3	2.976e-3	0.003	59	49.76e-6	infeasible	100.0	100.0	100.0	
		Bernstein	717.1e-3	3.223e-3	720.3e-3	0.720	41	78.61e-6	infeasible	109.8	24204.2	69.49	
		MinVariance	732.1e-3	3.017e-3	735.2e-3	0.735	41	73.58e-6	infeasible	102.8	24703.8	69.49	
		BSplines	723.2e-3	3.740e-3	727.0e-3	0.727	41	91.22e-6	infeasible	127.4	24427.8	69.49	
		MinNorm	744.1e-3	3.214e-3	747.3e-3	0.747	41	78.39e-6	infeasible	109.5	25111.6	69.49	
		MinVolume	742.6e-3	3.122e-3	745.7e-3	0.746	41	76.15e-6	infeasible	106.3	25058.3	69.49	
		ApproxMinVolume	732.7e-3	3.145e-3	735.8e-3	0.736	41	76.71e-6	infeasible	107.1	24726.5	69.49	
	Recursive	725.3e-3	3.010e-3	728.3e-3	0.728	41	73.42e-6	infeasible	102.5	24472.8	69.49		
	Recursive2	727.3e-3	3.382e-3	730.7e-3	0.731	41	82.49e-6	infeasible	115.2	24552.2	69.49		
	3	Interval	25.03e-6	512.5e-3	512.5e-3	0.513	74295	6.898e-6	3.9157	100.0	100.0	100.0	
		Bernstein	1.184	97.64e-3	1.282	1.282	18541	5.266e-6	3.9108	19.05	250.1	24.96	
		MinVariance	1.384	113.3e-3	1.497	1.497	19747	5.735e-6	3.9110	22.10	292.1	26.58	
		BSplines	1.241	211.7e-3	1.452	1.452	38723	5.468e-6	3.9131	41.31	283.4	52.12	
		MinNorm	1.375	110.8e-3	1.486	1.486	19189	5.774e-6	3.9109	21.62	289.9	25.83	
		MinVolume	1.278	117.3e-3	1.396	1.396	21011	5.584e-6	3.9111	22.89	272.3	28.28	
		ApproxMinVolume	1.217	112.4e-3	1.329	1.329	21033	5.344e-6	3.9111	21.93	259.4	28.31	
	Recursive	1.177	98.20e-3	1.275	1.275	18541	5.296e-6	3.9108	19.16	248.8	24.96		
	Recursive2	1.105	98.07e-3	1.203	1.203	18611	5.269e-6	3.9108	19.13	234.6	25.05		
	4	Interval	27.89e-6	783.3	783.3	13.03	96586019	8.110e-6	2.2271	100.0	100.0	100.0	
		Bernstein	3.921	119.8	123.8	02:03	9223587	12.99e-6	2.2173	15.30	15.80	9.550	
		MinVariance	4.758	134.8	139.5	02:19	9979647	13.51e-6	2.2174	17.21	17.82	10.33	
		BSplines	3.947	254.1	258.1	04:18	21887309	11.61e-6	2.2193	32.44	32.95	22.66	
		MinNorm	4.647	130.8	135.5	02:15	9627957	13.59e-6	2.2174	16.70	17.29	9.968	
		MinVolume	4.139	137.4	141.5	02:21	10737257	12.80e-6	2.2176	17.54	18.07	11.12	
		ApproxMinVolume	4.360	140.2	144.6	02:24	10756905	13.04e-6	2.2176	17.90	18.46	11.14	
	Recursive	3.948	118.5	122.4	02:02	9236405	12.83e-6	2.2173	15.12	15.63	9.563		
	Recursive2	3.911	120.0	123.9	02:03	9233981	13.00e-6	2.2173	15.32	15.82	9.560		
	5	Interval	23.13e-6	47226	47226	13:07:06	5048693363	9.354e-6	1.4911	100.0	100.0	100.0	
		Bernstein	57.81	39298	39356	10:55:56	1108947741	35.44e-6	1.4862	83.21	83.34	21.97	
		MinVariance	60.79	43141	43202	12:00:02	1184923479	36.41e-6	1.4864	91.48	91.48	23.47	
		BSplines	66.31	74744	74810	20:46:50	2353185399	31.76e-6	1.4881	158.3	158.4	46.61	
		MinNorm	69.03	41340	41409	11:30:09	114975885	35.96e-6	1.4863	87.54	87.68	22.77	
		MinVolume	62.62	44406	44469	12:21:09	1260200473	35.24e-6	1.4865	94.03	94.16	24.96	
		ApproxMinVolume	73.58	44958	45031	12:30:31	1262169197	35.62e-6	1.4865	95.20	95.35	25.00	
	Recursive	71.40	41076	41147	11:25:47	1110759591	36.98e-6	1.4862	86.98	87.13	22.00		
	Recursive2	70.65	38534	38605	10:43:25	1109214085	34.74e-6	1.4862	81.60	81.74	21.97		
	0.01	2	Interval	26.94e-6	3.105e-3	3.132e-3	0.003	59	52.63e-6	infeasible	100.0	100.0	100.0
			Bernstein	715.4e-3	3.829e-3	719.2e-3	0.719	41	93.39e-6	infeasible	123.3	22965.1	69.49
			MinVariance	944.4e-3	2.939e-3	947.3e-3	0.947	41	71.68e-6	infeasible	94.66	30248.2	69.49
			BSplines	944.2e-3	4.258e-3	948.5e-3	0.948	41	103.9e-6	infeasible	137.1	30284.3	69.49
			MinNorm	941.2e-3	2.811e-3	944.0e-3	0.944	41	68.56e-6	infeasible	90.53	30142.1	69.49
			MinVolume	944.2e-3	3.552e-3	947.8e-3	0.948	41	86.63e-6	infeasible	114.4	30261.5	69.49
			ApproxMinVolume	941.8e-3	2.734e-3	944.6e-3	0.945	41	66.69e-6	infeasible	88.06	30160.7	69.49
		Recursive	943.3e-3	2.642e-3	946.0e-3	0.946	41	64.44e-6	infeasible	85.09	30204.2	69.49	
		Recursive2	943.0e-3	2.698e-3	945.7e-3	0.946	41	65.80e-6	infeasible	86.89	30197.1	69.49	
3		Interval	27.18e-6	151.5e-3	151.5e-3	0.152	21335	7.100e-6	3.9989	100.0	100.0	100.0	
		Bernstein	1.241	38.74e-3	1.280	1.280	6171	6.278e-6	3.9588	25.58	844.7	28.92	
		MinVariance	1.365	40.34e-3	1.405	1.405	6463	6.242e-6	3.9602	26.63	927.5	30.29	
		BSplines	1.233	59.76e-3	1.292	1.292	11131	5.369e-6	3.9774	39.45	853.0	52.17	
		MinNorm	1.374	39.50e-3	1.413	1.413	6349	6.221e-6	3.9596	26.08	932.8	29.76	
		MinVolume	1.310	42.41e-3	1.352	1.352	6833	6.207e-6	3.9616	28.00	892.5	32.03	
		ApproxMinVolume	1.299	41.50e-3	1.340	1.340	6843	6.065e-6	3.9617	27.40	884.7	32.07	
Recursive		1.247	39.09e-3	1.286	1.286	6173	6.333e-6	3.9588	25.81	848.8	28.93		
Recursive2		1.239	38.85e-3	1.278	1.278	6201	6.264e-6	3.9588	25.64	843.2	29.06		
4		Interval	33.86e-6	141.6	141.6	02:21	17502691	8.091e-6	2.5375	100.0	100.0	100.0	
		Bernstein	3.984	17.94	21.92	21.924	1335393	13.43e-6	2.3014	12.67	15.48	7.630	
		MinVariance	4.861	20.23	25.09	25.092	1423285	14.21e-6	2.3026	14.29	17.72	8.132	
		BSplines	3.959	33.46	37.42	37.422	2748539	12.17e-6	2.3172	23.63	26.43	15.70	
		MinNorm	4.719	19.88	24.60	24.600	1382493	14.38e-6	2.3021	14.04	17.37	7.899	
		MinVolume	4.217	20.62	24.84	24.839	1509929	13.66e-6	2.3038	14.56	17.54	8.627	
		ApproxMinVolume	4.421	20.78	25.20	25.202	1512139	13.74e-6	2.3039	14.68	17.80	8.639	
Recursive		4.049	18.28	22.33	22.327	1344243	13.60e-6	2.3014	12.91	15.77	7.680		
Recursive2		3.970	18.20	22.16	22.165	1342371	13.55e-6	2.3014	12.85	15.65	7.670		
5		Interval	30.04e-6	2097	2097	34:57	227373771	9.225e-6	1.5822	100.0	100.0	100.0	
		Bernstein	57.59	1931	1988	33:08	52284461	36.94e-6	1.5430	92.08	94.83	22.99	
		MinVariance	60.43	2020	2081	34:41	55748841	36.24e-6	1.5441	96.33	99.22	24.52	
		BSplines	58.22	3463	3521	58:41	109297333	31.69e-6	1.5578	165.1	167.9	48.07	
		MinNorm	60.35	2023	2084	34:44	54136971	37.38e-6	1.5436	96.49	99.37	23.81	
		MinVolume	57.57	2062	2119	35:19	59198995	34.84e-6	1.5452	98.32	101.1	26.04	
		ApproxMinVolume	59.98	2184	2244	37:24	59289665	36.84e-6	1.5453	104.1	107.0	26.08	
Recursive		57.39	1923	1980	33:00	52908543	36.35e-6	1.5430	91.69	94.43	23.27		
Recursive2	57.68	1925	1983	33:03	52413113	36.74e-6	1.5430	91.80	94.55	23.05			

Table 14: Bisection of problem 2D with problem: 3, type: MinFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	30.99e-6	16.64e-3	16.67e-3	0.017	2383	6.981e-6	1.0755	100.0	100.0	100.0	
		Bernstein	764.4e-3	6.178e-3	770.6e-3	0.771	817	7.562e-6	1.0716	37.14	4623.5	34.28	
		MinVariance	842.4e-3	5.851e-3	848.2e-3	0.848	877	6.672e-6	1.0717	35.17	5089.2	36.80	
		BSplines	863.2e-3	15.61e-3	878.9e-3	0.879	2039	7.657e-6	1.0735	93.85	5273.0	85.56	
		MinNorm	954.0e-3	7.705e-3	961.8e-3	0.962	853	9.033e-6	1.0717	46.31	5770.4	35.80	
		MinVolume	920.7e-3	7.322e-3	928.0e-3	0.928	955	7.667e-6	1.0718	44.01	5567.9	40.08	
		ApproxMinVolume	893.4e-3	6.409e-3	899.8e-3	0.900	957	6.697e-6	1.0718	38.52	5398.6	40.16	
		Recursive	873.4e-3	7.287e-3	880.7e-3	0.881	1033	7.054e-6	1.0716	43.80	5283.9	43.35	
		Recursive2	860.3e-3	7.059e-3	867.4e-3	0.867	1033	6.833e-6	1.0716	42.43	5204.0	43.35	
	3	Interval	23.13e-6	4.811	4.811	4.811	711195	6.764e-6	741.67e-3	100.0	100.0	100.0	
		Bernstein	2.985	2.027	5.012	5.012	193081	10.50e-6	738.33e-3	42.14	104.2	27.15	
		MinVariance	4.365	2.589	6.954	6.954	223843	11.56e-6	738.62e-3	53.81	144.5	31.47	
		BSplines	3.130	8.459	11.59	11.589	775983	10.90e-6	742.24e-3	175.8	240.9	109.1	
		MinNorm	4.151	2.365	6.516	6.516	208239	11.36e-6	738.47e-3	49.17	135.5	29.28	
		MinVolume	3.412	2.716	6.128	6.128	255471	10.63e-6	738.94e-3	56.46	127.4	35.92	
		ApproxMinVolume	3.387	2.728	6.116	6.116	256251	10.65e-6	738.94e-3	56.72	127.1	36.03	
		Recursive	3.437	2.278	5.716	5.716	209177	10.89e-6	738.33e-3	47.36	118.8	29.41	
		Recursive2	3.664	2.224	5.888	5.888	203103	10.95e-6	738.33e-3	46.23	122.4	28.56	
	4	Interval	29.09e-6	1060	1060	17.40	127570319	8.315e-6	621.32e-3	100.0	100.0	100.0	
		Bernstein	3.980	372.9	376.9	06.16	21728921	17.16e-6	617.74e-3	35.15	35.53	17.03	
		MinVariance	5.156	449.7	454.8	07.34	26186913	17.17e-6	618.08e-3	42.39	42.88	20.53	
		BSplines	3.946	2073	2077	34.37	123119939	16.84e-6	621.91e-3	195.5	195.9	96.51	
		MinNorm	5.077	405.0	410.1	06.50	24001845	16.87e-6	617.91e-3	38.18	38.66	18.81	
		MinVolume	4.473	537.7	542.2	09.02	30954991	17.37e-6	618.38e-3	50.70	51.12	24.27	
		ApproxMinVolume	4.623	523.6	528.2	08.48	31078695	16.85e-6	618.38e-3	49.36	49.80	24.36	
		Recursive	4.062	396.9	400.9	06.40	23405821	16.96e-6	617.74e-3	37.42	37.80	18.35	
		Recursive2	4.028	449.1	453.1	07.33	25972355	17.29e-6	617.74e-3	42.34	42.72	20.36	
	5	Interval	27.00e-6	279920	279920	3-05:45:20	28828576484	9.710e-6	529.85e-3	100.0	100.0	100.0	
		Bernstein	59.44	184551	184551	2-03:15:51	4449324341	41.48e-6	526.69e-3	65.93	65.93	15.43	
		MinVariance	65.23	234787	234787	2-17:13:07	5621872305	41.76e-6	527.05e-3	83.88	83.88	19.50	
		BSplines	56.03	1525850	1525850	17-15:50:50	37268701884	40.94e-6	531.29e-3	545.1	545.1	129.3	
		MinNorm	66.44	215741	215741	2-11:55:41	50736282993	42.52e-6	526.90e-3	77.07	77.07	17.60	
		MinVolume	68.35	296081	296081	3-10:14:41	6915560218	42.81e-6	527.38e-3	105.8	105.8	23.99	
		ApproxMinVolume	65.48	288926	288927	3-08:15:27	6949340844	41.58e-6	527.39e-3	103.2	103.2	24.11	
		Recursive	60.67	197947	197947	2-06:59:07	4766507865	41.53e-6	526.69e-3	70.72	70.72	16.53	
		Recursive2	61.72	220353	220353	2-13:12:33	5287820395	41.67e-6	526.69e-3	78.72	78.72	18.34	
	0.01	2	Interval	34.09e-6	9.222e-3	9.256e-3	0.009	899	10.26e-6	1.1306	100.0	100.0	100.0
			Bernstein	1.066	4.494e-3	1.070	1.070	361	12.45e-6	1.0927	48.73	11560.2	40.16
			MinVariance	1.145	4.969e-3	1.150	1.150	385	12.91e-6	1.0933	53.88	12422.6	42.83
			BSplines	1.066	7.612e-3	1.073	1.073	913	8.337e-6	1.1115	82.54	11595.7	101.6
			MinNorm	1.124	4.219e-3	1.128	1.128	375	11.25e-6	1.0930	45.75	12186.5	41.71
			MinVolume	1.108	4.839e-3	1.113	1.113	425	11.39e-6	1.0940	52.47	12027.7	47.27
			ApproxMinVolume	1.088	5.074e-3	1.093	1.093	425	11.94e-6	1.0940	55.02	11812.5	47.27
			Recursive	1.066	5.791e-3	1.071	1.071	559	10.36e-6	1.0927	62.79	11574.8	62.18
			Recursive2	1.106	7.776e-3	1.114	1.114	577	13.48e-6	1.0927	84.32	12036.7	64.18
3		Interval	33.14e-6	762.0e-3	762.0e-3	0.762	106721	7.140e-6	794.69e-3	100.0	100.0	100.0	
		Bernstein	2.911	342.0e-3	3.253	3.253	30803	11.10e-6	766.06e-3	44.89	426.9	28.86	
		MinVariance	4.297	434.5e-3	4.731	4.731	35577	12.21e-6	768.90e-3	57.03	620.9	33.34	
		BSplines	3.210	1.439	4.650	4.650	130221	11.05e-6	797.06e-3	188.9	610.2	122.0	
		MinNorm	4.267	393.1e-3	4.660	4.660	33395	11.77e-6	768.21e-3	51.60	611.6	31.29	
		MinVolume	3.654	487.5e-3	4.141	4.141	41623	11.71e-6	770.54e-3	63.98	543.4	39.00	
		ApproxMinVolume	3.627	497.5e-3	4.125	4.125	41803	11.90e-6	770.68e-3	65.29	541.3	39.17	
		Recursive	3.513	499.7e-3	4.013	4.013	42361	11.80e-6	766.06e-3	65.58	526.7	39.69	
		Recursive2	3.741	500.4e-3	4.241	4.241	39681	12.61e-6	766.06e-3	65.67	556.6	37.18	
4		Interval	22.17e-6	67.97	67.97	01.07	7790067	8.725e-6	678.03e-3	100.0	100.0	100.0	
		Bernstein	3.987	23.07	27.06	27.058	1369727	16.84e-6	647.64e-3	33.95	39.81	17.58	
		MinVariance	5.235	27.03	32.27	32.269	1577077	17.14e-6	649.64e-3	39.78	47.48	20.24	
		BSplines	4.078	152.7	156.8	02:36	9051187	16.87e-6	678.47e-3	224.7	230.7	116.2	
		MinNorm	5.032	24.99	30.02	30.019	1448057	17.26e-6	648.77e-3	36.76	44.17	18.59	
		MinVolume	4.597	33.28	37.88	37.876	1913031	17.40e-6	651.67e-3	48.96	55.73	24.56	
		ApproxMinVolume	4.735	33.69	38.43	38.428	1921565	17.53e-6	651.69e-3	49.57	56.54	24.67	
		Recursive	4.172	43.24	47.41	47.408	2509615	17.23e-6	647.64e-3	63.62	69.75	32.22	
		Recursive2	4.083	59.19	63.27	01:03	3398545	17.42e-6	647.64e-3	87.08	93.09	43.63	
5		Interval	24.08e-6	6106	6106	01:41:46	653254743	9.348e-6	587.12e-3	100.0	100.0	100.0	
		Bernstein	54.65	4499	4553	01:15:53	106824699	42.12e-6	559.75e-3	73.68	74.57	16.35	
		MinVariance	60.05	5599	5660	01:34:20	131642925	42.54e-6	562.22e-3	91.71	92.69	20.15	
		BSplines	55.14	49263	49319	13:41:59	1145719257	43.00e-6	595.66e-3	806.8	807.7	175.4	
		MinNorm	59.58	4969	5029	01:23:49	116862765	42.53e-6	561.16e-3	81.38	82.36	17.89	
		MinVolume	57.21	7161	7218	02:00:18	167099243	42.86e-6	564.56e-3	117.3	118.2	25.58	
		ApproxMinVolume	57.63	7515	7573	02:06:13	168217769	44.68e-6	564.77e-3	123.1	124.0	25.75	
		Recursive	55.21	8476	8531	02:22:11	203131201	41.73e-6	559.75e-3	138.8	139.7	31.10	
		Recursive2	55.43	12781	12837	03:33:57	301335357	42.42e-6	559.75e-3	209.3	210.2	46.13	

Table 15: Bisection of problem 2D with problem: 4, type: MinFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	26.94e-6	18.85e-3	18.88e-3	0.019	2661	7.085e-6	2.7566	100.0	100.0	100.0	
		Bernstein	847.4e-3	7.550e-3	854.9e-3	0.855	1229	6.143e-6	2.7533	40.04	4528.1	46.19	
		MinVariance	948.1e-3	8.439e-3	956.6e-3	0.957	1351	6.247e-6	2.7535	44.76	5066.3	50.77	
		BSplines	863.5e-3	15.00e-3	878.6e-3	0.879	3251	4.614e-6	2.7564	79.55	4653.1	122.2	
		MinNorm	925.9e-3	8.227e-3	934.2e-3	0.934	1295	6.353e-6	2.7534	43.64	4947.6	48.67	
		MinVolume	907.5e-3	9.963e-3	917.4e-3	0.917	1851	5.382e-6	2.7536	52.84	4859.0	69.56	
		ApproxMinVolume	900.4e-3	9.286e-3	909.7e-3	0.910	1857	5.001e-6	2.7536	49.25	4817.9	69.79	
		Recursive	857.2e-3	8.117e-3	865.3e-3	0.865	1377	5.895e-6	2.7533	43.05	4583.1	51.75	
		Recursive2	858.7e-3	8.092e-3	866.8e-3	0.867	1351	5.990e-6	2.7533	42.92	4590.8	50.77	
		Interval	27.89e-6	3.576	3.576	3.576	493957	7.240e-6	2.4706	100.0	100.0	100.0	
		Bernstein	3.025	1.149	4.174	4.174	115307	9.961e-6	2.4646	32.12	116.7	23.34	
		MinVariance	4.468	1.433	5.901	5.901	133685	10.72e-6	2.4649	40.07	165.0	27.06	
	BSplines	3.221	4.467	7.688	7.688	439985	10.15e-6	2.4685	124.9	215.0	89.07		
	MinNorm	4.232	1.339	5.570	5.570	125473	10.67e-6	2.4647	37.43	155.8	25.40		
	MinVolume	3.620	1.543	5.163	5.163	151441	10.19e-6	2.4652	43.15	144.4	30.66		
	ApproxMinVolume	3.601	1.571	5.172	5.172	153139	10.26e-6	2.4652	43.92	144.6	31.00		
	Recursive	3.498	1.276	4.773	4.773	123205	10.35e-6	2.4646	35.67	133.5	24.94		
	Recursive2	3.725	1.310	5.034	5.034	122811	10.66e-6	2.4646	36.62	140.8	24.86		
	Interval	27.89e-6	1506	1506	25.06	189085251	7.968e-6	1.4003	100.0	100.0	100.0		
	Bernstein	4.009	707.1	711.2	11.51	41367965	17.09e-6	1.3955	46.93	47.20	21.88		
	MinVariance	5.156	865.4	870.5	14.30	50285639	17.21e-6	1.3959	57.43	57.78	26.59		
	BSplines	3.960	4073	4077	01:07:57	236383013	17.23e-6	1.4017	270.4	270.6	125.0		
	MinNorm	5.080	797.4	802.5	13:22	46103895	17.30e-6	1.3957	52.92	53.26	24.38		
	MinVolume	4.497	1029	1033	17:13	59826583	17.21e-6	1.3964	68.32	68.62	31.64		
	ApproxMinVolume	4.653	1053	1057	17:37	60059399	17.54e-6	1.3964	69.90	70.21	31.76		
	Recursive	4.082	717.4	721.5	12:01	42155919	17.02e-6	1.3955	47.62	47.89	22.29		
	Recursive2	4.030	791.0	795.0	13:15	45781889	17.28e-6	1.3955	52.50	52.77	24.21		
	Interval	26.00e-6	666585	666585	7-17:09:45	68829667707	9.685e-6	1.1860	100.0	100.0	100.0		
	Bernstein	60.23	542708	542708	6-06:45:08	13295526250	40.82e-6	1.1815	81.42	81.42	19.32		
	MinVariance	71.97	691783	691783	8-00:09:43	16640937217	41.57e-6	1.1821	103.8	103.8	24.18		
	BSplines	64.29	4257390	4257390	49-06:36:30	104557258199	40.72e-6	1.1886	638.7	638.7	151.9		
	MinNorm	71.34	626854	626854	7-06:07:34	15059663173	41.62e-6	1.1818	94.04	94.04	21.88		
	MinVolume	65.11	842860	842860	9-18:07:40	20385478051	41.35e-6	1.1826	126.4	126.4	29.62		
	ApproxMinVolume	65.09	847141	847141	9-19:19:01	20481565927	41.36e-6	1.1826	127.1	127.1	29.76		
	Recursive	62.05	553289	553290	6-09:41:30	13624167152	40.61e-6	1.1815	83.00	83.00	19.79		
	Recursive2	59.29	611016	611016	7-01:43:36	14983085410	40.78e-6	1.1815	91.66	91.66	21.77		
	0.01	2	Interval	31.95e-6	6.617e-3	6.649e-3	0.007	661	10.01e-6	2.8082	100.0	100.0	100.0
			Bernstein	1.086	5.092e-3	1.091	1.091	405	12.57e-6	2.7809	76.95	16414.9	61.27
			MinVariance	1.175	4.338e-3	1.180	1.180	425	10.21e-6	2.7820	65.56	17741.4	64.30
			BSplines	1.100	7.231e-3	1.107	1.107	773	9.354e-6	2.8057	109.3	16645.9	116.9
			MinNorm	1.156	4.606e-3	1.161	1.161	409	11.26e-6	2.7815	69.61	17457.3	61.88
			MinVolume	1.147	4.408e-3	1.151	1.151	469	9.399e-6	2.7830	66.62	17313.7	70.95
			ApproxMinVolume	1.142	5.727e-3	1.148	1.148	469	12.21e-6	2.7830	86.55	17264.6	70.95
			Recursive	1.097	5.886e-3	1.103	1.103	523	11.25e-6	2.7809	88.95	16581.7	79.12
			Recursive2	1.097	6.848e-3	1.104	1.104	513	13.35e-6	2.7809	103.5	16601.1	77.61
			Interval	29.09e-6	503.9e-3	503.9e-3	0.504	69249	7.277e-6	2.5447	100.0	100.0	100.0
			Bernstein	2.992	215.7e-3	3.208	3.208	19403	11.12e-6	2.4963	42.80	636.5	28.02
			MinVariance	4.437	266.3e-3	4.703	4.703	22085	12.06e-6	2.4994	52.86	933.3	31.89
BSplines		3.219	868.4e-3	4.087	4.087	76557	11.34e-6	2.5347	172.3	811.0	110.6		
MinNorm		4.267	248.5e-3	4.516	4.516	20789	11.95e-6	2.4977	49.31	896.0	30.02		
MinVolume		3.619	301.9e-3	3.921	3.921	25765	11.72e-6	2.5005	59.91	778.1	37.21		
ApproxMinVolume		3.588	296.0e-3	3.884	3.884	25839	11.45e-6	2.5005	58.73	770.7	37.31		
Recursive		3.512	286.0e-3	3.798	3.798	25157	11.37e-6	2.4963	56.75	753.7	36.33		
Recursive2		3.714	316.1e-3	4.030	4.030	26221	12.06e-6	2.4963	62.73	799.7	37.86		
Interval		34.09e-6	95.20	95.20	01:35	10621131	8.963e-6	1.4800	100.0	100.0	100.0		
Bernstein		4.083	37.65	41.74	41.735	2137275	17.62e-6	1.4400	39.55	43.84	20.12		
MinVariance		5.235	46.05	51.28	51.281	2563541	17.96e-6	1.4436	48.37	53.87	24.14		
BSplines		4.097	239.8	243.9	04:03	13596675	17.64e-6	1.4884	251.9	256.2	128.0		
MinNorm		5.067	40.68	45.75	45.750	2341173	17.38e-6	1.4422	42.73	48.06	22.04		
MinVolume		4.540	54.99	59.53	59.528	3113329	17.66e-6	1.4475	57.76	62.53	29.31		
ApproxMinVolume		4.727	55.92	60.65	01:00	3128003	17.88e-6	1.4475	58.74	63.70	29.45		
Recursive		4.117	47.86	51.97	51.974	2762643	17.32e-6	1.4400	50.27	54.59	26.01		
Recursive2		4.150	72.52	76.67	01:16	4081563	17.77e-6	1.4400	76.18	80.54	38.43		
Interval		20.98e-6	12162	12162	03:22:42	1253315413	9.704e-6	1.2690	100.0	100.0	100.0		
Bernstein		54.84	10305	10360	02:52:40	240612025	42.83e-6	1.2322	84.73	85.18	19.20		
MinVariance		59.96	13151	13211	03:40:11	301916707	43.56e-6	1.2361	108.1	108.6	24.09		
BSplines		53.41	93187	93240	1-01:54:00	2218459037	42.01e-6	1.2853	766.2	766.6	177.0		
MinNorm		59.29	11602	11661	03:14:21	271019129	42.81e-6	1.2342	95.40	95.88	21.62		
MinVolume		56.84	16282	16339	04:32:19	380170441	42.83e-6	1.2396	133.9	134.3	30.33		
ApproxMinVolume		57.40	16292	16349	04:32:29	381984097	42.65e-6	1.2397	134.0	134.4	30.48		
Recursive		54.73	13669	13724	03:48:44	319837953	42.74e-6	1.2322	112.4	112.8	25.52		
Recursive2		55.35	22787	22843	06:20:43	538867919	42.29e-6	1.2322	187.4	187.8	43.00		

Table 16: Bisection of problem 2D with problem: 5, type: MinFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	26.94e-6	3.154e-3	3.181e-3	0.003	89	35.44e-6	infeasible	100.0	100.0	100.0	
		Bernstein	819.9e-3	3.422e-3	823.4e-3	0.823	65	52.65e-6	infeasible	108.5	25884.0	73.03	
		MinVariance	898.9e-3	3.175e-3	902.1e-3	0.902	61	52.05e-6	infeasible	100.7	28358.5	68.54	
		BSplines	823.9e-3	3.510e-3	827.4e-3	0.827	111	31.62e-6	infeasible	111.3	26011.4	124.7	
		MinNorm	974.2e-3	2.921e-3	977.1e-3	0.977	59	49.51e-6	infeasible	92.61	30718.0	66.29	
		MinVolume	955.8e-3	3.215e-3	959.0e-3	0.959	69	46.60e-6	infeasible	101.9	30147.5	77.53	
		ApproxMinVolume	942.6e-3	2.806e-3	945.5e-3	0.945	69	40.67e-6	infeasible	88.97	29722.0	77.53	
		Recursive	889.0e-3	3.743e-3	892.7e-3	0.893	91	41.13e-6	infeasible	118.7	28064.3	102.2	
		Recursive2	880.0e-3	3.288e-3	883.3e-3	0.883	119	27.63e-6	infeasible	104.2	27767.1	133.7	
	3	Interval	27.89e-6	1.662	1.662	1.662	229895	7.231e-6	4.0146	100.0	100.0	100.0	
		Bernstein	3.005	743.2e-3	3.748	3.748	67617	10.99e-6	4.0092	44.71	225.5	29.41	
		MinVariance	4.455	912.8e-3	5.367	5.367	77275	11.81e-6	4.0097	54.91	322.9	33.61	
		BSplines	3.210	2.946	6.156	6.156	273987	10.75e-6	4.0148	177.2	370.3	119.2	
		MinNorm	4.235	817.5e-3	5.053	5.053	72515	11.27e-6	4.0093	49.18	304.0	31.54	
		MinVolume	3.594	963.4e-3	4.558	4.558	88901	10.84e-6	4.0102	57.96	274.2	38.67	
		ApproxMinVolume	3.582	966.8e-3	4.548	4.548	89173	10.84e-6	4.0102	58.16	273.6	38.79	
		Recursive	3.497	761.8e-3	4.259	4.259	71131	10.71e-6	4.0092	45.83	256.2	30.94	
		Recursive2	3.710	760.7e-3	4.471	4.471	70305	10.82e-6	4.0092	45.76	269.0	30.58	
	4	Interval	20.98e-6	2088	2088	34:48	247582197	8.435e-6	2.3843	100.0	100.0	100.0	
		Bernstein	3.986	446.5	450.4	07:30	25986905	17.18e-6	2.3649	21.38	21.57	10.50	
		MinVariance	5.106	527.3	532.4	08:52	31011033	17.00e-6	2.3654	25.25	25.50	12.53	
		BSplines	3.969	2150	2154	35:54	132011683	16.29e-6	2.3716	103.0	103.2	53.32	
		MinNorm	4.994	510.1	515.1	08:35	28753529	17.74e-6	2.3653	24.43	24.67	11.61	
		MinVolume	4.452	613.7	618.2	10:18	36155657	16.97e-6	2.3659	29.39	29.60	14.60	
		ApproxMinVolume	4.677	627.9	632.5	10:32	36282015	17.31e-6	2.3659	30.07	30.29	14.65	
		Recursive	4.059	450.7	454.8	07:34	26604143	16.94e-6	2.3649	21.58	21.78	10.75	
		Recursive2	4.003	469.3	473.3	07:53	28214921	16.63e-6	2.3649	22.47	22.66	11.40	
	5	Interval	29.00e-6	437576	437576	5-01:32:56	44237030546	9.892e-6	1.6158	100.0	100.0	100.0	
		Bernstein	60.27	489912	489912	5-16:05:12	11937538665	41.04e-6	1.6106	112.0	112.0	26.99	
		MinVariance	65.25	622799	622799	7-04:59:59	14924760996	41.73e-6	1.6112	142.3	142.3	33.74	
		BSplines	68.47	3654280	3654280	42-07:04:40	89111525282	41.01e-6	1.6186	835.1	835.1	201.4	
		MinNorm	74.44	564243	564243	6-12:44:03	13505303842	41.78e-6	1.6109	128.9	128.9	30.53	
		MinVolume	71.17	750205	750206	8-16:23:26	18201508396	41.22e-6	1.6118	171.4	171.4	41.15	
		ApproxMinVolume	70.25	763912	763912	8-20:11:52	18301096962	41.74e-6	1.6118	174.6	174.6	41.37	
		Recursive	63.53	497551	497551	5-18:12:31	11956885773	41.61e-6	1.6106	113.7	113.7	27.03	
		Recursive2	64.05	546542	546542	6-07:49:02	13103385566	41.71e-6	1.6106	124.9	124.9	29.62	
	0.01	2	Interval	30.04e-6	3.302e-3	3.332e-3	0.003	89	37.10e-6	infeasible	100.0	100.0	100.0
			Bernstein	1.082	3.956e-3	1.086	1.086	65	60.86e-6	infeasible	119.8	32600.1	73.03
			MinVariance	1.165	3.361e-3	1.168	1.168	61	55.10e-6	infeasible	101.8	35061.3	68.54
			BSplines	1.105	4.584e-3	1.110	1.110	111	41.30e-6	infeasible	138.8	33313.4	124.7
			MinNorm	1.147	3.654e-3	1.150	1.150	59	61.93e-6	infeasible	110.7	34517.8	66.29
			MinVolume	1.165	3.434e-3	1.168	1.168	69	49.77e-6	infeasible	104.0	35062.8	77.53
			ApproxMinVolume	1.892	3.181e-3	1.895	1.895	69	46.10e-6	infeasible	96.33	56872.8	77.53
			Recursive	1.892	7.014e-3	1.899	1.899	91	77.08e-6	infeasible	212.4	56999.7	102.2
			Recursive2	1.892	8.812e-3	1.901	1.901	119	74.05e-6	infeasible	266.9	57055.2	133.7
3		Interval	30.04e-6	191.8e-3	191.8e-3	0.192	26219	7.314e-6	4.0953	100.0	100.0	100.0	
		Bernstein	3.024	103.0e-3	3.127	3.127	9415	10.94e-6	4.0529	53.71	1630.6	35.91	
		MinVariance	4.469	124.5e-3	4.593	4.593	10443	11.92e-6	4.0544	64.90	2394.9	39.83	
		BSplines	3.212	357.5e-3	3.570	3.570	32731	10.92e-6	4.0987	186.5	1861.2	124.8	
		MinNorm	4.231	116.2e-3	4.347	4.347	9975	11.65e-6	4.0537	60.62	2266.8	38.04	
		MinVolume	3.621	138.2e-3	3.759	3.759	12107	11.42e-6	4.0599	72.08	1960.1	46.18	
		ApproxMinVolume	3.565	136.4e-3	3.701	3.701	12163	11.21e-6	4.0599	71.11	1929.7	46.39	
		Recursive	3.501	137.1e-3	3.638	3.638	11729	11.69e-6	4.0529	71.51	1896.9	44.73	
		Recursive2	3.741	136.3e-3	3.877	3.877	11957	11.40e-6	4.0529	71.08	2021.4	45.60	
4		Interval	30.04e-6	152.3	152.3	02:32	18472325	8.242e-6	2.6074	100.0	100.0	100.0	
		Bernstein	4.047	31.96	36.01	36.006	1787729	17.88e-6	2.4438	20.99	23.65	9.678	
		MinVariance	5.216	37.37	42.59	42.586	2092077	17.86e-6	2.4487	24.54	27.97	11.33	
		BSplines	4.077	155.0	159.1	02:39	8743233	17.73e-6	2.4946	101.8	104.5	47.33	
		MinNorm	5.104	35.58	40.69	40.686	1935949	18.38e-6	2.4463	23.37	26.72	10.48	
		MinVolume	4.564	42.21	46.77	46.771	2416379	17.47e-6	2.4509	27.72	30.72	13.08	
		ApproxMinVolume	4.707	43.08	47.79	47.791	2424401	17.77e-6	2.4510	28.30	31.39	13.12	
		Recursive	4.126	38.99	43.12	43.121	2228407	17.50e-6	2.4438	25.61	28.32	12.06	
		Recursive2	4.118	48.81	52.92	52.925	2756589	17.71e-6	2.4438	32.06	34.76	14.92	
5		Interval	26.94e-6	6081	6081	01:41:21	625471221	9.723e-6	1.7103	100.0	100.0	100.0	
		Bernstein	56.13	7016	7072	01:57:52	165009075	42.52e-6	1.6674	115.4	116.3	26.38	
		MinVariance	60.17	9070	9130	02:32:10	209533509	43.29e-6	1.6722	149.1	150.1	33.50	
		BSplines	55.16	61689	61744	17:09:04	1459619547	42.26e-6	1.7288	1014.4	1015.3	233.4	
		MinNorm	59.41	7995	8055	02:14:15	187988639	42.53e-6	1.6702	131.5	132.5	30.06	
		MinVolume	57.28	11383	11440	03:10:40	261910657	43.46e-6	1.6761	187.2	188.1	41.87	
		ApproxMinVolume	55.50	11065	11121	03:05:21	263267293	42.03e-6	1.6762	182.0	182.9	42.09	
		Recursive	56.42	7498	7554	02:05:54	177834483	42.16e-6	1.6674	123.3	124.2	28.43	
		Recursive2	55.16	15240	15295	04:14:55	352701941	43.21e-6	1.6674	250.6	251.5	56.39	

Table 17: Bisection of problem 2D with problem: 6, type: MinFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	31.95e-6	29.86e-3	29.89e-3	0.030	3901	7.654e-6	755.10e-3	100.0	100.0	100.0	
		Bernstein	875.2e-3	6.288e-3	881.5e-3	0.882	839	7.495e-6	746.14e-3	21.06	2949.1	21.51	
		MinVariance	981.9e-3	6.032e-3	987.9e-3	0.988	887	6.801e-6	750.68e-3	20.20	3305.0	22.74	
		BSplines	909.9e-3	10.08e-3	920.0e-3	0.920	1861	5.419e-6	755.93e-3	33.77	3077.6	47.71	
		MinNorm	976.3e-3	5.548e-3	981.9e-3	0.982	851	6.519e-6	750.65e-3	18.58	3284.7	21.81	
		MinVolume	942.7e-3	6.550e-3	949.3e-3	0.949	979	6.690e-6	750.74e-3	21.94	3175.7	25.10	
		ApproxMinVolume	928.7e-3	6.837e-3	935.5e-3	0.936	983	6.955e-6	750.74e-3	22.90	3129.6	25.20	
		Recursive	892.3e-3	6.743e-3	899.1e-3	0.899	989	6.818e-6	746.14e-3	22.58	3007.8	25.35	
		Recursive2	892.4e-3	6.848e-3	899.3e-3	0.899	1021	6.707e-6	746.14e-3	22.93	3008.5	26.17	
		Interval	27.89e-6	6.309	6.309	6.309	881625	7.156e-6	531.59e-3	100.0	100.0	100.0	
		Bernstein	3.045	2.613	5.658	5.658	243299	10.74e-6	528.78e-3	41.43	89.69	27.60	
		MinVariance	4.496	3.277	7.773	7.773	283695	11.55e-6	529.10e-3	51.94	123.2	32.18	
		BSplines	3.242	10.60	13.84	13.838	939967	11.27e-6	532.31e-3	168.0	219.3	106.6	
		MinNorm	4.278	3.022	7.300	7.300	265135	11.40e-6	528.95e-3	47.90	115.7	30.07	
		MinVolume	3.646	3.585	7.231	7.231	322223	11.13e-6	529.32e-3	56.83	114.6	36.55	
	ApproxMinVolume	3.607	3.635	7.242	7.242	323159	11.25e-6	529.34e-3	57.62	114.8	36.65		
	Recursive	3.513	2.864	6.377	6.377	258469	11.08e-6	528.78e-3	45.40	101.1	29.32		
	Recursive2	3.743	2.828	6.571	6.571	251577	11.24e-6	528.78e-3	44.82	104.2	28.54		
	Interval	28.85e-6	1094	1094	18.14	131412411	8.331e-6	444.32e-3	100.0	100.0	100.0		
	Bernstein	3.998	394.7	398.7	06.38	22173355	17.80e-6	441.41e-3	36.05	36.42	16.87		
	MinVariance	5.113	463.3	468.4	07.48	26813445	17.28e-6	441.73e-3	42.32	42.78	20.40		
	BSplines	3.989	2223	2227	37.07	129187203	17.21e-6	445.18e-3	203.1	203.4	98.31		
	MinNorm	5.067	418.4	423.4	07.03	24612139	17.00e-6	441.58e-3	38.21	38.68	18.73		
	MinVolume	4.496	550.6	555.1	09.15	31996365	17.21e-6	441.99e-3	50.29	50.70	24.35		
	ApproxMinVolume	4.592	557.8	562.4	09.22	32131023	17.36e-6	441.99e-3	50.95	51.37	24.45		
	Recursive	4.102	404.3	408.4	06.48	23361233	17.30e-6	441.41e-3	36.93	37.30	17.78		
	Recursive2	4.044	438.4	442.4	07.22	25613173	17.12e-6	441.41e-3	40.04	40.41	19.49		
	Interval	29.00e-6	288665	288665	3-08:11:05	29200962790	9.885e-6	378.44e-3	100.0	100.0	100.0		
	Bernstein	55.05	189537	189537	2-04:38:57	4578807797	41.39e-6	375.83e-3	65.66	65.66	15.68		
	MinVariance	60.33	245741	245741	2-20:15:41	5814608735	42.26e-6	376.15e-3	85.13	85.13	19.91		
	BSplines	55.12	1601720	1601720	18-12:55:20	39354884660	40.70e-6	379.89e-3	554.9	554.9	134.8		
	MinNorm	59.13	219163	219163	2-12:52:43	5219983231	41.99e-6	376.00e-3	75.92	75.92	17.88		
	MinVolume	56.79	296661	296661	3-10:24:21	7165627846	41.40e-6	376.45e-3	102.8	102.8	24.54		
	ApproxMinVolume	57.26	286122	286122	3-07:28:42	7197590487	39.75e-6	376.46e-3	99.12	99.12	24.65		
	Recursive	54.88	200772	200772	2-07:46:12	4788156051	41.93e-6	375.83e-3	69.55	69.55	16.40		
	Recursive2	55.19	225061	225061	2-14:31:01	5238902215	42.96e-6	375.83e-3	77.97	77.97	17.94		
	0.01	2	Interval	27.89e-6	9.792e-3	9.820e-3	0.010	1173	8.348e-6	846.26e-3	100.0	100.0	100.0
			Bernstein	1.892	8.748e-3	1.901	1.901	551	15.88e-6	813.57e-3	89.34	19354.0	46.97
			MinVariance	1.892	10.20e-3	1.902	1.902	583	17.50e-6	814.15e-3	104.2	19372.2	49.70
			BSplines	1.892	14.34e-3	1.907	1.907	1231	11.65e-6	829.81e-3	146.5	19417.2	104.9
			MinNorm	1.891	6.668e-3	1.898	1.898	561	11.89e-6	813.89e-3	68.10	19329.7	47.83
			MinVolume	1.893	13.70e-3	1.906	1.906	645	21.24e-6	814.70e-3	139.9	19412.0	54.99
			ApproxMinVolume	1.893	14.43e-3	1.907	1.907	651	22.17e-6	814.71e-3	147.4	19422.3	55.50
			Recursive	1.893	17.23e-3	1.910	1.910	725	23.77e-6	813.57e-3	176.0	19453.7	61.81
			Recursive2	1.893	16.31e-3	1.909	1.909	735	22.20e-6	813.57e-3	166.6	19441.0	62.66
Interval			24.80e-6	826.8e-3	826.8e-3	0.827	112547	7.346e-6	577.23e-3	100.0	100.0	100.0	
Bernstein			2.980	342.1e-3	3.322	3.322	32889	10.40e-6	553.92e-3	41.38	401.8	29.22	
MinVariance			4.418	435.2e-3	4.853	4.853	38459	11.32e-6	556.24e-3	52.63	586.9	34.17	
BSplines			3.186	1.463	4.649	4.649	140001	10.45e-6	581.31e-3	176.9	562.2	124.4	
MinNorm			4.204	394.7e-3	4.598	4.598	35501	11.12e-6	555.33e-3	47.73	556.2	31.54	
MinVolume			3.583	482.3e-3	4.066	4.066	44633	10.81e-6	558.27e-3	58.33	491.7	39.66	
ApproxMinVolume		3.527	506.5e-3	4.033	4.033	44815	11.30e-6	558.29e-3	61.26	487.8	39.82		
Recursive		3.438	483.1e-3	3.921	3.921	43007	11.23e-6	553.92e-3	58.42	474.2	38.21		
Recursive2		3.649	454.0e-3	4.103	4.103	40095	11.32e-6	553.92e-3	54.91	496.2	35.63		
Interval		40.05e-6	66.38	66.38	01:06	7999761	8.298e-6	493.46e-3	100.0	100.0	100.0		
Bernstein		4.007	24.01	28.01	28.012	1395687	17.20e-6	468.22e-3	36.16	42.20	17.45		
MinVariance		5.299	30.00	35.30	35.297	1650545	18.17e-6	470.39e-3	45.19	53.17	20.63		
BSplines		4.100	157.3	161.4	02:41	9124755	17.24e-6	496.65e-3	237.0	243.1	114.1		
MinNorm		5.131	26.27	31.41	31.406	1502657	17.49e-6	469.51e-3	39.58	47.31	18.78		
MinVolume		4.592	35.12	39.72	39.716	1998391	17.58e-6	472.38e-3	52.91	59.83	24.98		
ApproxMinVolume		4.708	34.67	39.38	39.383	2006989	17.28e-6	472.40e-3	52.24	59.33	25.09		
Recursive		4.186	38.16	42.35	42.347	2226589	17.14e-6	468.22e-3	57.49	63.80	27.83		
Recursive2		4.088	53.97	58.06	58.055	3055941	17.66e-6	468.22e-3	81.30	87.46	38.20		
Interval		27.89e-6	6163	6163	01:42:43	622244871	9.905e-6	427.47e-3	100.0	100.0	100.0		
Bernstein		55.35	4499	4555	01:15:55	105941253	42.48e-6	405.09e-3	73.01	73.91	17.03		
MinVariance		59.48	5579	5638	01:33:58	131851157	42.31e-6	407.22e-3	90.52	91.49	21.19		
BSplines		54.81	45141	45196	12:33:16	1089856989	41.42e-6	436.23e-3	732.4	733.3	175.1		
MinNorm		59.23	5021	5081	01:24:41	117150599	42.87e-6	405.95e-3	81.48	82.44	18.83		
MinVolume		56.83	7061	7118	01:58:38	166600157	42.39e-6	409.21e-3	114.6	115.5	26.77		
ApproxMinVolume		57.22	7116	7173	01:59:33	167540789	42.47e-6	409.22e-3	115.5	116.4	26.93		
Recursive		53.52	7134	7187	01:59:47	168848047	42.25e-6	405.09e-3	115.8	116.6	27.14		
Recursive2		53.31	10895	10950	03:02:30	250882225	43.43e-6	405.09e-3	176.8	177.7	40.32		

Table 18: Bisection of problem 2D with problem: 7, type: MinFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	35.05e-6	21.99e-3	22.02e-3	0.022	2865	7.675e-6	2.4606	100.0	100.0	100.0	
		Bernstein	878.1e-3	7.775e-3	885.9e-3	0.886	1363	5.704e-6	2.4563	35.36	4022.6	47.57	
		MinVariance	951.0e-3	8.664e-3	959.7e-3	0.960	1469	5.898e-6	2.4564	39.40	4357.6	51.27	
		BSplines	868.8e-3	13.89e-3	882.7e-3	0.883	2817	4.930e-6	2.4598	63.15	4008.0	98.32	
		MinNorm	941.1e-3	8.407e-3	949.6e-3	0.950	1415	5.941e-6	2.4564	38.23	4311.5	49.39	
		MinVolume	911.1e-3	8.794e-3	919.9e-3	0.920	1623	5.418e-6	2.4571	39.99	4176.7	56.65	
		ApproxMinVolume	895.9e-3	8.709e-3	907.7e-3	0.908	1623	5.366e-6	2.4571	39.61	4121.2	56.65	
		Recursive	873.7e-3	8.270e-3	881.9e-3	0.882	1467	5.637e-6	2.4563	37.61	4004.5	51.20	
		Recursive2	878.8e-3	8.374e-3	887.2e-3	0.887	1479	5.662e-6	2.4563	38.08	4028.2	51.62	
		Interval	32.90e-6	4.437	4.437	4.437	624303	7.108e-6	2.2083	100.0	100.0	100.0	
		Bernstein	3.050	1.389	4.439	4.439	135837	10.22e-6	2.2022	31.30	100.0	21.76	
		MinVariance	4.476	1.774	6.251	6.251	158425	11.20e-6	2.2026	39.98	140.9	25.38	
	BSplines	3.219	5.687	8.906	8.906	541987	10.49e-6	2.2060	128.2	200.7	86.81		
	MinNorm	4.249	1.666	5.916	5.916	148295	11.24e-6	2.2024	37.55	133.3	23.75		
	MinVolume	3.631	1.998	5.628	5.628	182409	10.95e-6	2.2028	45.02	126.8	29.22		
	ApproxMinVolume	3.575	1.931	5.506	5.506	182933	10.55e-6	2.2028	43.51	124.1	29.30		
	Recursive	3.496	1.525	5.020	5.020	142967	10.66e-6	2.2022	34.36	113.1	22.90		
	Recursive2	3.721	1.557	5.278	5.278	142927	10.89e-6	2.2022	35.09	119.0	22.89		
	Interval	29.09e-6	1724	1724	28.44	213360751	8.081e-6	1.2199	100.0	100.0	100.0		
	Bernstein	3.937	831.2	835.1	13.55	50454883	16.47e-6	1.2155	48.21	48.44	23.65		
	MinVariance	5.187	1042	1047	17.27	61013369	17.09e-6	1.2160	60.47	60.77	28.60		
	BSplines	4.039	4407	4411	01:13:31	277497315	15.88e-6	1.2216	255.6	255.9	130.1		
	MinNorm	5.032	967.2	972.2	16:12	56014997	17.27e-6	1.2157	56.10	56.39	26.25		
	MinVolume	4.518	1232	1236	20:36	72210907	17.07e-6	1.2164	71.47	71.74	33.84		
	ApproxMinVolume	4.615	1246	1250	20:50	72439199	17.20e-6	1.2164	72.29	72.55	33.95		
	Recursive	4.021	864.4	868.4	14:28	51056239	16.93e-6	1.2155	50.14	50.37	23.93		
	Recursive2	4.075	928.0	932.1	15:32	54123815	17.15e-6	1.2155	53.83	54.06	25.37		
	Interval	28.00e-6	756744	756744	8-18:12:24	77832279864	9.723e-6	1.0322	100.0	100.0	100.0		
	Bernstein	54.95	603329	603330	6-23:35:30	15121569445	39.90e-6	1.0281	79.73	79.73	19.43		
	MinVariance	59.79	776113	776113	8-23:35:13	19026489275	40.79e-6	1.0287	102.6	102.6	24.45		
	BSplines	54.96	4920300	4920300	56-22:45:00	121021741505	40.66e-6	1.0350	650.2	650.2	155.5		
	MinNorm	59.30	711755	711755	8-05:42:35	17136869562	41.53e-6	1.0284	94.05	94.05	22.02		
	MinVolume	57.06	959119	959119	11-02:25:19	23305249196	41.15e-6	1.0292	126.7	126.7	29.94		
	ApproxMinVolume	57.50	976462	976463	11-07:14:23	23435498886	41.67e-6	1.0292	129.0	129.0	30.11		
	Recursive	55.27	637856	637856	7-09:10:56	15332653901	41.60e-6	1.0281	84.29	84.29	19.70		
	Recursive2	55.29	675568	675568	7-19:39:28	16431248947	41.11e-6	1.0281	89.27	89.27	21.11		
	0.01	2	Interval	29.09e-6	7.103e-3	7.132e-3	0.007	685	10.37e-6	2.5169	100.0	100.0	100.0
			Bernstein	1.893	4.445e-3	1.897	1.897	337	13.19e-6	2.4865	62.58	26605.3	49.20
			MinVariance	1.889	14.20e-3	1.903	1.903	343	41.41e-6	2.4875	200.0	26687.7	50.07
			BSplines	1.892	13.75e-3	1.906	1.906	703	19.56e-6	2.5101	193.6	26725.0	102.6
			MinNorm	2.166	6.107e-3	2.172	2.172	331	18.45e-6	2.4871	85.98	30453.0	48.32
			MinVolume	2.167	11.74e-3	2.179	2.179	383	30.66e-6	2.4885	165.3	30546.9	55.91
			ApproxMinVolume	2.167	7.666e-3	2.175	2.175	383	20.02e-6	2.4885	107.9	30494.0	55.91
			Recursive	2.167	6.831e-3	2.174	2.174	411	16.62e-6	2.4865	96.17	30476.1	60.00
			Recursive2	2.166	4.908e-3	2.171	2.171	449	10.93e-6	2.4865	69.10	30442.0	65.55
			Interval	26.94e-6	657.8e-3	657.8e-3	0.658	98143	6.703e-6	2.2797	100.0	100.0	100.0
			Bernstein	2.904	296.7e-3	3.201	3.201	26149	11.35e-6	2.2314	45.10	486.6	26.64
			MinVariance	4.409	357.4e-3	4.766	4.766	29819	11.98e-6	2.2340	54.33	724.5	30.38
BSplines		3.196	1.159	4.356	4.356	100765	11.50e-6	2.2655	176.2	662.1	102.7		
MinNorm		4.253	343.8e-3	4.597	4.597	28013	12.27e-6	2.2334	52.27	698.8	28.54		
MinVolume		3.645	388.9e-3	4.034	4.034	33971	11.45e-6	2.2350	59.11	613.2	34.61		
ApproxMinVolume		3.589	400.0e-3	3.989	3.989	34081	11.74e-6	2.2351	60.81	606.4	34.73		
Recursive		3.515	363.4e-3	3.878	3.878	31559	11.51e-6	2.2314	55.24	589.5	32.16		
Recursive2		3.744	379.0e-3	4.123	4.123	32767	11.57e-6	2.2314	57.62	626.7	33.39		
Interval		25.99e-6	93.35	93.35	01:33	11048427	8.449e-6	1.2952	100.0	100.0	100.0		
Bernstein		4.059	43.40	47.46	47.462	2422819	17.91e-6	1.2587	46.49	50.84	21.93		
MinVariance		5.260	53.05	58.31	58.310	2939667	18.05e-6	1.2628	56.83	62.46	26.61		
BSplines		4.070	243.0	247.0	04:07	13938915	17.43e-6	1.3068	260.3	264.6	126.2		
MinNorm		5.107	47.16	52.27	52.269	2691281	17.52e-6	1.2610	50.52	55.99	24.36		
MinVolume		4.548	62.00	66.55	01:06	3517435	17.63e-6	1.2665	66.41	71.28	31.84		
ApproxMinVolume		4.775	63.06	67.84	01:07	3530765	17.86e-6	1.2665	67.55	72.67	31.96		
Recursive		4.120	50.63	54.75	54.752	2868969	17.65e-6	1.2587	54.24	58.65	25.97		
Recursive2		4.191	69.51	73.70	01:13	3940107	17.64e-6	1.2587	74.46	78.95	35.66		
Interval		20.03e-6	13449	13449	03:44:09	1366693269	9.841e-6	1.1113	100.0	100.0	100.0		
Bernstein		54.58	11390	11444	03:10:44	272881425	41.74e-6	1.0771	84.69	85.10	19.97		
MinVariance		60.09	14933	14993	04:09:53	345680561	43.20e-6	1.0810	111.0	111.5	25.29		
BSplines		55.34	103622	103677	1-04:47:57	2444878999	42.38e-6	1.1296	770.5	770.9	178.9		
MinNorm		59.25	13373	13432	03:43:52	309751173	43.17e-6	1.0789	99.44	99.88	22.66		
MinVolume		57.14	18399	18457	05:07:37	431370277	42.65e-6	1.0845	136.8	137.2	31.56		
ApproxMinVolume		56.87	17898	17954	04:59:14	433301867	41.31e-6	1.0845	133.1	133.5	31.70		
Recursive		55.41	13724	13780	03:49:40	326904643	41.98e-6	1.0771	102.0	102.5	23.92		
Recursive2		55.55	21385	21441	05:57:21	504445255	42.39e-6	1.0771	159.0	159.4	36.91		

Table 19: Bisection of problem 2D with problem: 8, type: MinFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	28.85e-6	15.47e-3	15.50e-3	0.015	1977	7.825e-6	79.256	100.0	100.0	100.0	
		Bernstein	762.5e-3	7.414e-3	769.9e-3	0.770	1193	6.214e-6	79.195	47.93	4967.7	60.34	
		MinVariance	818.9e-3	7.375e-3	826.3e-3	0.826	1267	5.821e-6	79.197	47.68	5331.4	64.09	
		BSplines	769.3e-3	12.06e-3	781.4e-3	0.781	2731	4.416e-6	79.286	77.96	5041.8	138.1	
		MinNorm	781.1e-3	6.755e-3	787.9e-3	0.788	1219	5.541e-6	79.196	43.67	5083.9	61.66	
		MinVolume	875.4e-3	7.811e-3	883.3e-3	0.883	1359	5.747e-6	79.199	50.49	5699.3	68.74	
		ApproxMinVolume	787.5e-3	7.613e-3	795.2e-3	0.795	1361	5.594e-6	79.199	49.22	5130.7	68.84	
		Recursive	755.9e-3	7.087e-3	763.0e-3	0.763	1295	5.473e-6	79.195	45.81	4923.5	65.50	
		Recursive2	855.3e-3	7.371e-3	862.7e-3	0.863	1227	6.007e-6	79.195	47.65	5566.3	62.06	
		Interval	34.09e-6	1.606	1.606	1.606	205881	7.801e-6	80.820	100.0	100.0	100.0	
		Bernstein	3.366	961.4e-3	4.328	4.328	76769	12.52e-6	80.719	59.86	269.5	37.29	
		MinVariance	4.682	1.240	5.922	5.922	89543	13.85e-6	80.723	77.19	368.7	43.49	
	BSplines	3.559	3.861	7.420	7.420	309183	12.49e-6	80.806	240.4	461.9	150.2		
	MinNorm	4.507	1.092	5.599	5.599	84561	12.91e-6	80.722	67.97	348.6	41.07		
	MinVolume	3.983	1.330	5.312	5.312	104051	12.78e-6	80.727	82.79	330.7	50.54		
	ApproxMinVolume	3.977	1.354	5.330	5.330	104255	12.99e-6	80.727	84.28	331.9	50.64		
	Recursive	3.916	1.009	4.925	4.925	80601	12.52e-6	80.719	62.81	306.6	39.15		
	Recursive2	4.406	1.026	5.432	5.432	77765	13.20e-6	80.719	63.90	338.2	37.77		
	Interval	25.99e-6	2469	2469	41.09	279256333	8.842e-6	93.403	100.0	100.0	100.0		
	Bernstein	11.56	423.2	434.8	07:14	14731509	28.73e-6	93.208	17.14	17.61	5.275		
	MinVariance	15.22	612.5	627.7	10:27	18292447	33.48e-6	93.219	24.80	25.42	6.550		
	BSplines	11.97	3033	3045	50:45	107307337	28.27e-6	93.349	122.9	123.3	38.43		
	MinNorm	14.82	521.4	536.2	08:56	16719691	31.19e-6	93.214	21.12	21.72	5.987		
	MinVolume	13.18	671.1	684.3	11:24	22250121	30.16e-6	93.229	27.18	27.71	7.968		
	ApproxMinVolume	12.97	665.2	678.2	11:18	22338235	29.78e-6	93.229	26.94	27.47	7.999		
	Recursive	15.77	481.1	496.9	08:16	15893175	30.27e-6	93.208	19.49	20.12	5.691		
	Recursive2	15.85	490.8	506.6	08:26	16385337	29.95e-6	93.208	19.88	20.52	5.867		
	Interval	28.00e-6	4108250	4108250	47-13:10:50	372573382554	11.03e-6	107.82	100.0	100.0	100.0		
	Bernstein	73.76	484952	484952	5-14:42:32	9553074604	50.76e-6	107.48	107.48	11.80	2.564		
	MinVariance	78.18	654506	654506	7-13:48:26	12581726837	52.02e-6	107.49	15.93	15.93	3.377		
	BSplines	73.98	in progress	> 60 days									
	MinNorm	77.28	569679	569679	6-14:14:39	11123112281	51.22e-6	107.48	13.87	13.87	2.985		
	MinVolume	75.95	815357	815357	9-10:29:17	16307861911	50.00e-6	107.50	19.85	19.85	4.377		
	ApproxMinVolume	75.63	831328	831328	9-14:55:28	16396808355	50.70e-6	107.50	20.24	20.24	4.401		
	Recursive	74.27	534632	534633	6-04:30:33	10690906035	50.01e-6	107.48	13.01	13.01	2.869		
	Recursive2	72.31	517185	517185	5-23:39:45	10260479676	50.41e-6	107.48	12.59	12.59	2.754		
	0.01	2	Interval	25.99e-6	81.04e-3	81.07e-3	0.081	549	147.6e-6	80.229	100.0	100.0	100.0
			Bernstein	2.259	6.168e-3	2.265	2.265	339	18.19e-6	79.743	7.611	2794.0	61.75
			MinVariance	2.259	8.591e-3	2.268	2.268	355	24.20e-6	79.762	10.60	2797.3	64.66
			BSplines	2.259	6.426e-3	2.265	2.265	819	7.846e-6	80.473	7.929	2794.2	149.2
			MinNorm	2.259	6.785e-3	2.266	2.266	343	19.78e-6	79.753	8.372	2794.6	62.48
			MinVolume	2.259	10.13e-3	2.269	2.269	465	21.78e-6	79.781	12.50	2799.1	84.70
			ApproxMinVolume	2.259	4.737e-3	2.264	2.264	467	10.14e-6	79.781	5.845	2792.2	85.06
			Recursive	2.259	5.178e-3	2.264	2.264	435	11.90e-6	79.743	6.389	2793.0	79.23
			Recursive2	2.259	7.648e-3	2.267	2.267	381	20.07e-6	79.743	9.437	2796.3	69.40
			Interval	22.89e-6	433.4e-3	433.5e-3	0.433	52953	8.185e-6	82.293	100.0	100.0	100.0
			Bernstein	3.406	189.7e-3	3.596	3.596	14737	12.87e-6	81.625	43.77	829.6	27.83
			MinVariance	4.663	253.9e-3	4.917	4.917	18357	13.83e-6	81.656	58.59	1134.4	34.67
BSplines		3.543	940.1e-3	4.483	4.483	77719	12.10e-6	82.311	216.9	1034.3	146.8		
MinNorm		4.567	224.6e-3	4.792	4.792	16873	13.31e-6	81.642	51.82	1105.5	31.86		
MinVolume		3.944	262.8e-3	4.207	4.207	21013	12.51e-6	81.685	60.63	970.6	39.68		
ApproxMinVolume		3.921	268.4e-3	4.189	4.189	21183	12.67e-6	81.686	61.91	966.5	40.00		
Recursive		3.868	232.0e-3	4.100	4.100	18069	12.84e-6	81.625	53.52	946.0	34.12		
Recursive2		4.319	213.4e-3	4.533	4.533	15735	13.56e-6	81.625	49.24	1045.7	29.72		
Interval		23.84e-6	242.8	242.8	04:02	24761387	9.807e-6	95.784	100.0	100.0	100.0		
Bernstein		11.66	47.80	59.46	59.461	1651391	28.95e-6	94.237	19.69	24.49	6.669		
MinVariance		15.11	64.52	79.62	01:19	1993077	32.37e-6	94.322	26.57	32.79	8.049		
BSplines		12.05	345.4	357.4	05:57	11840691	29.17e-6	95.378	142.2	147.2	47.82		
MinNorm		14.87	57.73	72.60	01:12	1815731	31.79e-6	94.302	23.77	29.90	7.333		
MinVolume		13.14	68.27	81.41	01:21	2430469	28.09e-6	94.416	28.11	33.53	9.816		
ApproxMinVolume		13.07	70.59	83.66	01:23	2441833	28.91e-6	94.417	29.07	34.45	9.861		
Recursive		15.89	76.69	92.58	01:32	2404441	31.43e-6	94.237	31.58	38.13	9.856		
Recursive2		15.79	84.31	100.1	01:40	2644115	31.89e-6	94.237	34.72	41.23	10.68		
Interval		35.00e-6	130831	130831	1-12:20:31	12623689740	10.36e-6	111.53	100.0	100.0	100.0		
Bernstein		97.43	36906	37003	10:16:43	697571515	52.91e-6	108.86	28.21	28.28	5.526		
MinVariance		102.1	48144	48246	13:24:06	897835783	53.62e-6	108.99	36.80	36.88	7.112		
BSplines		98.42	410056	410056	4-17:54:16	7869407337	52.11e-6	110.49	313.4	313.4	62.34		
MinNorm		102.0	41743	41845	11:37:25	790432719	52.81e-6	108.92	31.91	31.98	6.262		
MinVolume		100.6	58935	59036	16:23:56	1136682111	51.85e-6	109.10	45.05	45.12	9.004		
ApproxMinVolume		97.78	60880	60978	16:56:18	1145758167	53.14e-6	109.10	46.53	46.61	9.076		
Recursive		97.68	64078	64176	17:49:36	1198810095	53.45e-6	108.86	48.98	49.05	9.497		
Recursive2		97.08	54870	54967	15:16:07	1035709007	52.98e-6	108.86	41.94	42.01	8.204		

Table 27: Bisection of problem 2D with problem: 17, type: MinFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D:H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	33.86e-6	3.524e-3	3.558e-3	0.004	159	22.16e-6	53.397	100.0	100.0	100.0	
		Bernstein	845.4e-3	3.615e-3	849.1e-3	0.849	159	22.74e-6	53.397	102.6	23864.2	100.0	
		MinVariance	938.1e-3	3.988e-3	942.1e-3	0.942	183	21.79e-6	53.400	113.2	26479.7	115.1	
		BSplines	864.9e-3	4.343e-3	869.3e-3	0.869	391	11.11e-6	53.486	123.2	24431.6	245.9	
		MinNorm	883.9e-3	3.612e-3	887.6e-3	0.888	179	20.18e-6	53.398	102.5	24946.3	112.6	
		MinVolume	895.2e-3	3.794e-3	899.1e-3	0.899	207	18.33e-6	53.402	107.7	25269.0	130.2	
		ApproxMinVolume	797.8e-3	3.821e-3	801.6e-3	0.802	207	18.46e-6	53.402	108.4	22530.3	130.2	
		Recursive	762.9e-3	3.896e-3	766.8e-3	0.767	175	22.26e-6	53.397	110.6	21553.0	110.1	
		Recursive2	855.9e-3	3.462e-3	859.4e-3	0.859	179	19.34e-6	53.397	98.23	24154.3	112.6	
		Interval	30.04e-6	697.9e-3	698.0e-3	0.698	83677	8.341e-6	64.042	100.0	100.0	100.0	
		Bernstein	3.415	562.0e-3	3.977	3.977	44791	12.55e-6	64.037	80.52	569.7	53.53	
		MinVariance	4.665	703.4e-3	5.368	5.368	53905	13.05e-6	64.041	100.8	769.1	64.42	
	BSplines	3.564	2.401	5.965	5.965	197089	12.18e-6	64.137	344.1	854.6	235.5		
	MinNorm	4.522	626.5e-3	5.149	5.149	49279	12.71e-6	64.039	89.76	737.7	58.89		
	MinVolume	3.978	777.3e-3	4.756	4.756	61811	12.58e-6	64.045	111.4	681.4	73.87		
	ApproxMinVolume	3.970	772.9e-3	4.743	4.743	62071	12.45e-6	64.045	110.7	679.6	74.18		
	Recursive	3.871	589.0e-3	4.460	4.460	47183	12.48e-6	64.037	84.40	639.0	56.39		
	Recursive2	4.379	588.2e-3	4.967	4.967	45353	12.97e-6	64.037	84.28	711.7	54.20		
	Interval	25.99e-6	948.9	948.9	15.48	104660775	9.066e-6	55.997	100.0	100.0	100.0		
	Bernstein	11.49	411.4	422.9	07:02	14375207	28.62e-6	55.850	43.36	44.57	13.74		
	MinVariance	15.20	573.9	589.1	09:49	17846991	32.15e-6	55.862	60.48	62.08	17.05		
	BSplines	11.94	2949	2961	49:21	98077069	30.07e-6	56.000	310.8	312.1	93.71		
	MinNorm	14.89	475.0	489.9	08:09	16242609	29.25e-6	55.857	50.06	51.63	15.52		
	MinVolume	13.23	669.7	682.9	11:22	21472161	31.19e-6	55.873	70.57	71.97	20.52		
	ApproxMinVolume	13.06	656.1	669.2	11:09	21564243	30.43e-6	55.874	69.15	70.52	20.60		
	Recursive	15.95	474.9	490.9	08:10	15010869	31.64e-6	55.850	50.05	51.73	14.34		
	Recursive2	15.60	462.5	478.1	07:58	15089753	30.65e-6	55.850	48.75	50.39	14.42		
	Interval	28.00e-6	1350520	1350520	15-15:08:40	121375517999	11.13e-6	63.149	100.0	100.0	100.0		
	Bernstein	73.56	323217	323217	3-17:46:57	6280505880	51.46e-6	62.923	23.93	23.93	5.174		
	MinVariance	77.90	428194	428194	4-22:56:34	8237514581	51.98e-6	62.941	31.71	31.71	6.787		
	BSplines	73.71	3722210	3722210	43-01:56:50	73456512169	50.67e-6	63.145	275.6	275.6	60.52		
	MinNorm	77.17	374380	374380	4-07:59:40	7265029483	51.53e-6	62.933	27.72	27.72	5.986		
	MinVolume	76.33	532077	532077	6-03:47:57	10483140457	50.76e-6	62.957	39.40	39.40	8.637		
	ApproxMinVolume	75.81	531701	531701	6-03:41:41	10539658705	50.45e-6	62.958	39.37	39.37	8.684		
	Recursive	74.04	348973	348973	4-00:56:13	6806633015	51.27e-6	62.923	25.84	25.84	5.608		
	Recursive2	74.20	333486	333486	3-20:38:06	6482265500	51.45e-6	62.923	24.69	24.69	5.341		
	0.01	2	Interval	32.90e-6	118.3e-3	118.4e-3	0.118	319	371.0e-6	54.227	100.0	100.0	100.0
			Bernstein	2.259	7.758e-3	2.267	2.267	291	26.66e-6	54.227	6.555	1915.2	91.22
			MinVariance	2.259	11.63e-3	2.271	2.271	295	39.42e-6	54.246	9.827	1918.4	92.48
			BSplines	2.260	12.10e-3	2.272	2.272	551	21.96e-6	54.941	10.23	1919.0	172.7
			MinNorm	2.259	9.963e-3	2.269	2.269	293	34.00e-6	54.237	8.419	1917.0	91.85
			MinVolume	2.259	9.081e-3	2.268	2.268	315	28.83e-6	54.264	7.673	1916.1	98.75
			ApproxMinVolume	2.260	10.79e-3	2.270	2.270	317	34.02e-6	54.264	9.113	1918.0	99.37
			Recursive	1.511	6.837e-3	1.518	1.518	343	19.93e-6	54.227	5.777	1282.5	107.5
			Recursive2	1.528	11.09e-3	1.539	1.539	305	36.36e-6	54.227	9.372	1300.0	95.61
			Interval	28.13e-6	300.6e-3	300.6e-3	0.301	37029	8.117e-6	65.393	100.0	100.0	100.0
			Bernstein	3.311	198.3e-3	3.509	3.509	15969	12.42e-6	65.347	65.99	1167.3	43.13
			MinVariance	4.638	281.2e-3	4.919	4.919	20523	13.70e-6	65.380	93.57	1636.4	55.42
BSplines		3.540	1.013	4.553	4.553	77799	13.02e-6	66.153	337.1	1514.8	210.1		
MinNorm		4.511	224.6e-3	4.735	4.735	17195	13.06e-6	65.365	74.73	1575.3	46.44		
MinVolume		3.933	306.6e-3	4.240	4.240	23489	13.05e-6	65.411	102.0	1410.5	63.43		
ApproxMinVolume		3.942	301.3e-3	4.243	4.243	23553	12.79e-6	65.412	100.2	1411.5	63.61		
Recursive		3.756	239.8e-3	3.996	3.996	18879	12.70e-6	65.347	79.77	1329.4	50.98		
Recursive2		4.326	209.6e-3	4.536	4.536	16733	12.53e-6	65.347	69.74	1508.9	45.19		
Interval		30.99e-6	71.99	71.99	01:11	7423905	9.697e-6	58.169	100.0	100.0	100.0		
Bernstein		11.59	37.99	49.58	49.583	1309339	29.01e-6	56.938	52.77	68.88	17.64		
MinVariance		15.47	53.44	68.91	01:08	1607239	33.25e-6	57.038	74.23	95.73	21.65		
BSplines		12.01	268.4	280.4	04:40	9116619	29.44e-6	58.127	372.8	389.5	122.8		
MinNorm		14.94	47.42	62.37	01:02	1453903	32.62e-6	56.978	65.88	86.63	19.58		
MinVolume		13.30	62.51	75.81	01:15	1984227	31.50e-6	57.123	86.83	105.3	26.73		
ApproxMinVolume		13.04	58.06	71.10	01:11	1994227	29.11e-6	57.124	80.65	98.77	26.86		
Recursive		15.90	49.92	65.82	01:05	1600277	31.20e-6	56.938	69.35	91.43	21.56		
Recursive2		15.69	54.47	70.16	01:10	1777477	30.65e-6	56.938	75.67	97.47	23.94		
Interval		21.93e-6	48486	48486	13:28:06	4326690579	11.21e-6	66.175	100.0	100.0	100.0		
Bernstein		96.22	19798	19894	05:31:34	379042839	52.23e-6	64.526	40.83	41.03	8.761		
MinVariance		101.0	27574	27675	07:41:15	511592157	53.90e-6	64.680	56.87	57.08	11.82		
BSplines		96.91	251431	251431	2-21:50:31	4816801329	52.20e-6	66.278	518.6	518.6	111.3		
MinNorm		100.5	23435	23536	06:32:16	447578831	52.36e-6	64.623	48.33	48.54	10.34		
MinVolume		100.9	34848	34949	09:42:29	661782405	52.66e-6	64.786	71.87	72.08	15.30		
ApproxMinVolume		100.1	35079	35179	09:46:19	666118385	52.66e-6	64.791	72.35	72.56	15.40		
Recursive		98.30	30142	30240	08:24:00	573913681	52.52e-6	64.526	62.17	62.37	13.26		
Recursive2		98.30	26723	26821	07:27:01	509400055	52.46e-6	64.526	55.12	55.32	11.77		

Table 28: Bisection of problem 2D with problem: 18, type: MinFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	24.80e-6	2.949e-3	2.974e-3	0.003	107	27.56e-6	infeasible	100.0	100.0	100.0	
		Bernstein	844.5e-3	3.240e-3	847.7e-3	0.848	69	46.95e-6	infeasible	109.9	28506.9	64.49	
		MinVariance	921.0e-3	3.297e-3	924.4e-3	0.924	63	52.33e-6	infeasible	111.8	31083.6	58.88	
		BSplines	863.1e-3	3.352e-3	866.5e-3	0.866	113	29.66e-6	infeasible	113.7	29136.8	105.6	
		MinNorm	890.3e-3	3.116e-3	893.4e-3	0.893	61	51.08e-6	infeasible	105.7	30043.7	57.01	
		MinVolume	887.2e-3	3.367e-3	890.6e-3	0.891	69	48.80e-6	infeasible	114.2	29949.3	64.49	
		ApproxMinVolume	898.6e-3	3.656e-3	902.2e-3	0.902	69	52.99e-6	infeasible	124.0	30339.1	64.49	
		Recursive	871.1e-3	3.538e-3	874.7e-3	0.875	93	38.04e-6	infeasible	120.0	29412.7	86.92	
		Recursive2	868.9e-3	3.443e-3	872.3e-3	0.872	123	27.99e-6	infeasible	116.8	29333.3	115.0	
	3	Interval	28.85e-6	187.3e-3	187.4e-3	0.187	24121	7.766e-6	44.363	100.0	100.0	100.0	
		Bernstein	3.377	183.4e-3	3.561	3.561	14567	12.59e-6	44.358	97.91	1900.6	60.39	
		MinVariance	4.682	240.1e-3	4.922	4.922	17985	13.35e-6	44.363	128.2	2627.0	74.56	
		BSplines	3.611	804.4e-3	4.415	4.415	62615	12.85e-6	44.451	429.4	2356.5	259.6	
		MinNorm	4.521	221.0e-3	4.742	4.742	16537	13.36e-6	44.361	118.0	2530.9	68.56	
		MinVolume	3.964	259.2e-3	4.223	4.223	20147	12.87e-6	44.367	138.4	2254.0	83.52	
		ApproxMinVolume	3.948	258.8e-3	4.207	4.207	20169	12.83e-6	44.367	138.2	2245.2	83.62	
		Recursive	3.857	203.6e-3	4.061	4.061	15657	13.01e-6	44.358	108.7	2167.4	64.91	
		Recursive2	4.357	211.8e-3	4.569	4.569	15263	13.88e-6	44.358	113.1	2438.5	63.28	
	4	Interval	33.14e-6	125.8	125.8	02:05	12487643	10.08e-6	33.203	100.0	100.0	100.0	
		Bernstein	11.52	83.61	95.13	01:35	2909445	28.74e-6	33.151	66.45	75.60	23.30	
		MinVariance	15.26	118.6	133.9	02:13	3640013	32.59e-6	33.159	94.29	106.4	29.15	
		BSplines	11.95	710.5	722.4	12:02	23725501	29.95e-6	33.250	564.6	574.1	190.0	
		MinNorm	14.75	104.0	118.8	01:58	3257791	31.94e-6	33.157	82.69	94.41	26.09	
		MinVolume	13.20	135.6	148.8	02:28	4378325	30.98e-6	33.166	107.8	118.3	35.06	
		ApproxMinVolume	13.17	139.2	152.4	02:32	4397095	31.67e-6	33.166	110.7	121.1	35.21	
		Recursive	15.77	94.13	109.9	01:49	3000175	31.38e-6	33.151	74.81	87.35	24.03	
		Recursive2	15.72	98.94	114.7	01:54	3124127	31.67e-6	33.151	78.63	91.13	25.02	
	5	Interval	28.00e-6	1045140	1045140	12-02:19:00	94516209791	11.06e-6	31.568	100.0	100.0	100.0	
		Bernstein	73.83	944369	944369	10-22:19:29	18658199295	50.61e-6	31.442	90.36	90.36	19.74	
		MinVariance	77.42	1271750	1271750	14-17:15:50	24701965489	51.48e-6	31.458	121.7	121.7	26.14	
		BSplines	73.23	in progress	> 60 days								
		MinNorm	77.14	1094150	1094150	12-15:55:50	21589134760	50.68e-6	31.450	104.7	104.7	22.84	
		MinVolume	76.04	1570110	1570110	18-04:08:30	31298536437	50.17e-6	31.472	150.2	150.2	33.11	
		ApproxMinVolume	75.01	1606110	1606110	18-14:08:30	31905223190	50.34e-6	31.472	153.7	153.7	33.76	
		Recursive	73.90	979910	979910	11-08:11:50	19445423662	50.39e-6	31.442	93.76	93.76	20.57	
		Recursive2	74.11	969590	969590	11-05:19:50	19233961860	50.41e-6	31.442	92.77	92.77	20.35	
	0.01	2	Interval	30.04e-6	3.183e-3	3.213e-3	0.003	107	29.75e-6	infeasible	100.0	100.0	100.0
			Bernstein	1.759	7.856e-3	1.766	1.766	69	113.9e-6	infeasible	246.8	54976.2	64.49
			MinVariance	910.2e-3	3.359e-3	913.6e-3	0.914	63	53.32e-6	infeasible	105.5	28431.7	58.88
			BSplines	963.6e-3	4.260e-3	967.9e-3	0.968	113	37.70e-6	infeasible	133.8	30121.5	105.6
			MinNorm	962.7e-3	3.566e-3	966.3e-3	0.966	61	58.46e-6	infeasible	112.0	30072.7	57.01
			MinVolume	963.7e-3	3.084e-3	966.8e-3	0.967	69	44.69e-6	infeasible	96.88	30087.2	64.49
			ApproxMinVolume	963.2e-3	4.672e-3	967.9e-3	0.968	69	67.71e-6	infeasible	146.8	30121.5	64.49
			Recursive	876.3e-3	3.437e-3	879.7e-3	0.880	93	36.96e-6	infeasible	108.0	27379.3	86.92
			Recursive2	862.2e-3	4.339e-3	866.5e-3	0.867	123	35.28e-6	infeasible	136.3	26968.3	115.0
3		Interval	28.85e-6	66.38e-3	66.41e-3	0.066	7721	8.597e-6	45.695	100.0	100.0	100.0	
		Bernstein	3.243	56.15e-3	3.299	3.299	4215	13.32e-6	45.365	84.59	4968.4	54.59	
		MinVariance	4.470	68.52e-3	4.539	4.539	5055	13.56e-6	45.400	103.2	6834.8	65.47	
		BSplines	3.569	210.7e-3	3.780	3.780	16815	12.53e-6	46.398	317.4	5692.2	217.8	
		MinNorm	4.539	64.92e-3	4.604	4.604	4647	13.97e-6	45.384	97.80	6933.0	60.19	
		MinVolume	3.916	74.91e-3	3.990	3.990	5761	13.00e-6	45.434	112.9	6009.1	74.61	
		ApproxMinVolume	3.952	75.91e-3	4.028	4.028	5775	13.14e-6	45.435	114.4	6065.3	74.80	
		Recursive	3.873	68.35e-3	3.941	3.941	5339	12.80e-6	45.365	103.0	5934.8	69.15	
		Recursive2	4.315	66.46e-3	4.382	4.382	4937	13.46e-6	45.365	100.1	6598.6	63.94	
4		Interval	41.96e-6	25.03	25.03	25.028	2461753	10.17e-6	34.408	100.0	100.0	100.0	
		Bernstein	12.10	16.73	28.83	28.827	573025	29.19e-6	33.973	66.83	115.2	23.28	
		MinVariance	17.31	23.00	40.31	40.309	696239	33.03e-6	34.010	91.89	161.1	28.28	
		BSplines	12.63	126.3	139.0	02:18	4120163	30.66e-6	34.818	504.7	555.2	167.4	
		MinNorm	16.63	20.54	37.17	37.166	636021	32.29e-6	33.994	82.05	148.5	25.84	
		MinVolume	14.15	26.00	40.16	40.156	830483	31.31e-6	34.071	103.9	160.4	33.74	
		ApproxMinVolume	13.88	26.12	39.99	39.992	833749	31.32e-6	34.072	104.3	159.8	33.87	
		Recursive	16.80	20.05	36.85	36.855	647213	30.98e-6	33.973	80.12	147.3	26.29	
		Recursive2	16.76	23.63	40.39	40.392	779105	30.34e-6	33.973	94.43	161.4	31.65	
5		Interval	30.04e-6	14006	14006	03:53:26	1298250205	10.79e-6	33.874	100.0	100.0	100.0	
		Bernstein	98.48	19352	19451	05:24:11	361891811	53.48e-6	32.826	138.2	138.9	27.88	
		MinVariance	102.3	24046	24148	06:42:28	445532669	53.97e-6	32.947	171.7	172.4	34.32	
		BSplines	98.03	133692	133692	1-13:08:12	2581066328	51.80e-6	34.374	954.5	954.5	198.8	
		MinNorm	101.6	21640	21742	06:02:22	405310033	53.39e-6	32.900	154.5	155.2	31.22	
		MinVolume	99.63	28653	28752	07:59:12	538340345	53.22e-6	33.059	204.6	205.3	41.47	
		ApproxMinVolume	99.50	29080	29179	08:06:19	540465171	53.81e-6	33.061	207.6	208.3	41.63	
		Recursive	97.29	23523	23620	06:33:40	447194067	52.60e-6	32.826	167.9	168.6	34.45	
		Recursive2	97.12	22104	22201	06:10:01	417961065	52.89e-6	32.826	157.8	158.5	32.19	

Table 29: Bisection of problem 2D with problem: 19, type: MinFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	26.94e-6	6.502e-3	6.529e-3	0.007	697	9.328e-6	955.68e-3	100.0	100.0	100.0	
		Bernstein	724.1e-3	4.147e-3	728.3e-3	0.728	333	12.45e-6	951.92e-3	63.78	11154.8	47.78	
		MinVariance	742.3e-3	3.714e-3	746.0e-3	0.746	337	11.02e-6	952.00e-3	57.12	11426.6	48.35	
		BSplines	726.7e-3	4.992e-3	731.7e-3	0.732	469	10.64e-6	952.86e-3	76.78	11207.0	67.29	
		MinNorm	743.4e-3	3.761e-3	747.2e-3	0.747	333	11.29e-6	951.96e-3	57.85	11444.7	47.78	
		MinVolume	726.5e-3	4.425e-3	730.9e-3	0.731	349	12.68e-6	952.07e-3	68.06	11195.4	50.07	
		ApproxMinVolume	736.0e-3	3.765e-3	739.8e-3	0.740	351	10.73e-6	952.07e-3	57.91	11330.8	50.36	
		Recursive	718.3e-3	3.854e-3	722.1e-3	0.722	335	11.50e-6	951.92e-3	59.28	11060.8	48.06	
		Recursive2	718.6e-3	3.771e-3	722.4e-3	0.722	337	11.19e-6	951.92e-3	58.00	11065.1	48.35	
	3	Interval	31.95e-6	1.091	1.091	1.091	158835	6.869e-6	656.18e-3	100.0	100.0	100.0	
		Bernstein	1.225	249.9e-3	1.474	1.474	46343	5.392e-6	653.31e-3	22.90	135.1	29.18	
		MinVariance	1.391	273.4e-3	1.665	1.665	48519	5.634e-6	653.39e-3	25.06	152.6	30.55	
		BSplines	1.230	383.3e-3	1.613	1.613	78885	4.859e-6	654.29e-3	35.13	147.9	49.66	
		MinNorm	1.380	261.7e-3	1.642	1.642	47471	5.513e-6	653.35e-3	23.99	150.5	29.89	
		MinVolume	1.311	274.6e-3	1.585	1.585	50725	5.414e-6	653.46e-3	25.17	145.3	31.94	
		ApproxMinVolume	1.279	262.8e-3	1.542	1.542	50805	5.172e-6	653.46e-3	24.09	141.3	31.99	
		Recursive	1.233	251.9e-3	1.485	1.485	46807	5.382e-6	653.31e-3	23.09	136.1	29.47	
		Recursive2	1.221	252.1e-3	1.473	1.473	46685	5.401e-6	653.31e-3	23.11	135.0	29.39	
	4	Interval	30.04e-6	151.1	151.1	02.31	18306999	8.254e-6	546.04e-3	100.0	100.0	100.0	
		Bernstein	3.864	56.02	59.89	59.886	4338387	12.91e-6	543.02e-3	37.08	39.63	23.70	
		MinVariance	4.801	63.00	67.80	01.07	4594645	13.71e-6	543.10e-3	41.69	44.87	25.10	
		BSplines	3.878	100.2	104.1	01.44	8350851	12.00e-6	544.03e-3	66.34	68.91	45.62	
		MinNorm	4.603	62.33	66.93	01.06	4475875	13.93e-6	543.06e-3	41.25	44.30	24.45	
		MinVolume	4.147	63.09	67.24	01.07	4845057	13.02e-6	543.17e-3	41.75	44.50	26.47	
		ApproxMinVolume	4.345	64.51	68.85	01.08	4851817	13.30e-6	543.18e-3	42.69	45.57	26.50	
		Recursive	3.943	56.22	60.16	01.00	4356289	12.91e-6	543.02e-3	37.21	39.81	23.80	
		Recursive2	3.905	56.02	59.92	59.923	4345647	12.89e-6	543.02e-3	37.07	39.66	23.74	
	5	Interval	28.13e-6	26809	26809	07:26:49	2148335555	12.48e-6	463.96e-3	100.0	100.0	100.0	
		Bernstein	57.35	17105	17162	04:46:02	486354955	35.17e-6	461.15e-3	63.80	64.02	22.64	
		MinVariance	60.66	18672	18733	05:12:13	516339805	36.16e-6	461.22e-3	69.65	69.88	24.03	
		BSplines	57.61	31120	31178	08:39:38	969173347	32.11e-6	462.14e-3	116.1	116.3	45.11	
		MinNorm	60.20	18592	18653	05:10:53	502490929	37.00e-6	461.19e-3	69.35	69.58	23.39	
		MinVolume	57.73	18979	19036	05:17:16	546007229	34.76e-6	461.30e-3	70.79	71.01	25.42	
		ApproxMinVolume	59.83	19918	19978	05:32:58	546781515	36.43e-6	461.30e-3	74.29	74.52	25.45	
		Recursive	57.67	17142	17200	04:46:40	487594105	35.16e-6	461.15e-3	63.94	64.16	22.70	
		Recursive2	57.36	17053	17110	04:45:10	486650021	35.04e-6	461.15e-3	63.61	63.82	22.65	
	0.01	2	Interval	39.82e-6	8.453e-3	8.493e-3	0.008	1129	7.487e-6	1.1075	100.0	100.0	100.0
			Bernstein	723.1e-3	5.982e-3	729.1e-3	0.729	663	9.023e-6	1.0801	70.77	8585.2	58.72
			MinVariance	742.4e-3	4.533e-3	747.0e-3	0.747	697	6.504e-6	1.0808	53.63	8795.2	61.74
			BSplines	738.6e-3	5.618e-3	744.2e-3	0.744	839	6.696e-6	1.0884	66.46	8763.0	74.31
			MinNorm	787.2e-3	4.945e-3	792.1e-3	0.792	673	7.347e-6	1.0804	58.50	9327.1	59.61
			MinVolume	706.9e-3	7.290e-3	714.2e-3	0.714	713	10.22e-6	1.0814	86.24	8409.1	63.15
			ApproxMinVolume	1.338	15.86e-3	1.354	1.354	713	22.24e-6	1.0814	187.6	15938.4	63.15
			Recursive	1.948	12.24e-3	1.960	1.960	669	18.30e-6	1.0801	144.9	23082.2	59.26
			Recursive2	1.938	4.633e-3	1.942	1.942	675	6.864e-6	1.0801	54.81	22870.1	59.79
3		Interval	27.89e-6	295.8e-3	295.8e-3	0.296	41831	7.072e-6	708.82e-3	100.0	100.0	100.0	
		Bernstein	1.237	90.32e-3	1.328	1.328	15029	6.010e-6	684.89e-3	30.53	448.8	35.93	
		MinVariance	1.380	95.55e-3	1.476	1.476	15753	6.065e-6	685.53e-3	32.30	498.9	37.66	
		BSplines	1.238	127.7e-3	1.366	1.366	23709	5.387e-6	692.89e-3	43.18	461.6	56.68	
		MinNorm	1.358	94.46e-3	1.453	1.453	15455	6.112e-6	685.24e-3	31.93	491.1	36.95	
		MinVolume	1.300	96.66e-3	1.397	1.397	16319	5.923e-6	686.12e-3	32.67	472.2	39.01	
		ApproxMinVolume	1.314	96.12e-3	1.410	1.410	16329	5.886e-6	686.14e-3	32.49	476.7	39.04	
		Recursive	1.232	93.29e-3	1.326	1.326	15501	6.018e-6	684.89e-3	31.54	448.1	37.06	
		Recursive2	1.243	92.83e-3	1.335	1.335	15363	6.043e-6	684.89e-3	31.38	451.4	36.73	
4		Interval	28.85e-6	18.54	18.54	18.537	2243403	8.263e-6	600.02e-3	100.0	100.0	100.0	
		Bernstein	4.177	7.392	11.57	11.569	555975	13.30e-6	574.62e-3	39.88	62.41	24.78	
		MinVariance	4.973	8.355	13.33	13.329	586589	14.24e-6	575.28e-3	45.07	71.90	26.15	
		BSplines	4.166	12.47	16.64	16.635	1026213	12.15e-6	582.96e-3	67.27	89.74	45.74	
		MinNorm	4.768	8.053	12.82	12.821	572389	14.07e-6	574.98e-3	43.45	69.17	25.51	
		MinVolume	4.274	8.332	12.61	12.606	616473	13.52e-6	575.90e-3	44.95	68.00	27.48	
		ApproxMinVolume	4.434	8.308	12.74	12.742	617395	13.46e-6	575.91e-3	44.82	68.74	27.52	
		Recursive	4.087	7.352	11.44	11.439	568277	12.94e-6	574.62e-3	39.66	61.71	25.33	
		Recursive2	3.905	7.278	11.18	11.183	562573	12.94e-6	574.62e-3	39.26	60.33	25.08	
5		Interval	36.95e-6	1124	1124	18.44	112981657	9.953e-6	518.93e-3	100.0	100.0	100.0	
		Bernstein	75.78	804.5	880.2	14:40	22820037	35.25e-6	494.87e-3	71.54	78.28	20.20	
		MinVariance	80.00	879.4	959.4	15:59	24290253	36.20e-6	495.51e-3	78.20	85.32	21.50	
		BSplines	78.24	1503	1581	26:21	47132137	31.90e-6	503.11e-3	133.7	140.6	41.72	
		MinNorm	80.05	870.3	950.3	15:50	23608125	36.86e-6	495.22e-3	77.39	84.51	20.90	
		MinVolume	78.64	920.0	998.6	16:38	25768687	35.70e-6	496.13e-3	81.81	88.80	22.81	
		ApproxMinVolume	78.94	915.4	994.3	16:34	25806787	35.47e-6	496.14e-3	81.40	88.42	22.84	
		Recursive	77.90	819.5	897.4	14:57	23271949	35.21e-6	494.87e-3	72.87	79.80	20.60	
		Recursive2	76.76	814.2	890.9	14:50	22992939	35.41e-6	494.87e-3	72.40	79.23	20.35	

Table 30: Bisection of problem 2D with problem: 1, type: MaxFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	30.99e-6	22.44e-3	22.47e-3	0.022	3437	6.528e-6	2.7090	100.0	100.0	100.0	
		Bernstein	726.9e-3	7.064e-3	733.9e-3	0.734	2105	3.356e-6	2.7057	31.48	3266.5	61.25	
		MinVariance	735.1e-3	8.066e-3	743.2e-3	0.743	2127	3.792e-6	2.7058	35.95	3307.7	61.89	
		BSplines	726.1e-3	8.993e-3	735.1e-3	0.735	2937	3.062e-6	2.7073	40.08	3271.6	85.45	
		MinNorm	737.3e-3	7.605e-3	744.9e-3	0.745	2115	3.596e-6	2.7057	33.89	3315.1	61.54	
		MinVolume	691.8e-3	7.954e-3	699.7e-3	0.700	2197	3.620e-6	2.7059	35.45	3114.3	63.92	
		ApproxMinVolume	679.1e-3	7.757e-3	686.8e-3	0.687	2199	3.527e-6	2.7059	34.57	3056.9	63.98	
		Recursive	716.3e-3	7.435e-3	723.8e-3	0.724	2105	3.532e-6	2.7057	33.14	3221.2	61.25	
		Recursive2	731.9e-3	7.761e-3	739.7e-3	0.740	2105	3.687e-6	2.7057	34.59	3291.9	61.25	
	3	Interval	24.08e-6	2.508	2.508	2.508	377955	6.635e-6	2.4369	100.0	100.0	100.0	
		Bernstein	1.227	318.4e-3	1.545	1.545	58309	5.461e-6	2.4310	12.70	61.61	15.43	
		MinVariance	1.368	344.6e-3	1.713	1.713	62051	5.554e-6	2.4312	13.74	68.31	16.42	
		BSplines	1.241	565.0e-3	1.806	1.806	119017	4.747e-6	2.4329	22.53	72.03	31.49	
		MinNorm	1.356	335.1e-3	1.691	1.691	60353	5.552e-6	2.4311	13.36	67.42	15.97	
		MinVolume	1.291	354.8e-3	1.646	1.646	65687	5.402e-6	2.4313	14.15	65.63	17.38	
		ApproxMinVolume	1.293	356.7e-3	1.650	1.650	65769	5.423e-6	2.4313	14.22	65.79	17.40	
		Recursive	1.236	313.8e-3	1.550	1.550	58423	5.371e-6	2.4310	12.51	61.79	15.46	
		Recursive2	1.228	319.6e-3	1.548	1.548	58599	5.454e-6	2.4310	12.74	61.71	15.50	
	4	Interval	32.19e-6	145.1	145.1	02:25	17924341	8.095e-6	1.2775	100.0	100.0	100.0	
		Bernstein	3.962	55.99	59.95	59.951	4313803	12.98e-6	1.2731	38.59	41.32	24.07	
		MinVariance	4.743	62.23	66.97	01:06	4575395	13.60e-6	1.2732	42.89	46.16	25.53	
		BSplines	3.856	101.2	105.0	01:45	8399807	12.04e-6	1.2746	69.71	72.37	46.86	
		MinNorm	4.648	61.67	66.32	01:06	4454545	13.84e-6	1.2731	42.50	45.70	24.85	
		MinVolume	4.143	62.68	66.83	01:06	4831085	12.97e-6	1.2733	43.20	46.06	26.95	
		ApproxMinVolume	4.340	64.88	69.22	01:09	4837801	13.41e-6	1.2733	44.72	47.71	26.99	
		Recursive	3.899	55.44	59.34	59.338	4326613	12.81e-6	1.2731	38.21	40.90	24.14	
		Recursive2	3.907	55.89	59.79	59.794	4318511	12.94e-6	1.2731	38.52	41.21	24.09	
	5	Interval	24.80e-6	39602	39602	11:00:02	4235700059	9.350e-6	1.0796	100.0	100.0	100.0	
		Bernstein	57.95	35351	35409	09:50:09	1000320153	35.34e-6	1.0754	89.27	89.41	23.62	
		MinVariance	60.42	38665	38726	10:45:26	1062949643	36.38e-6	1.0755	97.63	97.79	25.10	
		BSplines	57.69	64033	64091	17:48:11	2005406867	31.93e-6	1.0770	161.7	161.8	47.35	
		MinNorm	60.37	38206	38266	10:37:46	1034016309	36.95e-6	1.0755	96.47	96.63	24.41	
		MinVolume	57.98	40409	40467	11:14:27	1124851465	35.92e-6	1.0757	102.0	102.2	26.56	
		ApproxMinVolume	59.65	40968	41028	11:23:48	1126470329	36.37e-6	1.0757	103.4	103.6	26.59	
		Recursive	57.82	35812	35870	09:57:50	1001917277	35.74e-6	1.0754	90.43	90.57	23.65	
		Recursive2	57.23	35140	35197	09:46:37	1000589595	35.12e-6	1.0754	88.73	88.88	23.62	
	0.01	2	Interval	29.09e-6	7.499e-3	7.528e-3	0.008	595	12.60e-6	2.7694	100.0	100.0	100.0
			Bernstein	727.2e-3	5.751e-3	733.0e-3	0.733	385	14.94e-6	2.7381	76.69	9737.0	64.71
			MinVariance	746.2e-3	5.278e-3	751.5e-3	0.752	385	13.71e-6	2.7392	70.38	9983.2	64.71
			BSplines	739.8e-3	4.830e-3	744.6e-3	0.745	481	10.04e-6	2.7517	64.41	9891.3	80.84
			MinNorm	728.6e-3	4.044e-3	732.7e-3	0.733	385	10.50e-6	2.7387	53.93	9732.7	64.71
			MinVolume	715.0e-3	3.638e-3	718.7e-3	0.719	397	9.164e-6	2.7402	48.51	9546.9	66.72
			ApproxMinVolume	721.4e-3	4.699e-3	726.1e-3	0.726	397	11.84e-6	2.7402	62.66	9645.3	66.72
			Recursive	721.2e-3	4.713e-3	726.0e-3	0.726	385	12.24e-6	2.7381	62.85	9643.4	64.71
			Recursive2	1.859	6.230e-3	1.865	1.865	385	16.18e-6	2.7381	83.08	24772.8	64.71
3		Interval	30.04e-6	776.9e-3	776.9e-3	0.777	114217	6.802e-6	2.5140	100.0	100.0	100.0	
		Bernstein	1.231	174.8e-3	1.405	1.405	29605	5.905e-6	2.4634	22.50	180.9	25.92	
		MinVariance	1.365	186.7e-3	1.551	1.551	30991	6.023e-6	2.4646	24.03	199.7	27.13	
		BSplines	1.244	256.1e-3	1.500	1.500	49255	5.200e-6	2.4783	32.97	193.1	43.12	
		MinNorm	1.348	182.0e-3	1.530	1.530	30395	5.989e-6	2.4641	23.43	196.9	26.61	
		MinVolume	1.282	180.0e-3	1.462	1.462	32407	5.553e-6	2.4657	23.16	188.1	28.37	
		ApproxMinVolume	1.275	180.3e-3	1.455	1.455	32451	5.557e-6	2.4658	23.21	187.3	28.41	
		Recursive	1.253	172.1e-3	1.426	1.426	29749	5.784e-6	2.4634	22.15	183.5	26.05	
		Recursive2	1.179	171.6e-3	1.350	1.350	29875	5.743e-6	2.4634	22.09	173.8	26.16	
4		Interval	25.99e-6	18.75	18.75	18.747	2316545	8.093e-6	1.3554	100.0	100.0	100.0	
		Bernstein	3.916	7.760	11.68	11.676	580431	13.37e-6	1.3191	41.39	62.28	25.06	
		MinVariance	4.773	8.900	13.67	13.673	615347	14.46e-6	1.3201	47.47	72.93	26.56	
		BSplines	3.890	13.86	17.75	17.752	1122977	12.34e-6	1.3315	73.95	94.69	48.48	
		MinNorm	4.678	8.521	13.20	13.200	599129	14.22e-6	1.3196	45.45	70.41	25.86	
		MinVolume	4.203	8.759	12.96	12.962	649691	13.48e-6	1.3210	46.72	69.14	28.05	
		ApproxMinVolume	4.348	9.009	13.36	13.357	650613	13.85e-6	1.3211	48.06	71.25	28.09	
		Recursive	3.947	7.855	11.80	11.802	590493	13.30e-6	1.3191	41.90	62.95	25.49	
		Recursive2	3.848	7.845	11.69	11.693	584473	13.42e-6	1.3191	41.85	62.37	25.23	
5		Interval	33.86e-6	1563	1563	26:03	169306809	9.235e-6	1.1612	100.0	100.0	100.0	
		Bernstein	77.88	1382	1460	24:20	39202437	35.27e-6	1.1267	88.42	93.40	23.15	
		MinVariance	80.85	1524	1605	26:45	41681105	36.58e-6	1.1277	97.50	102.7	24.62	
		BSplines	78.12	2577	2655	44:15	79703737	32.34e-6	1.1391	164.8	169.8	47.08	
		MinNorm	80.70	1505	1585	26:25	40530951	37.14e-6	1.1272	96.27	101.4	23.94	
		MinVolume	78.52	1581	1660	27:40	44167813	35.81e-6	1.1286	101.2	106.2	26.09	
		ApproxMinVolume	79.57	1591	1671	27:51	44233293	35.98e-6	1.1286	101.8	106.9	26.13	
		Recursive	78.30	1406	1485	24:45	39735983	35.41e-6	1.1267	89.99	95.00	23.47	
		Recursive2	76.80	1379	1456	24:16	39364189	35.05e-6	1.1267	88.25	93.16	23.25	

Table 31: Bisection of problem 2D with problem: 2, type: MaxFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	25.99e-6	5.971e-3	5.997e-3	0.006	59	101.2e-6	infeasible	100.0	100.0	100.0	
		Bernstein	717.0e-3	3.075e-3	720.1e-3	0.720	41	75.00e-6	infeasible	51.50	12007.6	69.49	
		MinVariance	737.6e-3	2.683e-3	740.3e-3	0.740	41	65.44e-6	infeasible	44.94	12345.2	69.49	
		BSplines	710.8e-3	2.867e-3	713.7e-3	0.714	41	69.93e-6	infeasible	48.02	11901.4	69.49	
		MinNorm	736.2e-3	3.316e-3	739.5e-3	0.740	41	80.88e-6	infeasible	55.53	12331.8	69.49	
		MinVolume	734.9e-3	3.071e-3	738.0e-3	0.738	41	74.90e-6	infeasible	51.43	12306.3	69.49	
		ApproxMinVolume	730.2e-3	3.091e-3	733.3e-3	0.733	41	75.39e-6	infeasible	51.76	12228.7	69.49	
	Recursive	714.5e-3	3.139e-3	717.6e-3	0.718	41	76.56e-6	infeasible	52.57	11966.8	69.49		
	Recursive2	715.7e-3	3.297e-3	719.0e-3	0.719	41	80.42e-6	infeasible	55.22	11990.0	69.49		
	3	Interval	30.99e-6	2.188	2.188	2.188	313367	6.982e-6	3.9157	100.0	100.0	100.0	
		Bernstein	1.218	379.4e-3	1.597	1.597	82899	4.576e-6	3.9108	17.34	73.00	26.45	
		MinVariance	1.377	417.7e-3	1.795	1.795	88733	4.707e-6	3.9110	19.09	82.02	28.32	
		BSplines	1.211	697.7e-3	1.909	1.909	176409	3.955e-6	3.9131	31.89	87.24	56.29	
		MinNorm	1.362	408.8e-3	1.771	1.771	86059	4.751e-6	3.9109	18.69	80.95	27.46	
		MinVolume	1.296	437.4e-3	1.733	1.733	94919	4.608e-6	3.9111	19.99	79.20	30.29	
		ApproxMinVolume	1.300	434.4e-3	1.734	1.734	95081	4.569e-6	3.9111	19.85	79.27	30.34	
		Recursive	1.212	365.0e-3	1.577	1.577	82929	4.401e-6	3.9108	16.68	72.07	26.46	
		Recursive2	1.238	405.4e-3	1.644	1.644	83039	4.882e-6	3.9108	18.53	75.13	26.50	
		4	Interval	25.03e-6	1812	1812	30.12	231356227	7.834e-6	2.2271	100.0	100.0	100.0
	Bernstein		3.893	297.4	301.3	05:01	21479813	13.85e-6	2.2173	16.41	16.62	9.284	
	MinVariance		4.768	320.2	325.0	05:24	21954871	14.58e-6	2.2174	17.67	17.93	9.490	
	BSplines		3.853	386.6	390.4	06:30	28325867	13.65e-6	2.2193	21.33	21.54	12.24	
	MinNorm		4.647	316.8	321.4	05:21	21736085	14.57e-6	2.2174	17.48	17.73	9.395	
	MinVolume		4.125	313.5	317.6	05:17	22416747	13.98e-6	2.2176	17.29	17.52	9.689	
	ApproxMinVolume		4.329	312.5	316.8	05:16	22428769	13.93e-6	2.2176	17.24	17.48	9.694	
	Recursive		3.937	295.8	299.7	04:59	21492065	13.76e-6	2.2173	16.32	16.54	9.290	
	Recursive2		3.980	303.0	307.0	05:06	21482741	14.10e-6	2.2173	16.72	16.94	9.286	
	5		Interval	34.81e-6	46069	46069	12:47:49	4972603415	9.265e-6	1.4911	100.0	100.0	100.0
		Bernstein	57.13	37266	37323	10:22:03	1066577287	34.94e-6	1.4862	80.89	81.02	21.45	
		MinVariance	60.78	41916	41977	11:39:37	1139403783	36.79e-6	1.4864	90.99	91.12	22.91	
		BSplines	57.72	71885	71942	19:59:02	2264727657	31.74e-6	1.4881	156.0	156.2	45.54	
		MinNorm	60.30	40410	40471	11:14:31	1105702391	36.55e-6	1.4863	87.72	87.85	22.24	
		MinVolume	57.90	42365	42423	11:47:03	1211712153	34.96e-6	1.4865	91.96	92.09	24.37	
		ApproxMinVolume	58.14	42521	42579	11:49:39	1213605091	35.04e-6	1.4865	92.30	92.43	24.41	
		Recursive	57.78	37954	38012	10:33:32	1068223403	35.53e-6	1.4862	82.39	82.51	21.48	
		Recursive2	57.45	37597	37655	10:27:35	1066834617	35.24e-6	1.4862	81.61	81.74	21.45	
		0.01	2	Interval	29.09e-6	2.660e-3	2.689e-3	0.003	59	45.09e-6	infeasible	100.0	100.0
	Bernstein			668.8e-3	3.555e-3	672.4e-3	0.672	41	86.70e-6	infeasible	133.6	25003.5	69.49
	MinVariance			687.3e-3	3.287e-3	690.6e-3	0.691	41	80.17e-6	infeasible	123.6	25681.2	69.49
	BSplines			786.1e-3	2.898e-3	789.0e-3	0.789	41	70.68e-6	infeasible	108.9	29339.6	69.49
	MinNorm			685.9e-3	3.220e-3	689.1e-3	0.689	41	78.54e-6	infeasible	121.1	25625.0	69.49
	MinVolume			723.9e-3	3.192e-3	727.2e-3	0.727	41	77.86e-6	infeasible	120.0	27040.5	69.49
	ApproxMinVolume			733.4e-3	2.962e-3	736.3e-3	0.736	41	72.25e-6	infeasible	111.4	27382.5	69.49
	Recursive		715.4e-3	2.843e-3	718.3e-3	0.718	41	69.34e-6	infeasible	106.9	26709.7	69.49	
	Recursive2		709.1e-3	3.292e-3	712.4e-3	0.712	41	80.29e-6	infeasible	123.8	26491.0	69.49	
3	Interval		27.18e-6	287.6e-3	287.6e-3	0.288	40777	7.053e-6	3.9989	100.0	100.0	100.0	
	Bernstein		1.236	65.55e-3	1.301	1.301	11979	5.472e-6	3.9588	22.79	452.3	29.38	
	MinVariance		1.378	69.10e-3	1.447	1.447	12537	5.512e-6	3.9602	24.02	503.2	30.75	
	BSplines		1.259	98.28e-3	1.358	1.358	20833	4.717e-6	3.9774	34.17	472.0	51.09	
	MinNorm		1.374	69.16e-3	1.443	1.443	12271	5.636e-6	3.9596	24.05	501.8	30.09	
	MinVolume		1.313	71.64e-3	1.385	1.385	13225	5.417e-6	3.9616	24.91	481.4	32.43	
	ApproxMinVolume		1.319	71.76e-3	1.391	1.391	13243	5.419e-6	3.9617	24.95	483.7	32.48	
	Recursive		1.264	65.27e-3	1.329	1.329	11983	5.447e-6	3.9588	22.69	462.2	29.39	
	Recursive2		1.276	65.85e-3	1.342	1.342	12021	5.478e-6	3.9588	22.90	466.5	29.48	
	4		Interval	30.99e-6	100.4	100.4	01:40	12432805	8.079e-6	2.5375	100.0	100.0	100.0
Bernstein			3.894	14.44	18.33	18.33	962773	15.00e-6	2.3014	14.37	18.25	7.744	
MinVariance			4.778	15.59	20.37	20.37	1001287	15.57e-6	2.3026	15.52	20.28	8.054	
BSplines			3.882	22.09	25.97	25.97	1516589	14.57e-6	2.3172	21.99	25.86	12.20	
MinNorm			4.619	15.49	20.11	20.108	983659	15.75e-6	2.3021	15.42	20.02	7.912	
MinVolume			3.988	15.32	19.31	19.306	1038711	14.75e-6	2.3038	15.25	19.22	8.355	
ApproxMinVolume			4.355	16.28	20.63	20.633	1039649	15.66e-6	2.3039	16.21	20.54	8.362	
Recursive			3.958	14.86	18.82	18.818	970293	15.31e-6	2.3014	14.79	18.73	7.804	
Recursive2			3.900	14.74	18.64	18.640	965371	15.27e-6	2.3014	14.67	18.56	7.765	
5			Interval	32.90e-6	2029	2029	33:49	203304991	9.982e-6	1.5822	100.0	100.0	100.0
	Bernstein		79.85	1638	1718	28:38	46148879	35.52e-6	1.5430	80.76	84.69	22.70	
	MinVariance		81.93	1817	1899	31:39	49219861	36.94e-6	1.5441	89.58	93.62	24.21	
	BSplines		78.79	3043	3122	52:02	96702183	31.48e-6	1.5578	150.0	153.9	47.57	
	MinNorm		81.24	1730	1811	30:11	47791857	36.21e-6	1.5436	85.27	89.27	23.51	
	MinVolume		79.48	1854	1934	32:14	52291685	35.47e-6	1.5452	91.40	95.31	25.72	
	ApproxMinVolume		80.76	1854	1935	32:15	52373087	35.42e-6	1.5453	91.40	95.38	25.76	
	Recursive		79.07	1654	1733	28:53	46681459	35.44e-6	1.5430	81.52	85.41	22.96	
	Recursive2		78.41	1613	1692	28:12	46257725	34.89e-6	1.5430	79.51	83.38	22.75	

Table 32: Bisection of problem 2D with problem: 3, type: MaxFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	32.19e-6	24.76e-3	24.79e-3	0.025	3681	6.727e-6	1.0755	100.0	100.0	100.0	
		Bernstein	821.1e-3	8.299e-3	829.4e-3	0.829	1811	4.582e-6	1.0716	33.51	3345.2	49.20	
		MinVariance	945.6e-3	9.899e-3	955.5e-3	0.955	1957	5.058e-6	1.0717	39.98	3853.7	53.16	
		BSplines	867.3e-3	16.56e-3	883.8e-3	0.884	3709	4.465e-6	1.0735	66.87	3564.7	100.8	
		MinNorm	933.5e-3	9.447e-3	942.9e-3	0.943	1877	5.033e-6	1.0717	38.15	3803.0	50.99	
		MinVolume	913.1e-3	10.70e-3	923.8e-3	0.924	2111	5.070e-6	1.0718	43.22	3725.9	57.35	
		ApproxMinVolume	894.2e-3	10.63e-3	904.8e-3	0.905	2155	4.934e-6	1.0718	42.94	3649.3	58.54	
		Recursive	869.2e-3	9.580e-3	878.8e-3	0.879	1953	4.905e-6	1.0716	38.69	3544.2	53.06	
		Recursive2	874.0e-3	11.45e-3	885.4e-3	0.885	2177	5.257e-6	1.0716	46.22	3571.1	59.14	
	3	Interval	25.99e-6	2.412	2.412	2.412	338615	7.123e-6	741.67e-3	100.0	100.0	100.0	
		Bernstein	3.040	1.225	4.265	4.265	114573	10.69e-6	738.33e-3	50.78	176.8	33.84	
		MinVariance	4.389	1.579	5.968	5.968	132839	11.89e-6	738.62e-3	65.47	247.4	39.23	
		BSplines	3.201	4.745	7.945	7.945	439927	10.78e-6	742.24e-3	196.7	329.4	129.9	
		MinNorm	4.228	1.447	5.675	5.675	124471	11.63e-6	738.47e-3	60.00	235.3	36.76	
		MinVolume	3.603	1.681	5.284	5.284	152079	11.05e-6	738.94e-3	69.70	219.1	44.91	
		ApproxMinVolume	3.545	1.686	5.232	5.232	152539	11.06e-6	738.94e-3	69.92	216.9	45.05	
		Recursive	3.468	1.343	4.811	4.811	124871	10.76e-6	738.33e-3	55.70	199.5	36.88	
		Recursive2	3.730	1.390	5.120	5.120	121037	11.49e-6	738.33e-3	57.64	212.3	35.74	
	4	Interval	30.04e-6	656.8	656.8	10.56	74476465	8.819e-6	621.32e-3	100.0	100.0	100.0	
		Bernstein	3.989	332.0	336.0	05:35	19245713	17.25e-6	617.74e-3	50.55	51.16	25.84	
		MinVariance	5.146	410.4	415.5	06:55	23136529	17.74e-6	618.08e-3	62.48	63.27	31.07	
		BSplines	3.993	1733	1737	28:57	104719931	16.55e-6	621.91e-3	263.9	264.5	140.6	
		MinNorm	5.005	365.3	370.3	06:10	21292973	17.16e-6	617.91e-3	55.63	56.39	28.59	
		MinVolume	4.501	476.5	481.0	08:00	27314957	17.44e-6	618.38e-3	72.55	73.23	36.68	
		ApproxMinVolume	4.603	480.3	484.9	08:04	27411249	17.52e-6	618.38e-3	73.13	73.83	36.81	
		Recursive	4.029	337.6	341.6	05:41	19864619	16.99e-6	617.74e-3	51.40	52.01	26.67	
		Recursive2	4.010	396.0	400.1	06:40	22714937	17.44e-6	617.74e-3	60.30	60.91	30.50	
	5	Interval	25.00e-6	102808	102808	1-04:33:28	10664656770	9.640e-6	529.85e-3	100.0	100.0	100.0	
		Bernstein	54.99	103739	103739	1-04:48:59	2444578852	42.44e-6	526.69e-3	100.9	100.9	22.92	
		MinVariance	59.84	132181	132181	1-12:43:01	3096099520	42.69e-6	527.05e-3	128.6	128.6	29.03	
		BSplines	55.32	830854	830854	9-14:47:34	20232268004	41.07e-6	531.29e-3	808.2	808.2	189.7	
		MinNorm	59.56	118243	118243	1-08:50:43	2785568436	42.45e-6	526.90e-3	115.0	115.0	26.12	
		MinVolume	57.27	158940	158940	1-20:09:00	3787983312	41.96e-6	527.38e-3	154.6	154.6	35.52	
		ApproxMinVolume	57.32	158627	158628	1-20:03:48	3815646750	41.57e-6	527.39e-3	154.3	154.3	35.78	
		Recursive	54.92	104408	104408	1-05:00:08	2479552360	42.11e-6	526.69e-3	101.6	101.6	23.25	
		Recursive2	55.24	124938	124938	1-10:42:18	2968497414	42.09e-6	526.69e-3	121.5	121.5	27.83	
	0.01	2	Interval	29.80e-6	8.639e-3	8.669e-3	0.009	975	8.861e-6	1.1306	100.0	100.0	100.0
			Bernstein	813.5e-3	4.666e-3	818.2e-3	0.818	469	9.949e-6	1.0927	54.01	9438.2	48.10
			MinVariance	916.4e-3	5.070e-3	921.5e-3	0.921	505	10.04e-6	1.0933	58.69	10629.8	51.79
			BSplines	769.9e-3	8.738e-3	778.6e-3	0.779	1137	7.685e-6	1.1115	101.1	8981.7	116.6
			MinNorm	976.5e-3	5.333e-3	981.8e-3	0.982	479	11.13e-6	1.0930	61.73	11325.7	49.13
			MinVolume	986.8e-3	5.167e-3	992.0e-3	0.992	567	9.113e-6	1.0940	59.81	11443.4	58.15
			ApproxMinVolume	898.3e-3	5.214e-3	903.6e-3	0.904	573	9.099e-6	1.0940	60.35	10423.0	58.77
			Recursive	885.6e-3	5.694e-3	891.3e-3	0.891	611	9.319e-6	1.0927	65.91	10281.3	62.67
			Recursive2	878.0e-3	6.179e-3	884.2e-3	0.884	789	7.832e-6	1.0927	71.52	10200.1	80.92
3		Interval	30.99e-6	396.2e-3	396.2e-3	0.396	51615	6.675e-6	794.69e-3	100.0	100.0	100.0	
		Bernstein	3.008	200.0e-3	3.208	3.208	18043	11.09e-6	766.06e-3	50.49	809.7	34.96	
		MinVariance	4.424	248.2e-3	4.673	4.673	20615	12.04e-6	768.90e-3	62.66	1179.4	39.94	
		BSplines	3.175	869.1e-3	4.044	4.044	77501	11.21e-6	797.06e-3	219.4	1020.8	150.2	
		MinNorm	4.255	234.9e-3	4.490	4.490	19393	12.11e-6	768.21e-3	59.30	1133.2	37.57	
		MinVolume	3.637	284.9e-3	3.922	3.922	23803	11.97e-6	770.54e-3	71.92	990.0	46.12	
		ApproxMinVolume	3.579	277.0e-3	3.856	3.856	24007	11.54e-6	770.68e-3	69.92	973.3	46.51	
		Recursive	3.518	295.0e-3	3.813	3.813	25509	11.57e-6	766.06e-3	74.47	962.4	49.42	
		Recursive2	3.742	284.5e-3	4.027	4.027	24721	11.51e-6	766.06e-3	71.81	1016.3	47.89	
4		Interval	21.93e-6	30.96	30.96	30.958	3671039	8.433e-6	678.03e-3	100.0	100.0	100.0	
		Bernstein	4.027	17.47	21.50	21.500	974561	17.93e-6	647.64e-3	56.44	69.45	26.55	
		MinVariance	5.238	20.22	25.46	25.463	1137457	17.78e-6	649.64e-3	65.33	82.25	30.98	
		BSplines	3.989	102.9	106.9	01:46	5893657	17.47e-6	678.47e-3	332.5	345.4	160.5	
		MinNorm	4.993	18.11	23.10	23.099	1044023	17.34e-6	648.77e-3	58.49	74.62	28.44	
		MinVolume	4.503	24.61	29.11	29.111	1361057	18.08e-6	651.67e-3	79.49	94.04	37.08	
		ApproxMinVolume	4.634	24.23	28.87	28.868	1366759	17.73e-6	651.69e-3	78.28	93.25	37.23	
		Recursive	4.088	28.88	32.97	32.972	1650643	17.50e-6	647.64e-3	93.30	106.5	44.96	
		Recursive2	4.109	40.61	44.72	44.721	2289249	17.74e-6	647.64e-3	131.2	144.5	62.36	
5		Interval	33.86e-6	2784	2784	46:24	238094609	11.70e-6	587.12e-3	100.0	100.0	100.0	
		Bernstein	72.52	2210	2282	38:02	52163893	42.37e-6	559.75e-3	79.37	81.98	21.91	
		MinVariance	77.76	2812	2890	48:10	64090301	43.88e-6	562.22e-3	101.0	103.8	26.92	
		BSplines	72.43	21342	21414	05:56:54	513123433	41.59e-6	595.66e-3	766.4	769.0	215.5	
		MinNorm	77.31	2427	2504	41:44	57209201	42.43e-6	561.16e-3	87.16	89.94	24.03	
		MinVolume	74.87	3418	3493	58:13	81195589	42.11e-6	564.56e-3	122.8	125.5	34.10	
		ApproxMinVolume	75.19	3418	3493	58:13	81941527	41.72e-6	564.77e-3	122.8	125.5	34.42	
		Recursive	72.39	4183	4256	01:10:56	89951899	46.51e-6	559.75e-3	150.2	152.8	37.78	
		Recursive2	73.53	6679	6753	01:52:33	153842559	43.42e-6	559.75e-3	239.9	242.5	64.61	

Table 33: Bisection of problem 2D with problem: 4, type: MaxFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H-M.S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)
0.001	2	Interval	26.94e-6	15.76e-3	15.79e-3	0.016	2227	7.077e-6	2.7566	100.0	100.0	100.0
		Bernstein	851.0e-3	7.473e-3	858.5e-3	0.859	1155	6.470e-6	2.7533	47.42	5438.3	51.86
		MinVariance	948.1e-3	7.155e-3	955.3e-3	0.955	1187	6.028e-6	2.7535	45.40	6051.1	53.30
		BSplines	855.8e-3	10.40e-3	866.2e-3	0.866	2077	5.007e-6	2.7564	65.99	5486.9	93.26
		MinNorm	921.4e-3	6.593e-3	928.1e-3	0.928	1173	5.621e-6	2.7534	41.83	5878.6	52.67
		MinVolume	901.1e-3	7.179e-3	908.3e-3	0.908	1291	5.561e-6	2.7536	45.55	5753.5	57.97
		ApproxMinVolume	890.7e-3	7.263e-3	898.0e-3	0.898	1291	5.626e-6	2.7536	46.08	5688.2	57.97
		Recursive	882.0e-3	7.564e-3	889.6e-3	0.890	1245	6.075e-6	2.7533	47.99	5634.9	55.90
		Recursive2	876.5e-3	7.716e-3	884.2e-3	0.884	1289	5.986e-6	2.7533	48.96	5600.9	57.88
		Recursive2	30.99e-6	3.992	3.992	3.992	534053	7.476e-6	2.4706	100.0	100.0	100.0
	3	Interval	2.980	1.579	4.560	4.560	144833	10.90e-6	2.4646	39.56	114.2	27.12
		MinVariance	4.411	1.910	6.321	6.321	164685	11.60e-6	2.4649	47.85	158.3	30.84
		BSplines	3.006	5.579	8.585	8.585	524291	10.64e-6	2.4685	139.7	215.0	98.17
		MinNorm	4.144	1.787	5.931	5.931	155785	11.47e-6	2.4647	44.76	148.6	29.17
		MinVolume	3.604	1.957	5.561	5.561	185863	10.53e-6	2.4652	49.02	139.3	34.80
		ApproxMinVolume	3.563	1.991	5.554	5.554	186327	10.69e-6	2.4652	49.87	139.1	34.89
		Recursive	3.481	1.661	5.142	5.142	151527	10.96e-6	2.4646	41.61	128.8	28.37
		Recursive2	3.706	1.722	5.427	5.427	154991	11.11e-6	2.4646	43.13	135.9	29.02
		Recursive2	29.80e-6	1035	1035	17.15	128760401	8.039e-6	1.4003	100.0	100.0	100.0
		Recursive2	3.976	621.7	625.6	10.25	36466701	17.05e-6	1.3955	60.06	60.44	28.32
	4	Interval	5.143	766.1	771.2	12.51	43994795	17.41e-6	1.3959	74.01	74.51	34.17
		MinVariance	3.975	3225	3229	53.49	195965275	16.46e-6	1.4017	311.6	312.0	152.2
		BSplines	5.109	707.4	712.5	11.52	40524263	17.46e-6	1.3957	68.34	68.83	31.47
		MinNorm	4.482	895.4	899.9	14.59	52061161	17.20e-6	1.3964	86.51	86.94	40.43
		MinVolume	4.588	926.5	931.1	15.31	52231541	17.74e-6	1.3964	89.51	89.95	40.56
		ApproxMinVolume	4.045	622.4	626.5	10.26	36743093	16.94e-6	1.3955	60.13	60.52	28.54
		Recursive	4.032	700.4	704.4	11.44	39821409	17.59e-6	1.3955	67.66	68.05	30.93
		Recursive2	27.00e-6	268804	268804	3-02:40:04	27631246986	9.728e-6	1.1860	100.0	100.0	100.0
		Recursive2	55.16	313507	313507	3-15:05:07	7564556834	41.44e-6	1.1815	116.6	116.6	27.38
		Recursive2	59.62	402065	402066	4-15:41:06	9456023571	42.52e-6	1.1821	149.6	149.6	34.22
	5	Interval	55.32	2318310	2318310	26-19:58:30	56382434349	41.12e-6	1.1886	862.5	862.5	204.1
		MinVariance	58.99	358320	358320	4-03:32:00	8552976789	41.89e-6	1.1818	133.3	133.3	30.95
		BSplines	56.97	476356	476356	5-12:19:16	11502913956	41.41e-6	1.1826	177.2	177.2	41.63
		MinNorm	57.51	486845	486845	5-15:14:05	11561867436	42.11e-6	1.1826	181.1	181.1	41.84
		MinVolume	55.23	318558	318558	3-16:29:18	7584612182	42.00e-6	1.1815	118.5	118.5	27.45
		ApproxMinVolume	55.41	354670	354671	4-02:31:11	8501932997	41.72e-6	1.1815	131.9	131.9	30.77
		Recursive	29.80e-6	6.060e-3	6.006e-3	0.006	635	9.543e-6	2.8082	100.0	100.0	100.0
		Recursive2	861.1e-3	4.463e-3	865.6e-3	0.866	379	11.78e-6	2.7809	73.64	14212.8	59.69
		Recursive2	944.3e-3	4.365e-3	948.7e-3	0.949	391	11.16e-6	2.7820	72.03	15578.0	61.57
		Recursive2	858.6e-3	5.584e-3	864.2e-3	0.864	673	8.297e-6	2.8057	92.14	14190.7	106.0
0.01	2	Interval	912.4e-3	3.962e-3	916.3e-3	0.916	381	10.40e-6	2.7815	65.38	15046.8	60.00
		Bernstein	900.8e-3	4.753e-3	905.6e-3	0.906	421	11.29e-6	2.7830	78.43	14870.3	66.30
		MinVariance	903.9e-3	4.384e-3	908.2e-3	0.908	421	10.41e-6	2.7830	72.34	14913.9	66.30
		BSplines	882.9e-3	4.881e-3	887.8e-3	0.888	461	10.59e-6	2.7809	80.54	14578.5	72.60
		MinNorm	868.9e-3	4.721e-3	873.7e-3	0.874	505	9.349e-6	2.7809	77.91	14346.1	79.53
		MinVolume	33.14e-6	726.9e-3	727.0e-3	0.727	100485	7.234e-6	2.5447	100.0	100.0	100.0
		ApproxMinVolume	3.026	404.2e-3	3.430	3.430	34487	11.72e-6	2.4963	55.60	471.8	34.32
		Recursive	4.440	486.9e-3	4.927	4.927	38617	12.61e-6	2.4994	66.98	677.8	38.43
		Recursive2	3.192	1.271	4.463	4.463	110119	11.54e-6	2.5347	174.8	613.9	109.6
		Recursive2	4.260	449.3e-3	4.710	4.710	36521	12.30e-6	2.4977	61.80	647.9	36.34
3	Interval	3.615	519.4e-3	4.134	4.134	42611	12.19e-6	2.5005	71.45	568.7	42.41	
	Bernstein	3.594	493.4e-3	4.087	4.087	42757	11.54e-6	2.5005	67.87	562.2	42.55	
	MinVariance	3.537	504.0e-3	4.041	4.041	41097	12.26e-6	2.4963	69.34	555.8	40.90	
	BSplines	3.726	517.8e-3	4.243	4.243	44195	11.72e-6	2.4963	71.23	583.7	43.98	
	MinNorm	25.99e-6	46.10	46.10	46.096	5555105	8.298e-6	1.4800	100.0	100.0	100.0	
	MinVolume	4.052	27.76	31.81	31.809	1565705	17.73e-6	1.4400	60.22	69.01	28.18	
	ApproxMinVolume	5.221	33.52	38.74	38.739	1893689	17.70e-6	1.4436	72.71	84.04	34.09	
	Recursive	4.013	158.0	162.0	02:42	8903247	17.75e-6	1.4884	342.8	351.5	160.3	
	Recursive2	5.021	30.48	35.50	35.501	1741137	17.51e-6	1.4422	66.12	77.02	31.34	
	Recursive2	4.461	39.96	44.42	44.417	2279491	17.53e-6	1.4475	86.68	96.36	41.03	
4	Interval	4.646	41.37	46.02	46.016	2296705	18.01e-6	1.4475	89.75	99.83	41.34	
	Bernstein	4.056	32.69	36.75	36.747	1876827	17.42e-6	1.4400	70.92	79.72	33.79	
	MinVariance	4.000	48.37	52.37	52.367	2754427	17.56e-6	1.4400	104.9	113.6	49.58	
	BSplines	30.99e-6	3969	3969	01:06:09	419976939	9.451e-6	1.2690	100.0	100.0	100.0	
	MinNorm	73.69	4549	4623	01:17:03	108143023	42.07e-6	1.2322	114.6	116.5	25.75	
	MinVolume	78.64	5935	6014	01:40:14	135494661	43.81e-6	1.2361	149.5	151.5	32.26	
	ApproxMinVolume	73.65	40111	40185	11:09:45	932347931	43.02e-6	1.2853	1010.6	1012.4	222.0	
	Recursive	78.62	5242	5320	01:28:40	121779057	43.05e-6	1.2342	132.1	134.1	29.00	
	Recursive2	75.94	7175	7251	02:00:51	168394019	42.61e-6	1.2396	180.8	182.7	40.10	
	Recursive2	76.31	7266	7343	02:02:23	170052169	42.73e-6	1.2397	183.1	185.0	40.49	
5	Interval	73.10	5477	5550	01:32:30	128176393	42.73e-6	1.2322	138.0	139.8	30.52	
	Bernstein	73.55	10646	10720	02:58:40	245595885	43.35e-6	1.2322	268.2	270.1	58.48	

Table 34: Bisection of problem 2D with problem: 5, type: MaxFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)
0.001	2	Interval	25.99e-6	3.508e-3	3.534e-3	0.004	89	39.42e-6	infeasible	100.0	100.0	100.0
		Bernstein	855.0e-3	3.075e-3	858.1e-3	0.858	65	47.31e-6	infeasible	87.66	24279.9	73.03
		MinVariance	948.8e-3	3.210e-3	952.1e-3	0.952	61	52.62e-6	infeasible	91.50	26939.2	68.54
		BSplines	870.6e-3	3.127e-3	873.7e-3	0.874	111	28.17e-6	infeasible	89.14	24722.0	124.7
		MinNorm	919.0e-3	3.190e-3	922.2e-3	0.922	59	54.07e-6	infeasible	90.93	26094.1	66.29
		MinVolume	903.5e-3	2.918e-3	906.5e-3	0.906	69	42.29e-6	infeasible	83.18	25649.0	77.53
		ApproxMinVolume	894.0e-3	3.415e-3	897.4e-3	0.897	69	49.49e-6	infeasible	97.35	25392.4	77.53
		Recursive	867.5e-3	3.538e-3	871.1e-3	0.871	91	38.88e-6	infeasible	100.9	24648.1	102.2
		Recursive2	873.2e-3	3.271e-3	876.4e-3	0.876	119	27.49e-6	infeasible	93.24	24799.9	133.7
		Recursive2	29.09e-6	2.133	2.133	2.133	296425	7.197e-6	4.0146	100.0	100.0	100.0
	Bernstein	2.989	981.1e-3	3.970	3.970	96347	10.18e-6	4.0092	45.99	186.1	32.50	
	MinVariance	4.388	1.249	5.637	5.637	110827	11.27e-6	4.0097	58.52	264.2	37.39	
	BSplines	3.142	3.625	6.766	6.766	353175	10.26e-6	4.0148	169.9	317.2	119.1	
	MinNorm	4.237	1.147	5.384	5.384	103835	11.05e-6	4.0093	53.76	252.4	35.03	
	MinVolume	3.586	1.317	4.902	4.902	125293	10.51e-6	4.0102	61.72	229.8	42.27	
	ApproxMinVolume	3.561	1.374	4.935	4.935	125641	10.93e-6	4.0102	64.39	231.3	42.39	
	Recursive	3.506	1.076	4.581	4.581	99723	10.79e-6	4.0092	50.42	214.7	33.64	
	Recursive2	3.711	1.100	4.811	4.811	100257	10.97e-6	4.0092	51.55	225.5	33.82	
	Recursive2	30.99e-6	1098	1098	18.18	137707139	7.978e-6	2.3843	100.0	100.0	100.0	
	Bernstein	3.996	136.3	140.3	02:20	7384597	18.46e-6	2.3649	12.41	12.77	5.363	
MinVariance	5.140	162.8	167.9	02:47	8554199	19.03e-6	2.3654	14.82	15.29	6.212		
BSplines	3.965	570.1	574.0	09:34	31906287	17.87e-6	2.3716	51.89	52.25	23.17		
MinNorm	5.019	153.3	158.3	02:38	8023337	19.10e-6	2.3653	13.95	14.41	5.826		
MinVolume	4.565	186.6	191.2	03:11	9785119	19.07e-6	2.3659	16.99	17.40	7.106		
ApproxMinVolume	4.591	183.7	188.3	03:08	9810943	18.73e-6	2.3659	16.72	17.14	7.124		
Recursive	4.050	143.4	147.4	02:27	7716861	18.58e-6	2.3649	13.05	13.42	5.604		
Recursive2	4.053	145.5	149.6	02:29	7929785	18.35e-6	2.3649	13.25	13.62	5.758		
Recursive2	27.00e-6	405792	405792	4-16:43:12	41698312627	9.732e-6	1.6158	100.0	100.0	100.0		
Bernstein	54.92	442040	442040	5-02:47:20	10525260016	42.00e-6	1.6106	108.9	108.9	25.24		
MinVariance	59.84	560127	560127	6-11:35:27	13261984483	42.24e-6	1.6112	138.0	138.0	31.80		
BSplines	55.22	3480110	3480110	40-06:41:50	84542081447	41.16e-6	1.6186	857.6	857.6	202.7		
MinNorm	59.50	504001	504001	5-20:00:01	11965685782	42.12e-6	1.6109	124.2	124.2	28.70		
MinVolume	57.31	674935	674935	7-19:28:55	16261873597	41.50e-6	1.6118	166.3	166.3	39.00		
ApproxMinVolume	57.20	680081	680081	7-20:54:41	16348455509	41.60e-6	1.6118	167.6	167.6	39.21		
Recursive	54.74	440588	440588	5-02:23:08	10541421976	41.80e-6	1.6106	108.6	108.6	25.28		
Recursive2	54.99	484821	484821	5-14:40:21	11621586282	41.72e-6	1.6106	119.5	119.5	27.87		
Recursive2	30.99e-6	3.143e-3	3.174e-3	0.003	89	35.31e-6	infeasible	100.0	100.0	100.0		
Bernstein	852.0e-3	3.445e-3	855.4e-3	0.855	65	53.00e-6	infeasible	109.6	26953.0	73.03		
MinVariance	933.4e-3	3.084e-3	936.5e-3	0.936	61	50.56e-6	infeasible	98.13	29505.6	68.54		
BSplines	855.2e-3	3.523e-3	858.8e-3	0.859	111	31.74e-6	infeasible	112.1	27057.7	124.7		
MinNorm	927.2e-3	3.378e-3	930.6e-3	0.931	59	57.25e-6	infeasible	107.5	29321.1	66.29		
MinVolume	942.3e-3	3.229e-3	945.5e-3	0.946	69	46.80e-6	infeasible	102.7	29791.9	77.53		
ApproxMinVolume	908.4e-3	3.232e-3	911.6e-3	0.912	69	46.84e-6	infeasible	102.8	28722.8	77.53		
Recursive	869.6e-3	3.298e-3	872.9e-3	0.873	91	36.24e-6	infeasible	104.9	27502.9	102.2		
Recursive2	873.4e-3	3.426e-3	876.8e-3	0.877	119	28.79e-6	infeasible	109.0	27626.5	133.7		
Recursive2	28.85e-6	262.8e-3	262.8e-3	0.263	35691	7.363e-6	4.0953	100.0	100.0	100.0		
Bernstein	2.991	142.6e-3	3.133	3.133	12859	11.09e-6	4.0529	54.28	1192.1	36.03		
MinVariance	4.424	171.5e-3	4.595	4.595	14453	11.87e-6	4.0544	65.26	1748.3	40.49		
BSplines	3.193	481.6e-3	3.674	3.674	45133	10.67e-6	4.0987	183.2	1398.0	126.5		
MinNorm	4.222	158.6e-3	4.381	4.381	13565	11.69e-6	4.0537	60.36	1666.7	38.01		
MinVolume	3.578	185.1e-3	3.764	3.764	16767	11.04e-6	4.0599	70.43	1431.9	46.98		
ApproxMinVolume	3.616	192.1e-3	3.808	3.808	16817	11.42e-6	4.0599	73.09	1448.9	47.12		
Recursive	3.513	176.1e-3	3.689	3.689	15323	11.49e-6	4.0529	66.99	1403.7	42.93		
Recursive2	3.701	183.4e-3	3.884	3.884	16075	11.41e-6	4.0529	69.80	1478.0	45.04		
Recursive2	25.99e-6	123.8	123.8	02:03	14560057	8.500e-6	2.6074	100.0	100.0	100.0		
Bernstein	4.029	19.42	23.45	23.452	1038455	18.70e-6	2.4438	15.69	18.95	7.132		
MinVariance	5.157	23.09	28.24	28.243	1220073	18.92e-6	2.4487	18.65	22.82	8.380		
BSplines	3.972	80.85	84.82	01:24	4533581	17.83e-6	2.4946	65.32	68.53	31.14		
MinNorm	5.042	21.43	26.47	26.467	1118335	19.16e-6	2.4463	17.31	21.38	7.681		
MinVolume	4.478	26.15	30.63	30.625	1390943	18.80e-6	2.4509	21.13	24.74	9.553		
ApproxMinVolume	4.600	25.80	30.40	30.404	1395155	18.50e-6	2.4510	20.85	24.57	9.582		
Recursive	4.022	23.82	27.84	27.838	1317881	18.07e-6	2.4438	19.24	22.49	9.051		
Recursive2	4.055	27.91	31.97	31.966	1486525	18.78e-6	2.4438	22.55	25.83	10.21		
Recursive2	32.90e-6	5334	5334	01:28:54	552015029	9.664e-6	1.7103	100.0	100.0	100.0		
Bernstein	72.48	6473	6545	01:49:05	149768043	43.22e-6	1.6674	121.3	122.7	27.13		
MinVariance	77.92	8162	8240	02:17:20	187719485	43.48e-6	1.6722	153.0	154.5	34.01		
BSplines	73.05	49584	49657	13:47:37	1165915905	42.53e-6	1.7288	929.5	930.9	211.2		
MinNorm	77.51	7223	7301	02:01:41	169241603	42.68e-6	1.6702	135.4	136.9	30.66		
MinVolume	75.30	9778	9854	02:44:14	230353345	42.45e-6	1.6761	183.3	184.7	41.73		
ApproxMinVolume	75.22	9792	9867	02:44:27	231925331	42.22e-6	1.6762	183.6	185.0	42.01		
Recursive	72.15	6773	6845	01:54:05	150770339	42.39e-6	1.6674	127.0	128.3	28.94		
Recursive2	72.55	12787	12860	03:34:20	292924389	43.66e-6	1.6674	239.7	241.1	53.06		

Table 35: Bisection of problem 2D with problem: 6, type: MaxFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	30.99e-6	11.03e-3	11.06e-3	0.011	1441	7.657e-6	755.10e-3	100.0	100.0	100.0	
		Bernstein	850.5e-3	6.153e-3	856.7e-3	0.857	767	8.022e-6	746.14e-3	55.77	7742.9	53.23	
		MinVariance	951.6e-3	6.353e-3	958.0e-3	0.958	833	7.627e-6	750.68e-3	57.58	8658.4	57.81	
		BSplines	863.4e-3	10.28e-3	873.6e-3	0.874	1687	6.094e-6	755.93e-3	93.18	7896.2	117.1	
		MinNorm	921.9e-3	5.757e-3	927.7e-3	0.928	807	7.134e-6	750.65e-3	52.18	8384.8	56.00	
		MinVolume	851.4e-3	6.605e-3	858.0e-3	0.858	901	7.331e-6	750.74e-3	59.86	7754.8	62.53	
		ApproxMinVolume	871.6e-3	6.810e-3	878.4e-3	0.878	905	7.525e-6	750.74e-3	61.72	7939.1	62.80	
		Recursive	851.8e-3	7.105e-3	858.9e-3	0.859	861	8.252e-6	746.14e-3	64.40	7763.4	59.75	
		Recursive2	836.2e-3	8.324e-3	844.5e-3	0.845	971	8.573e-6	746.14e-3	75.44	7632.8	67.38	
	3	Interval	29.09e-6	2.744	2.744	2.744	374127	7.333e-6	531.59e-3	100.0	100.0	100.0	
		Bernstein	2.981	1.370	4.352	4.352	128365	10.67e-6	528.78e-3	49.94	158.6	34.31	
		MinVariance	4.452	1.772	6.224	6.224	149905	11.82e-6	529.10e-3	64.57	226.8	40.07	
		BSplines	3.139	5.550	8.690	8.690	535389	10.37e-6	532.31e-3	202.3	316.7	143.1	
		MinNorm	4.206	1.743	5.949	5.949	139845	12.46e-6	528.95e-3	63.52	216.8	37.38	
		MinVolume	3.549	1.864	5.413	5.413	172433	10.81e-6	529.32e-3	67.94	197.3	46.09	
		ApproxMinVolume	3.562	1.932	5.494	5.494	173233	11.15e-6	529.34e-3	70.42	200.3	46.30	
		Recursive	3.496	1.523	5.020	5.020	137853	11.05e-6	528.78e-3	55.52	183.0	36.85	
		Recursive2	3.727	1.520	5.247	5.247	134427	11.31e-6	528.78e-3	55.40	191.2	35.93	
	4	Interval	19.07e-6	641.2	641.2	10.41	73827659	8.684e-6	444.32e-3	100.0	100.0	100.0	
		Bernstein	3.988	345.4	349.4	05.49	20095431	17.19e-6	441.41e-3	53.87	54.49	27.22	
		MinVariance	5.165	421.6	426.8	07.06	24467853	17.23e-6	441.73e-3	65.76	66.57	33.14	
		BSplines	4.016	1904	1908	31.48	116588999	16.34e-6	445.18e-3	297.1	297.7	157.9	
		MinNorm	5.009	388.5	393.5	06.33	22387547	17.35e-6	441.58e-3	60.60	61.38	30.32	
		MinVolume	4.482	493.3	497.8	08.17	29082215	16.96e-6	441.99e-3	76.94	77.64	39.39	
		ApproxMinVolume	4.598	515.8	520.4	08.40	29253355	17.63e-6	441.99e-3	80.45	81.17	39.62	
		Recursive	4.046	342.4	346.4	05.46	20533235	16.68e-6	441.41e-3	53.40	54.03	27.81	
		Recursive2	4.050	401.6	405.6	06.45	22936753	17.51e-6	441.41e-3	62.63	63.27	31.07	
	5	Interval	24.00e-6	96110	96110	1-02:41:50	9744487894	9.863e-6	378.44e-3	100.0	100.0	100.0	
		Bernstein	54.97	104874	104874	1-05:07:54	2478194516	42.32e-6	375.83e-3	109.1	109.1	25.43	
		MinVariance	59.47	134329	134329	1-13:18:49	3123110494	43.01e-6	376.15e-3	139.8	139.8	32.05	
		BSplines	55.20	827432	827432	9-13:50:32	19977155262	41.42e-6	379.89e-3	860.9	860.9	205.0	
		MinNorm	59.81	122082	122082	1-09:54:42	2810659214	43.44e-6	376.00e-3	127.0	127.0	28.84	
		MinVolume	57.33	161661	161661	1-20:54:21	3823020650	42.29e-6	376.45e-3	168.2	168.2	39.23	
		ApproxMinVolume	57.31	162498	162498	1-21:08:18	3845257550	42.26e-6	376.46e-3	169.1	169.1	39.46	
		Recursive	55.14	105865	105865	1-05:24:25	2498628790	42.37e-6	375.83e-3	110.1	110.1	25.64	
		Recursive2	54.98	118154	118154	1-08:49:14	2852764846	41.42e-6	375.83e-3	122.9	122.9	29.28	
	0.01	2	Interval	30.04e-6	16.26e-3	16.29e-3	0.016	1273	12.78e-6	846.26e-3	100.0	100.0	100.0
			Bernstein	846.0e-3	5.137e-3	851.2e-3	0.851	551	9.323e-6	813.57e-3	31.59	5224.3	43.28
			MinVariance	941.5e-3	5.401e-3	946.9e-3	0.947	567	9.526e-6	814.15e-3	33.21	5812.0	44.54
			BSplines	868.8e-3	12.76e-3	881.6e-3	0.882	2519	5.064e-6	829.81e-3	78.43	5410.9	197.9
			MinNorm	928.9e-3	5.498e-3	934.5e-3	0.934	553	9.942e-6	813.89e-3	33.81	5735.3	43.44
			MinVolume	919.7e-3	6.429e-3	926.1e-3	0.926	633	10.16e-6	814.70e-3	39.53	5684.2	49.73
			ApproxMinVolume	893.5e-3	5.041e-3	898.6e-3	0.899	637	7.914e-6	814.71e-3	31.00	5515.0	50.04
			Recursive	871.1e-3	5.992e-3	877.1e-3	0.877	661	9.065e-6	813.57e-3	36.84	5383.1	51.92
			Recursive2	866.3e-3	5.679e-3	872.0e-3	0.872	773	7.347e-6	813.57e-3	34.92	5351.7	60.72
3		Interval	30.04e-6	471.5e-3	471.6e-3	0.472	65243	7.228e-6	577.23e-3	100.0	100.0	100.0	
		Bernstein	3.021	239.1e-3	3.260	3.260	21793	10.97e-6	553.92e-3	50.71	691.3	33.40	
		MinVariance	4.240	285.1e-3	4.526	4.526	25625	11.13e-6	556.24e-3	60.47	959.7	39.28	
		BSplines	3.188	1.091	4.278	4.278	99169	11.00e-6	581.31e-3	231.3	907.2	152.0	
		MinNorm	4.155	247.2e-3	4.402	4.402	23703	10.43e-6	555.33e-3	52.43	933.5	36.33	
		MinVolume	3.620	325.4e-3	3.945	3.945	29881	10.89e-6	558.27e-3	69.02	836.6	45.80	
		ApproxMinVolume	3.559	332.9e-3	3.891	3.891	29961	11.11e-6	558.29e-3	70.60	825.2	45.92	
		Recursive	3.521	315.4e-3	3.836	3.836	28535	11.05e-6	553.92e-3	66.88	813.5	43.74	
		Recursive2	3.737	301.6e-3	4.038	4.038	27773	10.86e-6	553.92e-3	63.96	856.3	42.57	
4		Interval	31.95e-6	31.51	31.51	31.508	3718417	8.474e-6	493.46e-3	100.0	100.0	100.0	
		Bernstein	3.930	17.92	21.85	21.848	1068413	16.77e-6	468.22e-3	56.87	69.34	28.73	
		MinVariance	5.164	22.81	27.98	27.975	1257073	18.15e-6	470.39e-3	72.40	88.79	33.81	
		BSplines	3.996	110.3	114.3	01:54	6387539	17.26e-6	496.65e-3	349.9	362.6	171.8	
		MinNorm	5.025	20.10	25.12	25.121	1154511	17.41e-6	469.51e-3	63.78	79.73	31.05	
		MinVolume	4.481	26.98	31.46	31.458	1526103	17.68e-6	472.38e-3	85.62	99.84	41.04	
		ApproxMinVolume	4.646	27.16	31.80	31.804	1531849	17.73e-6	472.40e-3	86.19	100.9	41.20	
		Recursive	4.106	27.15	31.25	31.252	1575133	17.23e-6	468.22e-3	86.15	99.18	42.36	
		Recursive2	4.014	37.17	41.18	41.184	2118497	17.55e-6	468.22e-3	118.0	130.7	56.97	
5		Interval	30.99e-6	1929	1929	32.09	204720217	9.427e-6	427.47e-3	100.0	100.0	100.0	
		Bernstein	71.63	2108	2179	36.19	49313299	42.75e-6	405.09e-3	109.3	113.0	24.09	
		MinVariance	77.47	2645	2722	45.22	61364187	43.11e-6	407.22e-3	137.1	141.1	29.97	
		BSplines	72.27	19891	19963	05:32:43	471788765	42.16e-6	436.23e-3	1030.7	1034.5	230.5	
		MinNorm	76.98	2307	2384	39.44	54279311	42.52e-6	405.95e-3	119.6	123.6	26.51	
		MinVolume	75.63	3292	3367	56.07	77114907	42.69e-6	409.21e-3	170.6	174.5	37.67	
		ApproxMinVolume	75.89	3284	3360	56.00	77509853	42.37e-6	409.22e-3	170.2	174.1	37.86	
		Recursive	73.50	3110	3183	53.03	72326041	43.00e-6	405.09e-3	161.2	165.0	35.33	
		Recursive2	73.70	5054	5128	01:25:28	118995025	42.48e-6	405.09e-3	261.9	265.7	58.13	

Table 36: Bisection of problem 2D with problem: 7, type: MaxFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H-M.S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	25.03e-6	27.69e-3	27.72e-3	0.028	4197	6.598e-6	2.4606	100.0	100.0	100.0	
		Bernstein	814.8e-3	10.33e-3	825.2e-3	0.825	2015	5.127e-6	2.4563	37.31	2977.0	48.01	
		MinVariance	907.9e-3	9.567e-3	917.5e-3	0.918	2175	4.399e-6	2.4564	34.55	3310.2	51.82	
		BSplines	825.4e-3	17.01e-3	842.5e-3	0.842	4141	4.108e-6	2.4598	61.43	3039.5	98.67	
		MinNorm	922.0e-3	9.652e-3	931.6e-3	0.932	2077	4.647e-6	2.4564	34.85	3361.1	49.49	
		MinVolume	912.5e-3	11.31e-3	923.9e-3	0.924	2391	4.731e-6	2.4571	40.84	3333.1	56.97	
		ApproxMinVolume	893.7e-3	11.41e-3	905.1e-3	0.905	2393	4.769e-6	2.4571	41.21	3265.5	57.02	
		Recursive	847.2e-3	10.14e-3	857.4e-3	0.857	2083	4.869e-6	2.4563	36.62	3093.2	49.63	
	Recursive2	863.8e-3	10.94e-3	874.8e-3	0.875	2183	5.011e-6	2.4563	39.50	3156.1	52.01		
	3	Interval	28.13e-6	5.031	5.031	5.031	689327	7.298e-6	2.2083	100.0	100.0	100.0	
		Bernstein	3.000	1.835	4.835	4.835	171517	10.70e-6	2.2022	36.48	96.11	24.88	
		MinVariance	4.396	2.292	6.688	6.688	197113	11.63e-6	2.2026	45.56	132.9	28.59	
		BSplines	3.187	6.837	10.02	10.024	621729	11.00e-6	2.2060	135.9	199.3	90.19	
		MinNorm	4.214	2.163	6.377	6.377	185449	11.66e-6	2.2024	42.99	126.8	26.90	
		MinVolume	3.623	2.441	6.064	6.064	220885	11.05e-6	2.2028	48.52	120.5	32.04	
		ApproxMinVolume	3.586	2.460	6.046	6.046	221969	11.08e-6	2.2028	48.90	120.2	32.20	
		Recursive	3.495	1.933	5.428	5.428	177513	10.89e-6	2.2022	38.42	107.9	25.75	
		Recursive2	3.723	2.066	5.789	5.789	180891	11.42e-6	2.2022	41.07	115.1	26.24	
		Interval	27.89e-6	1045	1045	17.25	125511839	8.333e-6	1.2199	100.0	100.0	100.0	
		Bernstein	3.981	634.9	638.9	10.38	37222273	17.06e-6	1.2155	60.71	61.09	29.66	
		MinVariance	5.154	765.5	770.7	12.50	44965691	17.02e-6	1.2160	73.19	73.69	35.83	
	4	BSplines	3.990	3344	3348	55.48	207118427	16.15e-6	1.2216	319.8	320.1	165.0	
		MinNorm	6.269	729.2	735.5	12.15	41301515	17.66e-6	1.2157	69.73	70.33	32.91	
		MinVolume	5.780	974.5	980.3	16.20	53254691	18.30e-6	1.2164	93.18	93.73	42.43	
		ApproxMinVolume	5.917	929.6	935.5	15.35	53421779	17.40e-6	1.2164	88.88	89.45	42.56	
		Recursive	5.729	643.6	649.3	10.49	37447497	17.19e-6	1.2155	61.53	62.08	29.84	
		Recursive2	5.729	697.6	703.3	11.43	39723013	17.56e-6	1.2155	66.70	67.25	31.65	
		Interval	23.00e-6	319404	319404	3-16:43.24	32513055222	9.824e-6	1.0322	100.0	100.0	100.0	
		Bernstein	54.70	390185	390185	4-12:23.05	9355057666	41.71e-6	1.0281	122.2	122.2	28.77	
		MinVariance	59.52	492832	492832	5-16:53.52	11703334114	42.11e-6	1.0287	154.3	154.3	36.00	
		BSplines	55.26	2869980	2869980	33-05:13.00	69680252900	41.19e-6	1.0350	898.5	898.5	214.3	
		MinNorm	59.34	447737	447737	5-04:22.17	10586690521	42.29e-6	1.0284	140.2	140.2	32.56	
		MinVolume	56.96	583673	583674	6-18:07.54	14224991879	41.03e-6	1.0292	182.7	182.7	43.75	
	ApproxMinVolume	57.24	597702	597702	6-22:01.42	14296668595	41.81e-6	1.0292	187.1	187.1	43.97		
	Recursive	54.92	392680	392680	4-13:04.40	9362850307	41.94e-6	1.0281	122.9	122.9	28.80		
	Recursive2	55.45	424179	424179	4-21:49.39	10125189187	41.89e-6	1.0281	132.8	132.8	31.14		
	0.01	2	Interval	25.99e-6	8.165e-3	8.191e-3	0.008	899	9.082e-6	2.5169	100.0	100.0	100.0
			Bernstein	835.5e-3	4.254e-3	839.7e-3	0.840	427	9.963e-6	2.4865	52.10	10251.8	47.50
			MinVariance	1.008	5.069e-3	1.013	1.013	453	11.19e-6	2.4875	62.08	12362.3	50.39
			BSplines	910.9e-3	6.421e-3	917.4e-3	0.917	947	6.780e-6	2.5101	78.64	11199.4	105.3
			MinNorm	972.3e-3	4.781e-3	977.1e-3	0.977	427	11.20e-6	2.4871	58.55	11928.3	47.50
			MinVolume	959.1e-3	4.499e-3	963.6e-3	0.964	489	9.200e-6	2.4885	55.10	11763.7	54.39
			ApproxMinVolume	939.8e-3	4.544e-3	944.3e-3	0.944	489	9.292e-6	2.4885	55.65	11528.5	54.39
			Recursive	912.1e-3	4.528e-3	916.6e-3	0.917	485	9.336e-6	2.4865	55.45	11190.5	53.95
			Recursive2	892.5e-3	6.455e-3	898.9e-3	0.899	561	11.51e-6	2.4865	79.06	10974.7	62.40
			Interval	26.23e-6	930.1e-3	930.1e-3	0.930	124427	7.475e-6	2.2797	100.0	100.0	100.0
			Bernstein	3.020	460.5e-3	3.480	3.480	39499	11.66e-6	2.2314	49.51	374.2	31.74
			MinVariance	4.437	531.5e-3	4.968	4.968	44421	11.96e-6	2.2340	57.14	534.1	35.70
3		BSplines	3.197	1.499	4.696	4.696	133793	11.20e-6	2.2655	161.1	504.8	107.5	
		MinNorm	4.239	505.3e-3	4.745	4.745	41841	12.08e-6	2.2334	54.33	510.1	33.63	
		MinVolume	3.621	580.3e-3	4.201	4.201	49555	11.71e-6	2.2350	62.39	451.7	39.83	
		ApproxMinVolume	3.576	559.1e-3	4.135	4.135	49667	11.26e-6	2.2351	60.11	444.6	39.92	
		Recursive	3.516	514.3e-3	4.030	4.030	44473	11.56e-6	2.2314	55.30	433.3	35.74	
		Recursive2	3.747	583.6e-3	4.331	4.331	47929	12.18e-6	2.2314	62.75	465.6	38.52	
		Interval	22.89e-6	46.75	46.75	46.752	5682049	8.228e-6	1.2952	100.0	100.0	100.0	
		Bernstein	4.006	30.91	34.91	34.914	1736341	17.80e-6	1.2587	66.11	74.68	30.56	
		MinVariance	5.179	36.77	41.95	41.950	2074333	17.73e-6	1.2628	78.65	89.73	36.51	
		BSplines	4.003	164.2	168.2	02:48	9156595	17.93e-6	1.3068	351.2	359.8	161.1	
		MinNorm	5.021	34.73	39.75	39.747	1905065	18.23e-6	1.2610	74.28	85.02	33.53	
		MinVolume	4.350	44.38	48.74	48.735	2466345	18.00e-6	1.2665	94.94	104.2	43.41	
ApproxMinVolume		4.634	44.97	49.60	49.603	2479623	18.14e-6	1.2665	96.19	106.1	43.64		
Recursive		4.062	34.05	38.12	38.115	1971079	17.28e-6	1.2587	72.84	81.53	34.69		
Recursive2		4.011	45.94	49.95	49.954	2653161	17.32e-6	1.2587	98.27	106.8	46.69		
4		Interval	29.09e-6	4393	4393	01:13:13	453425665	9.691e-6	1.1113	100.0	100.0	100.0	
		Bernstein	73.56	5428	5501	01:31:41	126238853	43.00e-6	1.0771	123.5	125.2	27.84	
		MinVariance	77.99	6864	6942	01:55:42	159235441	43.11e-6	1.0810	156.2	158.0	35.12	
		BSplines	73.38	44818	44891	12:28:11	1054173521	42.52e-6	1.1296	1020.0	1021.7	232.5	
		MinNorm	78.91	6109	6188	01:43:08	142826273	42.77e-6	1.0789	139.0	140.8	31.50	
		MinVolume	75.81	8492	8567	02:22:47	196825475	43.15e-6	1.0845	193.3	195.0	43.41	
		ApproxMinVolume	76.35	8432	8508	02:21:48	197631629	42.67e-6	1.0845	191.9	193.6	43.59	
		Recursive	72.94	5955	6028	01:40:28	138828361	42.90e-6	1.0771	135.5	137.2	30.62	
		Recursive2	73.10	9938	10011	02:46:51	231923653	42.85e-6	1.0771	226.2	227.8	51.15	

Table 37: Bisection of problem 2D with problem: 8, type: MaxFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)
0.001	2	Interval	28.13e-6	3.805e-3	3.833e-3	0.004	107	35.56e-6	infeasible	100.0	100.0	100.0
		Bernstein	832.8e-3	4.490e-3	837.3e-3	0.837	69	65.07e-6	infeasible	118.0	21845.3	64.49
		MinVariance	960.1e-3	3.990e-3	964.1e-3	0.964	63	63.33e-6	infeasible	104.9	25153.3	58.88
		BSplines	890.6e-3	4.091e-3	894.7e-3	0.895	113	36.20e-6	infeasible	107.5	23342.3	105.6
		MinNorm	956.9e-3	3.709e-3	960.6e-3	0.961	61	60.80e-6	infeasible	97.48	25062.1	57.01
		MinVolume	963.6e-3	4.504e-3	968.1e-3	0.968	69	65.28e-6	infeasible	118.4	25255.8	64.49
		ApproxMinVolume	925.8e-3	5.076e-3	930.9e-3	0.931	69	73.56e-6	infeasible	133.4	24285.2	64.49
		Recursive	884.1e-3	3.213e-3	887.3e-3	0.887	93	34.55e-6	infeasible	84.44	23149.8	86.92
		Recursive2	913.3e-3	3.696e-3	917.0e-3	0.917	123	30.05e-6	infeasible	97.14	23923.5	115.0
		Interval	22.89e-6	3.832	3.832	3.832	535589	7.155e-6	3.7270	100.0	100.0	100.0
		Bernstein	3.007	1.719	4.727	4.727	169079	10.17e-6	3.7217	44.87	123.3	31.57
		MinVariance	4.425	2.161	6.586	6.586	193953	11.14e-6	3.7221	56.38	171.9	36.21
		BSplines	3.174	6.200	9.374	9.374	602377	10.29e-6	3.7270	161.8	244.6	112.5
		MinNorm	4.159	1.900	6.059	6.059	182145	10.43e-6	3.7220	49.59	158.1	34.01
	MinVolume	3.594	2.337	5.931	5.931	218479	10.70e-6	3.7225	60.98	154.8	40.79	
	ApproxMinVolume	3.576	2.353	5.929	5.929	219029	10.74e-6	3.7225	61.41	154.7	40.89	
	Recursive	3.512	1.798	5.309	5.309	172889	10.40e-6	3.7217	46.91	138.5	32.28	
	Recursive2	3.727	1.782	5.510	5.510	172987	10.30e-6	3.7217	46.51	143.8	32.30	
	Interval	28.85e-6	1006	1006	16.46	121703787	8.267e-6	2.1947	100.0	100.0	100.0	
	Bernstein	5.729	152.7	158.4	02:38	8359845	18.26e-6	2.1783	15.17	15.74	6.869	
	MinVariance	6.373	183.5	189.9	03:09	9725243	18.87e-6	2.1787	18.24	18.88	7.991	
	BSplines	5.730	654.4	660.1	11:00	37879513	17.28e-6	2.1849	65.04	65.61	31.12	
	MinNorm	6.293	174.6	180.9	03:00	9083343	19.23e-6	2.1785	17.36	17.98	7.463	
	MinVolume	5.785	209.2	215.0	03:35	11178717	18.72e-6	2.1793	20.80	21.37	9.185	
	ApproxMinVolume	5.911	206.7	212.6	03:32	11208291	18.44e-6	2.1793	20.55	21.13	9.209	
	Recursive	5.729	153.9	159.7	02:39	8629967	17.84e-6	2.1783	15.30	15.87	7.091	
	Recursive2	5.730	157.8	163.5	02:43	8760471	18.01e-6	2.1783	15.69	16.26	7.198	
	Interval	25.00e-6	443355	443355	5-03:09:15	45336337439	9.779e-6	1.4639	100.0	100.0	100.0	
	Bernstein	54.88	505438	505438	5-20:23:58	12194051223	41.45e-6	1.4591	114.0	114.0	26.90	
	MinVariance	59.57	648260	648260	7-12:04:20	15336208493	42.27e-6	1.4597	146.2	146.2	33.83	
	BSplines	55.35	3980860	3980860	46-01:47:40	97061977239	41.01e-6	1.4670	897.9	897.9	214.1	
	MinNorm	59.34	581173	581173	6-17:26:13	13851412889	41.96e-6	1.4594	131.1	131.1	30.55	
	MinVolume	56.94	787178	787178	9-02:39:38	18806004959	41.86e-6	1.4603	177.6	177.6	41.48	
	ApproxMinVolume	57.07	788145	788146	9-02:55:46	18894595193	41.71e-6	1.4603	177.8	177.8	41.68	
	Recursive	55.47	505199	505199	5-20:19:59	12210389429	41.37e-6	1.4591	113.9	113.9	26.93	
	Recursive2	54.90	536975	536975	6-05:09:35	13021132675	41.24e-6	1.4591	121.1	121.1	28.72	
	Interval	32.90e-6	3.099e-3	3.132e-3	0.003	107	28.96e-6	infeasible	100.0	100.0	100.0	
	Bernstein	887.6e-3	3.431e-3	891.1e-3	0.891	69	49.73e-6	infeasible	110.7	28452.1	64.49	
	MinVariance	1.005	3.610e-3	1.008	1.008	63	57.30e-6	infeasible	116.5	32191.9	58.88	
	BSplines	910.1e-3	3.714e-3	913.8e-3	0.914	113	32.87e-6	infeasible	119.8	29179.0	105.6	
	MinNorm	966.2e-3	3.746e-3	970.0e-3	0.970	61	61.41e-6	infeasible	120.9	30970.4	57.01	
	MinVolume	939.1e-3	3.683e-3	942.8e-3	0.943	69	53.37e-6	infeasible	118.8	30101.9	64.49	
	ApproxMinVolume	932.2e-3	2.895e-3	935.1e-3	0.935	69	41.96e-6	infeasible	93.42	29858.7	64.49	
	Recursive	889.5e-3	3.490e-3	893.0e-3	0.893	93	37.53e-6	infeasible	112.6	28513.2	86.92	
	Recursive2	886.7e-3	4.209e-3	890.9e-3	0.891	123	34.22e-6	infeasible	135.8	28447.7	115.0	
	Interval	27.89e-6	390.9e-3	391.0e-3	0.391	54021	7.237e-6	3.8013	100.0	100.0	100.0	
	Bernstein	3.005	195.1e-3	3.200	3.200	18025	10.83e-6	3.7604	49.92	818.4	33.37	
	MinVariance	4.420	244.1e-3	4.664	4.664	20667	11.81e-6	3.7636	62.44	1193.0	38.26	
	BSplines	3.193	699.1e-3	3.892	3.892	62871	11.12e-6	3.8029	178.8	995.6	116.4	
	MinNorm	4.249	225.4e-3	4.475	4.475	19319	11.67e-6	3.7612	57.66	1144.5	35.76	
	MinVolume	3.621	271.8e-3	3.893	3.893	23307	11.66e-6	3.7668	69.54	995.7	43.14	
	ApproxMinVolume	3.552	262.6e-3	3.814	3.814	23405	11.22e-6	3.7668	67.18	975.6	43.33	
Recursive	3.506	227.9e-3	3.734	3.734	20579	11.08e-6	3.7604	58.31	955.1	38.09		
Recursive2	3.723	238.0e-3	3.961	3.961	21219	11.21e-6	3.7604	60.87	1013.0	39.28		
Interval	28.85e-6	110.6	110.6	01:50	12930525	8.553e-6	2.3987	100.0	100.0	100.0		
Bernstein	3.996	21.95	25.94	25.945	1205923	18.20e-6	2.2545	19.85	23.46	9.326		
MinVariance	5.151	26.41	31.56	31.562	1387717	19.03e-6	2.2579	23.88	28.54	10.73		
BSplines	3.897	97.25	101.1	01:41	5357205	18.15e-6	2.3074	87.93	91.46	41.43		
MinNorm	5.026	24.52	29.55	29.545	1296779	18.91e-6	2.2569	22.17	26.71	10.03		
MinVolume	4.442	29.94	34.38	34.379	1623393	18.44e-6	2.2634	27.07	31.08	12.55		
ApproxMinVolume	4.652	30.17	34.82	34.825	1627995	18.53e-6	2.2634	27.28	31.49	12.59		
Recursive	4.084	26.18	30.26	30.264	1441133	18.17e-6	2.2545	23.67	27.36	11.15		
Recursive2	4.038	28.74	32.78	32.777	1546739	18.58e-6	2.2545	25.98	29.64	11.96		
Interval	38.15e-6	6143	6143	01:42:23	616168033	9.970e-6	1.5549	100.0	100.0	100.0		
Bernstein	72.69	7445	7518	02:05:18	175378943	42.45e-6	1.5150	121.2	122.4	28.46		
MinVariance	78.45	9560	9639	02:40:39	220580649	43.34e-6	1.5198	155.6	156.9	35.80		
BSplines	73.27	58059	58132	16:08:52	1352073687	42.94e-6	1.5759	945.1	946.3	219.4		
MinNorm	78.37	8478	8556	02:22:36	198405669	42.73e-6	1.5175	138.0	139.3	32.20		
MinVolume	75.67	11531	11607	03:13:27	269789155	42.74e-6	1.5237	187.7	188.9	43.78		
ApproxMinVolume	75.80	11636	11712	03:15:12	271631213	42.84e-6	1.5239	189.4	190.7	44.08		
Recursive	72.76	7790	7863	02:11:03	181314233	42.97e-6	1.5150	126.8	128.0	29.43		
Recursive2	73.70	12257	12331	03:25:31	285505293	42.93e-6	1.5150	199.5	200.7	46.34		

Table 38: Bisection of problem 2D with problem: 9, type: MaxFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	30.99e-6	43.74e-3	43.77e-3	0.044	6201	7.053e-6	80.714	100.0	100.0	100.0	
		Bernstein	691.8e-3	12.82e-3	704.7e-3	0.705	5255	2.439e-6	80.593	29.30	1610.0	84.74	
		MinVariance	761.7e-3	12.93e-3	774.6e-3	0.775	5255	2.461e-6	80.595	29.57	1769.9	84.74	
		BSplines	770.7e-3	15.80e-3	786.5e-3	0.786	6889	2.293e-6	80.623	36.12	1797.0	111.1	
		MinNorm	762.0e-3	13.79e-3	775.8e-3	0.776	5255	2.624e-6	80.594	31.52	1772.5	84.74	
		MinVolume	755.0e-3	13.01e-3	768.0e-3	0.768	5259	2.474e-6	80.597	29.75	1754.8	84.81	
		ApproxMinVolume	745.9e-3	13.01e-3	759.0e-3	0.759	5259	2.475e-6	80.597	29.76	1734.1	84.81	
		Recursive	742.6e-3	13.17e-3	755.8e-3	0.756	5255	2.506e-6	80.593	30.11	1726.8	84.74	
	Recursive2	730.5e-3	13.07e-3	743.6e-3	0.744	5259	2.486e-6	80.593	29.89	1699.0	84.81		
	3	Interval	28.85e-6	4.257	4.257	4.257	499955	8.515e-6	85.311	100.0	100.0	100.0	
		Bernstein	1.475	693.0e-3	2.168	2.168	113247	6.119e-6	85.168	16.28	50.93	22.65	
		MinVariance	1.507	742.6e-3	2.249	2.249	121201	6.127e-6	85.172	17.44	52.83	24.24	
		BSplines	1.422	1.352	2.774	2.774	241357	5.601e-6	85.215	31.76	65.16	48.28	
		MinNorm	1.515	724.0e-3	2.239	2.239	117675	6.153e-6	85.170	17.01	52.59	23.54	
		MinVolume	1.487	773.9e-3	2.261	2.261	130179	5.945e-6	85.175	18.18	53.12	26.04	
		ApproxMinVolume	1.457	786.0e-3	2.243	2.243	130265	6.034e-6	85.175	18.46	52.70	26.06	
		Recursive	1.454	696.7e-3	2.150	2.150	113301	6.149e-6	85.168	16.36	50.51	22.66	
	Recursive2	1.456	693.7e-3	2.149	2.149	113401	6.117e-6	85.168	16.30	50.49	22.68		
	4	Interval	41.96e-6	695.6	695.6	11.35	77288077	9.000e-6	100.24	100.0	100.0	100.0	
		Bernstein	12.20	202.3	214.6	03:34	9213753	21.96e-6	100.11	29.09	30.84	11.92	
		MinVariance	15.72	259.2	275.0	04:34	10380873	24.97e-6	100.12	37.27	39.53	13.43	
		BSplines	12.12	692.0	704.1	11:44	31847981	21.73e-6	100.19	99.48	101.2	41.21	
		MinNorm	15.50	239.1	254.6	04:14	9832741	24.32e-6	100.12	34.38	36.61	12.72	
		MinVolume	13.18	266.6	279.8	04:39	11579667	23.03e-6	100.12	38.33	40.23	14.98	
		ApproxMinVolume	12.79	266.9	279.7	04:39	11610223	22.99e-6	100.13	38.37	40.21	15.02	
		Recursive	15.38	220.5	235.9	03:55	9214625	23.93e-6	100.11	31.71	33.92	11.92	
	Recursive2	16.04	214.8	230.8	03:50	9227713	23.28e-6	100.11	30.88	33.19	11.94		
	5	Interval	26.00e-6	3816650	3816650	44-04:10:50	332508609898	11.48e-6	116.26	100.0	100.0	100.0	
		Bernstein	72.03	898240	898240	10-09:30:40	25402855453	35.36e-6	116.06	23.53	23.53	7.640	
		MinVariance	75.21	994446	994447	11-12:14:07	28243217283	35.21e-6	116.06	26.06	26.06	8.494	
		BSplines	72.18	2646170	2646170	30-15:02:50	79307433212	33.37e-6	116.16	69.33	69.33	23.85	
		MinNorm	74.89	971299	971299	11-05:48:19	26920339237	36.08e-6	116.06	25.45	25.45	8.096	
		MinVolume	73.73	1126030	1126030	13-00:47:10	31133385003	36.17e-6	116.07	29.50	29.50	9.363	
		ApproxMinVolume	73.19	1100940	1100940	12-17:49:00	31210072477	35.28e-6	116.07	28.85	28.85	9.386	
		Recursive	72.18	907914	907914	10-12:11:54	25402856395	35.74e-6	116.06	23.79	23.79	7.640	
	Recursive2	72.48	896919	896919	10-09:08:39	25463250249	35.22e-6	116.06	23.50	23.50	7.658		
	0.01	2	Interval	30.04e-6	9.795e-3	9.825e-3	0.010	1101	8.896e-6	82.162	100.0	100.0	100.0
			Bernstein	694.3e-3	5.069e-3	699.4e-3	0.699	845	5.999e-6	81.681	51.75	7118.9	76.75
			MinVariance	693.1e-3	5.367e-3	698.5e-3	0.698	849	6.322e-6	81.700	54.79	7109.2	77.11
			BSplines	683.4e-3	5.454e-3	688.8e-3	0.689	1001	5.448e-6	81.923	55.68	7011.0	90.92
			MinNorm	669.0e-3	5.376e-3	674.4e-3	0.674	845	6.362e-6	81.692	54.89	6864.1	76.75
			MinVolume	657.8e-3	4.988e-3	662.8e-3	0.663	849	5.875e-6	81.718	50.92	6746.2	77.11
			ApproxMinVolume	684.3e-3	4.737e-3	689.0e-3	0.689	849	5.580e-6	81.719	48.36	7012.8	77.11
			Recursive	716.9e-3	4.742e-3	721.6e-3	0.722	845	5.612e-6	81.681	48.41	7345.0	76.75
		Recursive2	730.9e-3	5.018e-3	736.0e-3	0.736	849	5.910e-6	81.681	51.23	7490.7	77.11	
		3	Interval	32.19e-6	368.2e-3	368.2e-3	0.368	42531	8.657e-6	87.099	100.0	100.0	100.0
			Bernstein	1.438	90.69e-3	1.528	1.528	13049	6.950e-6	85.900	24.63	415.1	30.68
			MinVariance	1.530	97.62e-3	1.628	1.628	13717	7.117e-6	85.929	26.51	442.0	32.25
BSplines			1.445	155.3e-3	1.600	1.600	24337	6.380e-6	86.271	42.17	434.6	57.22	
MinNorm			1.514	96.11e-3	1.610	1.610	13567	7.084e-6	85.916	26.10	437.4	31.90	
MinVolume			1.465	107.4e-3	1.573	1.573	14303	7.510e-6	85.957	29.17	427.1	33.63	
ApproxMinVolume			1.479	99.23e-3	1.578	1.578	14307	6.936e-6	85.958	26.95	428.5	33.64	
Recursive			1.469	88.11e-3	1.557	1.557	13071	6.741e-6	85.900	23.93	422.8	30.73	
Recursive2		1.490	92.24e-3	1.582	1.582	13283	6.944e-6	85.900	25.05	429.7	31.23		
4		Interval	30.99e-6	116.6	116.6	01:56	11876965	9.821e-6	102.12	100.0	100.0	100.0	
		Bernstein	11.07	26.21	37.28	37.279	1140895	22.97e-6	101.19	22.47	31.96	9.606	
		MinVariance	14.40	32.57	46.97	46.969	1264369	25.76e-6	101.24	27.92	40.27	10.65	
		BSplines	11.62	77.46	89.08	01:29	3338391	23.20e-6	101.78	66.41	76.37	28.11	
		MinNorm	14.44	30.92	45.37	45.367	1204777	25.67e-6	101.22	26.51	38.89	10.14	
		MinVolume	12.52	37.15	49.67	49.666	1390985	26.71e-6	101.28	31.85	42.58	11.71	
		ApproxMinVolume	12.32	34.91	47.24	47.237	1394229	25.04e-6	101.28	29.93	40.50	11.74	
		Recursive	14.76	28.30	43.07	43.067	1141885	24.79e-6	101.19	24.26	36.92	9.614	
Recursive2		15.47	29.71	45.18	45.178	1150469	25.82e-6	101.19	25.47	38.73	9.687		
5		Interval	34.00e-6	113499	113499	1-07:31:39	10093545464	11.24e-6	119.00	100.0	100.0	100.0	
		Bernstein	89.55	36574	36663	10:11:03	906457201	40.35e-6	117.60	32.22	32.30	8.981	
		MinVariance	75.23	40185	40261	11:11:01	997898423	40.27e-6	117.67	35.41	35.47	9.887	
		BSplines	95.11	96464	96464	1-02:47:44	2492665472	38.70e-6	118.42	84.99	84.99	24.70	
		MinNorm	97.60	39116	39214	10:53:34	955524407	40.94e-6	117.64	34.46	34.55	9.467	
		MinVolume	95.94	45460	45556	12:39:16	1089625957	41.72e-6	117.73	40.05	40.14	10.80	
		ApproxMinVolume	96.10	44466	44562	12:22:42	1092053849	40.72e-6	117.73	39.18	39.26	10.82	
		Recursive	94.56	36807	36901	10:15:01	906458069	40.61e-6	117.60	32.43	32.51	8.981	
Recursive2		94.62	37206	37300	10:21:40	920167267	40.43e-6	117.60	32.78	32.86	9.116		

Table 39: Bisection of problem 2D with problem: 11, type: MaxFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H-M-S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	29.09e-6	48.25e-3	48.27e-3	0.048	5689	8.480e-6	56.017	100.0	100.0	100.0	
		Bernstein	767.0e-3	15.29e-3	782.4e-3	0.782	6851	2.232e-6	56.017	31.69	1620.6	120.4	
		MinVariance	765.6e-3	15.20e-3	780.8e-3	0.781	6851	2.219e-6	56.020	31.52	1617.5	120.4	
		BSplines	761.5e-3	19.25e-3	780.8e-3	0.781	9469	2.033e-6	56.047	39.89	1617.4	166.4	
		MinNorm	755.6e-3	16.02e-3	771.6e-3	0.772	6851	2.338e-6	56.019	33.20	1598.4	120.4	
		MinVolume	755.8e-3	15.53e-3	771.3e-3	0.771	6851	2.266e-6	56.022	32.18	1597.8	120.4	
		ApproxMinVolume	738.9e-3	14.45e-3	753.4e-3	0.753	6851	2.109e-6	56.022	29.96	1560.6	120.4	
		Recursive	740.7e-3	15.04e-3	755.8e-3	0.756	6851	2.195e-6	56.017	31.16	1565.6	120.4	
		Recursive2	736.0e-3	14.60e-3	750.6e-3	0.751	6851	2.130e-6	56.017	30.25	1554.8	120.4	
		Interval	28.85e-6	433.1e-3	433.1e-3	0.433	50389	8.594e-6	66.191	100.0	100.0	100.0	
		Bernstein	1.433	136.0e-3	1.569	1.569	28091	4.841e-6	66.184	31.40	362.3	55.75	
		MinVariance	1.523	152.8e-3	1.676	1.676	31381	4.870e-6	66.188	35.29	386.9	62.28	
		BSplines	1.429	324.6e-3	1.754	1.754	69753	4.653e-6	66.235	74.95	404.9	138.4	
		MinNorm	1.487	140.5e-3	1.627	1.627	28841	4.870e-6	66.186	32.43	375.8	57.24	
	MinVolume	1.475	163.5e-3	1.639	1.639	33783	4.838e-6	66.192	37.74	378.3	67.04		
	ApproxMinVolume	1.480	163.8e-3	1.644	1.644	33831	4.841e-6	66.192	37.82	379.6	67.14		
	Recursive	1.471	138.7e-3	1.610	1.610	28093	4.936e-6	66.184	32.02	371.6	55.75		
	Recursive2	1.470	138.3e-3	1.608	1.608	28233	4.897e-6	66.184	31.93	371.4	56.03		
	Interval	30.04e-6	1417	1417	23.37	150346653	9.430e-6	60.598	100.0	100.0	100.0		
	Bernstein	11.66	549.3	560.9	09:20	25139993	21.85e-6	60.430	38.74	39.56	16.72		
	MinVariance	16.25	681.0	697.2	11:37	27868497	24.44e-6	60.436	48.03	49.18	18.54		
	BSplines	12.29	1470	1482	24:42	72321471	20.33e-6	60.512	103.7	104.6	48.10		
	MinNorm	15.94	651.4	667.3	11:07	26607425	24.48e-6	60.433	45.94	47.07	17.70		
	MinVolume	13.44	702.5	715.9	11:55	30614197	22.95e-6	60.443	49.55	50.49	20.36		
	ApproxMinVolume	13.28	713.7	727.0	12:06	30685117	23.26e-6	60.443	50.34	51.27	20.41		
	Recursive	15.67	586.4	602.1	10:02	25141171	23.32e-6	60.430	41.36	42.47	16.72		
	Recursive2	16.49	593.3	609.8	10:09	25175567	23.57e-6	60.430	41.85	43.01	16.75		
	Interval	30.00e-6	170808	170808	1-23:26:48	15383108812	11.10e-6	68.184	100.0	100.0	100.0		
	Bernstein	72.23	50650	50723	14:05:23	1358212637	37.29e-6	68.008	29.65	29.70	8.829		
	MinVariance	74.74	58571	58646	16:17:26	1599006301	36.63e-6	68.018	34.29	34.33	10.39		
	BSplines	72.40	248033	248033	2-20:53:53	7452602707	33.28e-6	68.128	145.2	145.2	48.45		
	MinNorm	75.14	55095	55170	15:19:30	1485401399	37.09e-6	68.013	32.26	32.30	9.656		
	MinVolume	73.35	67899	67972	18:52:52	1856546063	36.57e-6	68.027	39.75	39.79	12.07		
	ApproxMinVolume	73.20	64516	64589	17:56:29	1863535089	34.62e-6	68.027	37.77	37.81	12.11		
	Recursive	72.20	49755	49828	13:50:28	1358757807	36.62e-6	68.008	29.13	29.17	8.833		
	Recursive2	72.30	50615	50687	14:04:47	1372492605	36.88e-6	68.008	29.63	29.68	8.922		
	0.01	2	Interval	30.99e-6	6.804e-3	6.835e-3	0.007	635	10.71e-6	57.100	100.0	100.0	100.0
			Bernstein	722.1e-3	4.600e-3	726.7e-3	0.727	669	6.876e-6	57.100	67.61	10632.2	105.4
			MinVariance	713.8e-3	4.508e-3	718.3e-3	0.718	669	6.738e-6	57.119	66.26	10509.3	105.4
			BSplines	721.9e-3	4.759e-3	726.7e-3	0.727	827	5.755e-6	57.342	69.95	10632.2	130.2
			MinNorm	714.1e-3	3.952e-3	718.1e-3	0.718	669	5.907e-6	57.110	58.08	10506.4	105.4
			MinVolume	712.9e-3	4.763e-3	717.7e-3	0.718	669	7.119e-6	57.137	70.00	10499.9	105.4
			ApproxMinVolume	719.6e-3	4.364e-3	724.0e-3	0.724	669	6.523e-6	57.138	64.14	10591.9	105.4
			Recursive	728.6e-3	4.132e-3	732.7e-3	0.733	669	6.176e-6	57.100	60.73	10720.2	105.4
Recursive2			723.0e-3	4.089e-3	727.1e-3	0.727	669	6.112e-6	57.100	60.10	10637.8	105.4	
Interval			28.13e-6	71.59e-3	71.62e-3	0.072	7639	9.372e-6	67.355	100.0	100.0	100.0	
Bernstein			1.454	27.98e-3	1.482	1.482	3781	7.399e-6	67.294	39.08	2069.3	49.50	
MinVariance			1.545	29.96e-3	1.575	1.575	4129	7.255e-6	67.327	41.84	2198.7	54.05	
BSplines			1.474	60.09e-3	1.534	1.534	8727	6.886e-6	67.709	83.94	2141.4	114.2	
MinNorm			1.533	28.87e-3	1.562	1.562	3891	7.419e-6	67.312	40.32	2181.0	50.94	
MinVolume		1.466	32.06e-3	1.498	1.498	4435	7.228e-6	67.358	44.78	2091.3	58.06		
ApproxMinVolume		1.474	32.36e-3	1.506	1.506	4477	7.229e-6	67.359	45.21	2103.5	58.61		
Recursive		1.492	27.94e-3	1.520	1.520	3783	7.385e-6	67.294	39.02	2121.7	49.52		
Recursive2		1.500	30.27e-3	1.531	1.531	3911	7.740e-6	67.294	42.28	2137.1	51.20		
Interval		30.04e-6	61.70	61.70	01:01	6142375	10.04e-6	63.021	100.0	100.0	100.0		
Bernstein		11.00	33.35	44.36	44.356	1399089	23.84e-6	61.646	54.05	71.89	22.78		
MinVariance		14.46	38.02	52.48	52.476	1529451	24.86e-6	61.697	61.62	85.05	24.90		
BSplines		11.55	77.90	89.46	01:29	3479963	22.39e-6	62.298	126.3	145.0	56.66		
MinNorm		14.20	36.15	50.35	50.347	1470797	24.58e-6	61.674	58.59	81.60	23.95		
MinVolume		12.65	37.54	50.19	50.193	1660565	22.61e-6	61.746	60.84	81.35	27.03		
ApproxMinVolume		12.33	40.47	52.80	52.798	1663061	24.34e-6	61.747	65.59	85.57	27.08		
Recursive		14.79	34.30	49.09	49.093	1400123	24.50e-6	61.646	55.60	79.57	22.79		
Recursive2		15.57	34.44	50.01	50.005	1411423	24.40e-6	61.646	55.81	81.05	22.98		
Interval		27.18e-6	29434	29434	08:10:34	2603706487	11.30e-6	71.090	100.0	100.0	100.0		
Bernstein		94.81	11565	11659	03:14:19	288983443	40.02e-6	69.785	39.29	39.61	11.10		
MinVariance		97.95	13135	13233	03:40:33	332202181	39.54e-6	69.861	44.63	44.96	12.76		
BSplines		95.19	45083	45179	12:32:59	1182102125	38.14e-6	70.743	153.2	153.5	45.40		
MinNorm		97.95	12736	12834	03:33:54	312037879	40.82e-6	69.826	43.27	43.60	11.98		
MinVolume		96.37	15124	15220	04:13:40	377164899	40.10e-6	69.932	51.38	51.71	14.49		
ApproxMinVolume		96.02	15067	15163	04:12:43	378359525	39.82e-6	69.934	51.19	51.52	14.53		
Recursive		95.14	11803	11898	03:18:18	289393387	40.79e-6	69.785	40.10	40.42	11.11		
Recursive2		94.56	11867	11962	03:19:22	299896491	39.57e-6	69.785	40.32	40.64	11.52		

Table 40: Bisection of problem 2D with problem: 12, type: MaxFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	29.09e-6	3.001e-3	3.030e-3	0.003	59	50.86e-6	infeasible	100.0	100.0	100.0	
		Bernstein	705.3e-3	3.291e-3	708.6e-3	0.709	41	80.27e-6	infeasible	109.7	23386.4	69.49	
		MinVariance	721.2e-3	3.261e-3	724.4e-3	0.724	41	79.54e-6	infeasible	108.7	23908.4	69.49	
		BSplines	722.2e-3	3.203e-3	725.4e-3	0.725	41	78.13e-6	infeasible	106.7	23939.2	69.49	
		MinNorm	729.7e-3	2.956e-3	732.7e-3	0.733	41	72.10e-6	infeasible	98.50	24180.8	69.49	
		MinVolume	732.8e-3	3.252e-3	736.0e-3	0.736	41	79.32e-6	infeasible	108.4	24290.7	69.49	
		ApproxMinVolume	734.1e-3	3.080e-3	737.2e-3	0.737	41	75.13e-6	infeasible	102.6	24299.1	69.49	
		Recursive	726.1e-3	2.538e-3	728.6e-3	0.729	41	61.91e-6	infeasible	84.58	24046.3	69.49	
		Recursive2	714.9e-3	3.242e-3	718.2e-3	0.718	41	79.07e-6	infeasible	108.0	23701.8	69.49	
		Interval	28.85e-6	388.3e-3	388.3e-3	0.388	47091	8.246e-6	45.742	100.0	100.0	100.0	
		Bernstein	1.401	196.6e-3	1.598	1.598	42413	4.635e-6	45.738	50.62	411.4	90.07	
		MinVariance	1.512	207.4e-3	1.719	1.719	44035	4.709e-6	45.742	53.40	442.6	93.51	
	BSplines	1.460	523.3e-3	1.984	1.984	114637	4.565e-6	45.794	134.8	510.8	243.4		
	MinNorm	1.520	203.7e-3	1.724	1.724	42977	4.740e-6	45.740	52.46	443.9	91.26		
	MinVolume	1.460	224.4e-3	1.684	1.684	48729	4.605e-6	45.746	57.78	433.7	103.5		
	ApproxMinVolume	1.477	226.9e-3	1.703	1.703	48845	4.645e-6	45.746	58.43	438.6	103.7		
	Recursive	1.484	208.8e-3	1.693	1.693	42415	4.923e-6	45.738	53.78	436.0	90.07		
	Recursive2	1.480	203.2e-3	1.684	1.684	42469	4.785e-6	45.738	52.34	433.5	90.18		
	Interval	29.80e-6	241.2	241.2	0.401	24580165	9.811e-6	35.418	100.0	100.0	100.0		
	Bernstein	11.48	36.11	47.59	47.593	1561325	23.13e-6	35.363	14.97	19.74	6.352		
	MinVariance	15.54	42.67	58.22	58.216	1713931	24.90e-6	35.368	17.69	24.14	6.973		
	BSplines	12.02	105.9	117.9	0.157	4839681	21.87e-6	35.424	43.90	48.88	19.69		
	MinNorm	14.98	40.34	55.32	55.322	1641753	24.57e-6	35.365	16.73	22.94	6.679		
	MinVolume	13.08	46.43	59.52	59.515	1879393	24.71e-6	35.372	19.26	24.68	7.646		
	ApproxMinVolume	12.71	45.78	58.49	58.487	1883601	24.30e-6	35.372	18.98	24.25	7.663		
	Recursive	15.18	38.11	53.30	53.296	1562159	24.40e-6	35.363	15.80	22.10	6.355		
	Recursive2	16.00	37.75	53.75	53.746	1566041	24.11e-6	35.363	15.65	22.29	6.371		
	Interval	29.00e-6	3000410	3000410	34-17:26:50	260850666595	11.50e-6	35.082	100.0	100.0	100.0		
	Bernstein	72.58	2117520	2117520	24-12:12:00	61306498963	34.54e-6	34.945	70.57	70.57	23.50		
	MinVariance	75.23	2439340	2439340	28-05:35:40	68751908620	35.48e-6	34.953	81.30	81.30	26.36		
	BSplines	72.44	in progress		> 60 days								
	MinNorm	74.59	2285570	2285570	26-10:52:50	65282125196	35.01e-6	34.949	76.18	76.18	25.03		
	MinVolume	73.44	2637810	2637810	30-12:43:30	76327487668	34.56e-6	34.961	87.91	87.91	29.26		
	ApproxMinVolume	73.62	2647840	2647840	30-15:30:40	76528205832	34.60e-6	34.961	88.25	88.25	29.34		
	Recursive	71.99	2144600	2144600	24-19:43:20	61374592875	34.94e-6	34.945	71.48	71.48	23.53		
	Recursive2	71.96	2140970	2140970	24-18:42:50	61608458341	34.75e-6	34.945	71.36	71.36	23.62		
	0.01	2	Interval	36.00e-6	3.017e-3	3.053e-3	0.003	59	51.13e-6	infeasible	100.0	100.0	100.0
			Bernstein	724.8e-3	2.839e-3	727.6e-3	0.728	41	69.25e-6	infeasible	94.10	23833.2	69.49
			MinVariance	719.6e-3	2.627e-3	722.3e-3	0.722	41	64.07e-6	infeasible	87.07	23658.4	69.49
			BSplines	714.5e-3	3.092e-3	717.7e-3	0.718	41	75.42e-6	infeasible	102.5	23506.9	69.49
			MinNorm	714.6e-3	3.238e-3	717.8e-3	0.718	41	78.97e-6	infeasible	107.3	23512.7	69.49
			MinVolume	730.2e-3	2.911e-3	733.1e-3	0.733	41	71.00e-6	infeasible	96.49	24012.5	69.49
			ApproxMinVolume	727.5e-3	2.989e-3	730.5e-3	0.730	41	72.90e-6	infeasible	99.08	23927.5	69.49
			Recursive	731.2e-3	2.848e-3	734.0e-3	0.734	41	69.46e-6	infeasible	94.40	24043.5	69.49
			Recursive2	721.0e-3	3.965e-3	725.0e-3	0.725	41	96.70e-6	infeasible	131.4	23747.8	69.49
			Interval	32.19e-6	59.51e-3	59.54e-3	0.060	6985	8.520e-6	46.854	100.0	100.0	100.0
			Bernstein	1.442	31.37e-3	1.474	1.474	5031	6.236e-6	46.813	52.72	2474.8	72.03
			MinVariance	1.532	33.27e-3	1.566	1.566	5233	6.358e-6	46.849	55.90	2629.2	74.92
BSplines		1.445	63.53e-3	1.508	1.508	11353	5.596e-6	47.265	106.7	2533.2	162.5		
MinNorm		1.524	31.97e-3	1.556	1.556	5121	6.243e-6	46.833	53.72	2613.3	73.31		
MinVolume		1.467	35.01e-3	1.502	1.502	5735	6.105e-6	46.883	58.83	2522.9	82.10		
ApproxMinVolume		1.432	35.02e-3	1.467	1.467	5739	6.103e-6	46.884	58.85	2463.9	82.16		
Recursive		1.496	32.88e-3	1.529	1.529	5033	6.533e-6	46.813	55.25	2567.4	72.05		
Recursive2		1.499	31.78e-3	1.531	1.531	5055	6.287e-6	46.813	53.40	2571.0	72.37		
Interval		29.09e-6	19.38	19.38	19.376	2000039	9.688e-6	36.786	100.0	100.0	100.0		
Bernstein		11.15	6.876	18.02	18.023	286229	24.02e-6	36.315	35.49	93.02	14.31		
MinVariance		14.46	8.352	22.82	22.817	312363	26.74e-6	36.354	43.11	117.8	15.62		
BSplines		11.68	17.66	29.33	29.335	750903	23.52e-6	36.812	91.14	151.4	37.54		
MinNorm		14.41	7.739	22.15	22.146	300317	25.77e-6	36.337	39.94	114.3	15.02		
MinVolume		12.58	8.639	21.22	21.217	338683	25.51e-6	36.392	44.59	109.5	16.93		
ApproxMinVolume		12.53	8.701	21.23	21.235	339375	25.64e-6	36.392	44.91	109.6	16.97		
Recursive		14.74	7.528	22.26	22.264	286901	26.24e-6	36.315	38.85	114.9	14.34		
Recursive2		15.75	7.382	23.13	23.134	290275	25.43e-6	36.315	38.10	119.4	14.51		
Interval		47.92e-6	17095	17095	04:44:55	1515345213	11.28e-6	37.512	100.0	100.0	100.0		
Bernstein		97.22	21263	21361	05:56:01	541219863	39.29e-6	36.421	124.4	125.0	35.72		
MinVariance		99.69	23203	23303	06:28:23	584284547	39.71e-6	36.485	135.7	136.3	38.56		
BSplines		97.43	43533	43631	12:07:11	1225240721	35.53e-6	37.240	254.7	255.2	80.86		
MinNorm		99.19	22124	22224	06:10:24	564406655	39.20e-6	36.456	129.4	130.0	37.25		
MinVolume		98.03	24188	24286	06:44:46	626832997	38.59e-6	36.545	141.5	142.1	41.37		
ApproxMinVolume		98.24	24568	24666	06:51:06	627964253	39.12e-6	36.547	143.7	144.3	41.44		
Recursive		96.13	21070	21166	05:52:46	542379289	38.85e-6	36.421	123.3	123.8	35.79		
Recursive2		96.15	21614	21710	06:01:50	554853507	38.95e-6	36.421	126.4	127.0	36.62		

Table 41: Bisection of problem 2D with problem: 13, type: MaxFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D:H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)
0.001	2	Interval	30.99e-6	36.02e-3	36.05e-3	0.036	4823	7.468e-6	83.601	100.0	100.0	100.0
		Bernstein	854.3e-3	9.913e-3	864.2e-3	0.864	2809	3.529e-6	83.541	27.52	2397.3	58.24
		MinVariance	923.4e-3	10.50e-3	933.9e-3	0.934	2875	3.651e-6	83.543	29.15	2590.7	59.61
		BSplines	867.2e-3	17.19e-3	884.4e-3	0.884	4905	3.504e-6	83.571	47.72	2453.4	101.7
		MinNorm	911.1e-3	11.01e-3	922.1e-3	0.922	2843	3.872e-6	83.542	30.56	2558.0	58.95
		MinVolume	887.3e-3	11.06e-3	898.3e-3	0.898	3021	3.663e-6	83.546	30.72	2492.1	62.64
		ApproxMinVolume	890.7e-3	11.21e-3	901.9e-3	0.902	3029	3.702e-6	83.546	31.13	2502.0	62.80
		Recursive	864.6e-3	10.05e-3	874.7e-3	0.875	2939	3.421e-6	83.541	27.91	2426.4	60.94
	Recursive2	860.1e-3	11.09e-3	871.3e-3	0.871	3059	3.626e-6	83.541	30.80	2416.9	63.43	
	3	Interval	24.08e-6	1.774	1.774	1.774	213249	8.320e-6	86.025	100.0	100.0	100.0
		Bernstein	3.369	606.7e-3	3.976	3.976	55595	10.91e-6	85.877	34.20	224.1	26.07
		MinVariance	4.586	728.3e-3	5.314	5.314	62805	11.60e-6	85.881	41.05	299.5	29.45
		BSplines	3.517	2.367	5.885	5.885	206451	11.47e-6	85.976	133.4	331.7	96.81
		MinNorm	4.375	716.2e-3	5.091	5.091	59763	11.98e-6	85.879	40.37	287.0	28.02
		MinVolume	3.914	814.5e-3	4.729	4.729	69777	11.67e-6	85.884	45.91	266.5	32.72
		ApproxMinVolume	3.886	813.8e-3	4.700	4.700	69965	11.63e-6	85.884	45.87	264.9	32.81
		Recursive	3.862	653.2e-3	4.515	4.515	58397	11.19e-6	85.877	36.82	254.5	27.38
	Recursive2	4.405	664.6e-3	5.070	5.070	58463	11.37e-6	85.877	37.46	285.7	27.42	
	4	Interval	31.95e-6	1013	1013	16:53	107303901	9.447e-6	100.93	100.0	100.0	100.0
		Bernstein	11.94	270.0	282.0	04:41	9471097	28.51e-6	100.75	26.64	27.82	8.826
		MinVariance	16.39	364.6	381.0	06:21	11603683	31.42e-6	100.77	35.97	37.58	10.81
		BSplines	12.30	1768	1780	29:40	67821979	26.08e-6	100.89	174.5	175.7	63.21
		MinNorm	15.79	328.3	344.1	05:44	10650391	30.83e-6	100.76	32.39	33.94	9.925
		MinVolume	13.62	417.0	430.6	07:10	14026139	29.73e-6	100.78	41.13	42.48	13.07
		ApproxMinVolume	13.42	415.6	429.0	07:08	14085325	29.50e-6	100.78	40.99	42.32	13.13
		Recursive	16.50	321.3	337.9	05:37	10779077	29.81e-6	100.75	31.70	33.33	10.05
	Recursive2	16.47	339.4	355.9	05:55	11136901	30.48e-6	100.75	33.48	35.11	10.38	
	5	Interval	25.00e-6	1995170	1995170	23-02:12:50	173200756883	11.52e-6	116.70	100.0	100.0	100.0
Bernstein		73.67	661458	661458	7-15:44:18	13045910696	50.70e-6	116.43	33.15	33.15	7.532	
MinVariance		77.92	886887	886887	10-06:21:27	17189193207	51.60e-6	116.44	44.45	44.45	9.924	
BSplines		73.32	in progress	> 60 days								
MinNorm		77.22	772899	772899	8-22:41:39	15174903006	50.93e-6	116.44	38.74	38.74	8.761	
MinVolume		75.53	1092440	1092440	12-15:27:20	21673427482	50.40e-6	116.46	54.75	54.75	12.51	
ApproxMinVolume		75.42	1100950	1100950	12-17:49:10	21786841964	50.53e-6	116.46	55.18	55.18	12.58	
Recursive		74.02	749353	749354	8-16:09:14	14719896737	50.91e-6	116.43	37.56	37.56	8.499	
Recursive2	74.00	737086	737086	8-12:44:46	14436020885	51.06e-6	116.43	36.94	36.94	8.335		
0.01	2	Interval	27.89e-6	9.498e-3	9.526e-3	0.010	1021	9.303e-6	84.553	100.0	100.0	100.0
		Bernstein	849.4e-3	5.055e-3	854.5e-3	0.854	691	7.315e-6	84.078	53.22	8970.2	67.68
		MinVariance	903.7e-3	5.640e-3	909.4e-3	0.909	723	7.801e-6	84.097	59.38	9546.3	70.81
		BSplines	852.5e-3	7.858e-3	860.4e-3	0.860	1319	5.958e-6	84.792	82.73	9032.0	129.2
		MinNorm	910.3e-3	5.608e-3	916.0e-3	0.916	705	7.955e-6	84.088	59.05	9615.5	69.05
		MinVolume	903.7e-3	5.788e-3	909.5e-3	0.909	779	7.430e-6	84.115	60.94	9547.4	76.30
		ApproxMinVolume	896.1e-3	5.675e-3	901.8e-3	0.902	787	7.211e-6	84.115	59.75	9466.5	77.08
		Recursive	876.4e-3	5.653e-3	882.1e-3	0.882	809	6.988e-6	84.078	59.52	9259.9	79.24
	Recursive2	869.8e-3	6.037e-3	875.8e-3	0.876	927	6.512e-6	84.078	63.56	9194.2	90.79	
	3	Interval	27.89e-6	339.1e-3	339.1e-3	0.339	40055	8.465e-6	87.774	100.0	100.0	100.0
		Bernstein	3.233	134.8e-3	3.367	3.367	11107	12.14e-6	86.563	39.76	993.0	27.73
		MinVariance	4.592	162.8e-3	4.754	4.754	13529	12.03e-6	86.773	48.00	1402.0	33.78
		BSplines	3.541	629.1e-3	4.170	4.170	51893	12.12e-6	87.383	185.5	1229.7	129.6
		MinNorm	4.493	154.1e-3	4.647	4.647	12393	12.44e-6	86.578	45.45	1370.5	30.94
		MinVolume	3.915	201.7e-3	4.116	4.116	15435	13.07e-6	86.800	59.49	1213.9	38.53
		ApproxMinVolume	3.930	195.7e-3	4.126	4.126	15479	12.64e-6	86.801	57.70	1216.7	38.64
		Recursive	3.910	174.4e-3	4.084	4.084	13587	12.84e-6	86.563	51.43	1204.4	33.92
	Recursive2	4.176	176.0e-3	4.352	4.352	13837	12.72e-6	86.563	51.90	1283.2	34.55	
	4	Interval	32.90e-6	110.7	110.7	01:50	11096569	9.973e-6	103.16	100.0	100.0	100.0
		Bernstein	11.56	29.44	41.01	41.007	1021607	28.82e-6	101.86	26.61	37.06	9.207
		MinVariance	15.33	39.67	55.00	55.001	1218059	32.57e-6	101.91	35.85	49.70	10.98
		BSplines	12.00	233.9	245.9	04:05	8057913	29.03e-6	103.03	211.4	222.2	72.62
		MinNorm	15.06	33.45	48.51	48.509	1115049	30.00e-6	101.89	30.23	43.84	10.05
		MinVolume	13.12	43.06	56.18	56.182	1534897	28.05e-6	101.96	38.91	50.77	13.83
		ApproxMinVolume	13.26	47.12	60.38	01:00	1542431	30.55e-6	101.97	42.58	54.56	13.90
		Recursive	16.10	59.20	75.31	01:15	1922313	30.80e-6	101.86	53.50	68.05	17.32
	Recursive2	16.05	61.81	77.87	01:17	1989391	31.07e-6	101.86	55.86	70.36	17.93	
	5	Interval	34.00e-6	98026	98026	1-03:13:46	8552704334	11.46e-6	120.04	100.0	100.0	100.0
Bernstein		96.61	30828	30925	08:35:25	583952351	52.79e-6	118.05	31.45	31.55	6.828	
MinVariance		100.9	40480	40581	11:16:21	754752651	53.63e-6	118.16	41.30	41.40	8.825	
BSplines		96.67	410518	410518	4-18:01:58	7887363117	52.05e-6	120.02	418.8	418.8	92.22	
MinNorm		100.5	35583	35683	09:54:43	662969935	53.67e-6	118.11	36.30	36.40	7.752	
MinVolume		99.25	52627	52726	14:38:46	995866331	52.86e-6	118.31	53.69	53.79	11.64	
ApproxMinVolume		99.08	52002	52101	14:28:21	1002012491	51.90e-6	118.31	53.05	53.15	11.72	
Recursive		96.82	67647	67744	18:49:04	1282739763	52.74e-6	118.05	69.01	69.11	15.00	
Recursive2	98.12	55330	55429	15:23:49	1052673995	52.56e-6	118.05	56.44	56.54	12.31		

Table 42: Bisection of problem 2D with problem: 14, type: MaxFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H-M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	50.07e-6	39.85e-3	39.90e-3	0.040	5401	7.379e-6	56.197	100.0	100.0	100.0	
		Bernstein	865.1e-3	15.43e-3	880.6e-3	0.881	6275	2.458e-6	56.197	38.71	2206.8	116.2	
		MinVariance	945.0e-3	15.05e-3	960.1e-3	0.960	6289	2.393e-6	56.200	37.77	2406.2	116.4	
		BSplines	862.2e-3	22.87e-3	885.1e-3	0.885	9065	2.523e-6	56.287	57.39	2218.2	167.8	
		MinNorm	910.8e-3	16.04e-3	926.8e-3	0.927	6279	2.555e-6	56.199	40.26	2322.7	116.3	
		MinVolume	898.5e-3	15.74e-3	914.3e-3	0.914	6335	2.485e-6	56.202	39.50	2291.4	117.3	
		ApproxMinVolume	882.3e-3	16.42e-3	898.8e-3	0.899	6335	2.592e-6	56.202	41.20	2252.5	117.3	
		Recursive	870.0e-3	16.40e-3	886.4e-3	0.886	6341	2.587e-6	56.197	41.16	2221.5	117.4	
		Recursive2	860.8e-3	15.76e-3	876.6e-3	0.877	6385	2.468e-6	56.197	39.54	2196.8	118.2	
		Recursive2	25.99e-6	258.3e-3	258.3e-3	0.258	31049	8.318e-6	66.964	100.0	100.0	100.0	
		Interval	25.99e-6	258.3e-3	258.3e-3	0.258	31049	8.318e-6	66.964	100.0	100.0	100.0	
		Bernstein	3.341	122.1e-3	3.463	3.463	18367	6.647e-6	66.956	47.28	1340.9	59.15	
	MinVariance	4.432	146.6e-3	4.579	4.579	20859	7.029e-6	66.960	56.77	1772.7	67.18		
	BSplines	3.545	446.6e-3	3.991	3.991	56599	7.890e-6	67.056	172.9	1545.4	182.3		
	MinNorm	4.264	129.9e-3	4.394	4.394	18979	6.846e-6	66.958	50.31	1701.1	61.13		
	MinVolume	3.950	159.9e-3	4.110	4.110	22923	6.975e-6	66.964	61.91	1591.2	73.83		
	ApproxMinVolume	4.001	160.8e-3	4.161	4.161	23005	6.991e-6	66.964	62.28	1611.2	74.09		
	Recursive	3.879	136.4e-3	4.016	4.016	19353	7.050e-6	66.956	52.83	1554.8	62.33		
	Recursive2	4.390	140.7e-3	4.531	4.531	19529	7.206e-6	66.956	54.49	1754.2	62.90		
	Recursive2	27.18e-6	929.3	929.3	15.29	96544501	9.626e-6	61.348	100.0	100.0	100.0		
	Interval	27.18e-6	929.3	929.3	15.29	96544501	9.626e-6	61.348	100.0	100.0	100.0		
	Bernstein	11.96	379.3	391.3	06:31	13437027	28.23e-6	61.169	40.82	42.11	13.92		
	MinVariance	16.43	531.7	548.2	09:08	16759111	31.73e-6	61.181	57.22	58.99	17.36		
	BSplines	12.44	2547	2560	42:40	97052207	26.25e-6	61.321	274.2	275.5	100.5		
	MinNorm	15.82	478.5	494.3	08:14	15145027	31.60e-6	61.175	51.49	53.19	15.69		
	MinVolume	13.70	593.9	607.6	10:07	20367283	29.16e-6	61.193	63.90	65.38	21.10		
	ApproxMinVolume	13.62	577.5	591.1	09:51	20450643	28.24e-6	61.193	62.14	63.61	21.18		
	Recursive	16.31	422.4	438.7	07:18	14214587	29.72e-6	61.169	45.45	47.21	14.72		
	Recursive2	16.31	421.2	437.5	07:17	14326389	29.40e-6	61.169	45.32	47.08	14.84		
	Interval	35.00e-6	185775	185775	2-03:36:15	15954957599	11.64e-6	69.047	100.0	100.0	100.0		
	Bernstein	73.51	66669	66743	18:32:23	1340720711	49.73e-6	68.855	35.89	35.93	8.403		
	MinVariance	77.98	92447	92447	1-01:40:47	1809584420	51.09e-6	68.873	49.76	49.76	11.34		
	BSplines	73.81	1054060	1054060	12-04:47:40	21371905806	49.32e-6	69.079	567.4	567.4	134.0		
	MinNorm	77.68	77880	77958	21:39:18	1584734657	49.14e-6	68.865	41.92	41.96	9.933		
	MinVolume	75.46	117706	117706	1-08:41:46	2376185302	49.54e-6	68.890	63.36	63.36	14.89		
	ApproxMinVolume	75.70	118583	118584	1-08:56:24	2389582382	49.63e-6	68.890	63.83	63.83	14.98		
	Recursive	74.75	77566	77640	21:34:00	1534512633	50.55e-6	68.855	41.75	41.79	9.618		
	Recursive2	74.06	72662	72736	20:12:16	1499283151	48.46e-6	68.855	39.11	39.15	9.397		
	0.01	2	Interval	27.18e-6	7.520e-3	7.547e-3	0.008	701	10.73e-6	57.100	100.0	100.0	100.0
			Bernstein	849.6e-3	4.769e-3	854.3e-3	0.854	603	7.909e-6	57.100	63.42	11320.2	86.02
			MinVariance	915.6e-3	4.391e-3	920.0e-3	0.920	605	7.258e-6	57.119	58.39	12189.5	86.31
			BSplines	761.4e-3	5.890e-3	767.3e-3	0.767	949	6.207e-6	57.825	78.33	10167.2	135.4
			MinNorm	780.1e-3	4.482e-3	784.6e-3	0.785	601	7.458e-6	57.110	59.60	10395.6	85.73
			MinVolume	882.5e-3	4.833e-3	887.3e-3	0.887	635	7.611e-6	57.137	64.27	11757.2	90.58
			ApproxMinVolume	882.6e-3	5.047e-3	887.7e-3	0.888	635	7.948e-6	57.138	67.12	11761.6	90.58
			Recursive	864.6e-3	6.187e-3	870.8e-3	0.871	669	9.248e-6	57.100	82.27	11538.6	95.44
			Recursive2	853.5e-3	5.786e-3	859.3e-3	0.859	711	8.138e-6	57.100	76.94	11385.9	101.4
			Interval	36.00e-6	86.95e-3	86.99e-3	0.087	9417	9.233e-6	68.518	100.0	100.0	100.0
Bernstein			3.372	52.88e-3	3.425	3.425	4533	11.66e-6	68.447	60.81	3937.7	48.14	
MinVariance			4.538	60.45e-3	4.599	4.599	5317	11.37e-6	68.480	69.52	5287.0	56.46	
BSplines		3.481	301.1e-3	3.783	3.783	26083	11.54e-6	69.244	346.3	4348.4	277.0		
MinNorm		4.470	61.45e-3	4.532	4.532	4839	12.70e-6	68.465	70.68	5209.5	51.39		
MinVolume		3.940	78.09e-3	4.018	4.018	6345	12.31e-6	68.511	89.81	4619.4	67.38		
ApproxMinVolume		3.865	79.24e-3	3.945	3.945	6435	12.31e-6	68.512	91.13	4534.9	68.33		
Recursive		3.832	72.56e-3	3.904	3.904	5993	12.11e-6	68.447	83.45	4488.3	63.64		
Recursive2		4.240	70.45e-3	4.311	4.311	6063	11.62e-6	68.447	81.02	4955.7	64.38		
Interval		30.99e-6	51.25	51.25	51.246	5177071	9.899e-6	63.828	100.0	100.0	100.0		
Bernstein		11.55	28.83	40.38	40.381	1027045	28.07e-6	62.291	56.25	78.80	19.84		
MinVariance		15.29	39.34	54.63	54.631	1223649	32.15e-6	62.387	76.77	106.6	23.64		
BSplines		12.11	177.6	189.7	03:09	6070365	29.26e-6	63.535	346.5	370.2	117.3		
MinNorm		14.87	36.03	50.90	50.903	1125257	32.02e-6	62.323	70.31	99.33	21.74		
MinVolume		13.25	45.99	59.25	59.247	1480005	31.08e-6	62.454	89.75	115.6	28.59		
ApproxMinVolume		13.18	45.26	58.44	58.444	1485739	30.46e-6	62.457	88.32	114.0	28.70		
Recursive		15.90	41.83	57.74	57.738	1385343	30.20e-6	62.291	81.63	112.7	26.76		
Recursive2		15.95	41.47	57.42	57.422	1332547	31.12e-6	62.291	80.92	112.1	25.74		
Interval		30.99e-6	27400	27400	07:36:40	2377764825	11.52e-6	72.049	100.0	100.0	100.0		
Bernstein		97.61	10874	10972	03:02:52	209003211	52.03e-6	70.530	39.69	40.04	8.790		
MinVariance		102.0	14916	15018	04:10:18	283306471	52.65e-6	70.642	54.44	54.81	11.91		
BSplines		97.79	177693	177693	2-01:21:33	3426129813	51.86e-6	72.337	648.5	648.5	144.1		
MinNorm		101.6	12595	12697	03:31:37	241407431	52.18e-6	70.568	45.97	46.34	10.15		
MinVolume		100.2	19430	19531	05:25:31	379992167	51.14e-6	70.758	70.91	71.28	15.98		
ApproxMinVolume		100.2	19540	19640	05:27:20	382600331	51.07e-6	70.760	71.32	71.68	16.09		
Recursive		95.87	20765	20861	05:47:41	410978353	50.53e-6	70.530	75.79	76.14	17.28		
Recursive2		95.65	16973	17069	04:44:29	334350021	50.77e-6	70.530	61.95	62.30	14.06		

Table 43: Bisection of problem 2D with problem: 15, type: MaxFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H-M-S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)
0.001	2	Interval	32.90e-6	47.93e-3	47.96e-3	0.048	7049	6.799e-6	53.397	100.0	100.0	100.0
		Bernstein	856.0e-3	19.65e-3	875.7e-3	0.876	8193	2.398e-6	53.397	40.99	1825.8	116.2
		MinVariance	922.9e-3	19.54e-3	942.5e-3	0.943	8243	2.371e-6	53.400	40.77	1965.2	116.9
		BSplines	853.0e-3	29.35e-3	882.3e-3	0.882	12157	2.414e-6	53.486	61.23	1839.8	172.5
		MinNorm	905.0e-3	19.14e-3	924.1e-3	0.924	8211	2.331e-6	53.398	39.94	1926.9	116.5
		MinVolume	896.5e-3	19.28e-3	915.8e-3	0.916	8315	2.318e-6	53.402	40.22	1909.6	118.0
	ApproxMinVolume	904.3e-3	19.88e-3	924.1e-3	0.924	8315	2.391e-6	53.402	41.48	1926.9	118.0	
	Recursive	886.6e-3	19.66e-3	906.3e-3	0.906	8241	2.385e-6	53.397	41.01	1889.7	116.9	
	Recursive2	878.4e-3	20.61e-3	899.0e-3	0.899	8301	2.482e-6	53.397	43.00	1874.5	117.8	
	Interval	30.04e-6	560.7e-3	560.7e-3	0.561	67485	8.308e-6	64.042	100.0	100.0	100.0	
	Bernstein	3.352	204.7e-3	3.557	3.557	38603	5.302e-6	64.037	36.50	634.3	57.20	
	MinVariance	4.657	238.8e-3	4.895	4.895	43573	5.481e-6	64.041	42.59	873.1	64.57	
	BSplines	3.576	698.1e-3	4.274	4.274	115729	6.032e-6	64.137	124.5	762.3	171.5	
	MinNorm	4.557	219.6e-3	4.777	4.777	40381	5.438e-6	64.039	39.17	851.9	59.84	
	MinVolume	3.921	267.6e-3	4.189	4.189	47995	5.575e-6	64.045	47.72	747.1	71.12	
	ApproxMinVolume	3.915	269.7e-3	4.185	4.185	48187	5.596e-6	64.045	48.09	746.4	71.40	
	Recursive	3.841	213.2e-3	4.054	4.054	39377	5.415e-6	64.037	38.03	723.0	58.35	
	Recursive2	4.364	223.4e-3	4.587	4.587	39619	5.639e-6	64.037	39.84	818.2	58.71	
	Interval	36.95e-6	701.7	701.7	11.41	75759739	9.263e-6	55.997	100.0	100.0	100.0	
	Bernstein	12.20	354.7	366.9	06:06	12645367	28.05e-6	55.850	50.55	52.29	16.69	
	MinVariance	17.46	491.8	509.2	08:29	15574363	31.58e-6	55.862	70.08	72.57	20.56	
	BSplines	12.71	2223	2236	37:16	85001263	26.16e-6	56.000	316.9	318.7	112.2	
	MinNorm	16.72	444.8	461.5	07:41	14169025	31.39e-6	55.857	63.38	65.76	18.70	
	MinVolume	14.23	554.7	568.9	09:28	18757317	29.57e-6	55.873	79.05	81.07	24.76	
	ApproxMinVolume	14.01	545.7	559.7	09:19	18874981	28.91e-6	55.874	77.76	79.76	24.91	
	Recursive	16.80	391.0	407.8	06:47	13166761	29.70e-6	55.850	55.72	58.11	17.38	
	Recursive2	16.79	391.1	407.9	06:47	13094659	29.87e-6	55.850	55.73	58.12	17.28	
	Interval	29.00e-6	293889	293889	3-09:38:09	26877480220	10.93e-6	63.149	100.0	100.0	100.0	
	Bernstein	73.81	109363	109363	1-06:22:43	2227883990	49.09e-6	62.923	37.21	37.21	8.289	
	MinVariance	78.21	149998	149998	1-17:39:58	3010892224	49.82e-6	62.941	51.04	51.04	11.20	
	BSplines	73.93	1659490	1659490	19-04:58:10	33851701949	49.02e-6	63.145	564.7	564.7	125.9	
	MinNorm	77.56	126739	126739	1-11:12:19	2621337476	48.35e-6	62.933	43.12	43.12	9.753	
	MinVolume	76.21	195465	195465	2-06:17:45	3972859461	49.20e-6	62.957	66.51	66.51	14.78	
	ApproxMinVolume	75.76	196434	196434	2-06:33:54	3995063499	49.17e-6	62.958	66.84	66.84	14.86	
	Recursive	73.74	125467	125467	1-10:51:07	2398252936	52.32e-6	62.923	42.69	42.69	8.923	
	Recursive2	71.81	118203	118203	1-08:50:03	2386029012	49.54e-6	62.923	40.22	40.22	8.877	
0.01	2	Interval	22.89e-6	9.191e-3	9.214e-3	0.009	967	9.505e-6	54.227	100.0	100.0	100.0
		Bernstein	778.9e-3	5.877e-3	784.8e-3	0.785	905	6.494e-6	54.227	63.94	8517.9	93.59
		MinVariance	917.8e-3	5.647e-3	923.5e-3	0.923	925	6.105e-6	54.246	61.44	10022.7	95.66
		BSplines	867.9e-3	7.693e-3	875.6e-3	0.876	1437	5.353e-6	54.941	83.70	9503.6	148.6
		MinNorm	930.0e-3	5.903e-3	935.9e-3	0.936	909	6.494e-6	54.237	64.23	10157.8	94.00
		MinVolume	897.5e-3	6.283e-3	903.8e-3	0.904	955	6.579e-6	54.264	68.36	9809.6	98.76
	ApproxMinVolume	893.9e-3	5.725e-3	899.7e-3	0.900	955	5.995e-6	54.264	62.29	9764.1	98.76	
	Recursive	865.5e-3	5.876e-3	871.4e-3	0.871	951	6.179e-6	54.227	63.93	9456.9	98.35	
	Recursive2	872.9e-3	6.593e-3	879.5e-3	0.879	1011	6.521e-6	54.227	71.73	9544.9	104.6	
	Interval	30.04e-6	108.3e-3	108.3e-3	0.108	11525	9.399e-6	65.393	100.0	100.0	100.0	
	Bernstein	3.362	59.40e-3	3.421	3.421	6065	9.793e-6	65.347	54.83	3157.6	52.62	
	MinVariance	4.574	70.35e-3	4.645	4.645	7003	10.05e-6	65.380	64.95	4286.7	60.76	
	BSplines	3.589	279.7e-3	3.869	3.869	26027	10.75e-6	66.153	258.2	3570.5	225.8	
	MinNorm	4.482	62.27e-3	4.544	4.544	6467	9.629e-6	65.365	57.49	4193.7	56.11	
	MinVolume	3.955	79.83e-3	4.034	4.034	7933	10.06e-6	65.411	73.70	3723.5	68.83	
	ApproxMinVolume	3.835	73.70e-3	3.909	3.909	7945	9.276e-6	65.412	68.04	3607.5	68.94	
	Recursive	3.834	67.17e-3	3.902	3.902	7033	9.550e-6	65.347	62.01	3601.0	61.02	
	Recursive2	4.291	74.19e-3	4.365	4.365	7251	10.23e-6	65.347	68.49	4028.7	62.92	
	Interval	30.04e-6	38.67	38.67	38.669	4074977	9.489e-6	58.169	100.0	100.0	100.0	
	Bernstein	11.45	24.55	36.00	35.996	875939	28.03e-6	56.938	63.49	93.09	21.50	
	MinVariance	15.30	32.69	47.99	47.986	1076113	30.38e-6	57.038	84.54	124.1	26.41	
	BSplines	12.10	163.0	175.1	02:55	5368217	30.36e-6	58.127	421.5	452.7	131.7	
	MinNorm	14.88	30.49	45.37	45.371	984833	30.96e-6	56.978	78.85	117.3	24.17	
	MinVolume	13.28	38.89	52.18	52.177	1281397	30.35e-6	57.123	100.6	134.9	31.45	
	ApproxMinVolume	13.02	38.14	51.16	51.164	1286201	29.65e-6	57.124	98.63	132.3	31.56	
	Recursive	16.16	34.19	50.35	50.355	1095779	31.20e-6	56.938	88.43	130.2	26.89	
	Recursive2	15.80	32.95	48.75	48.753	1062395	31.02e-6	56.938	85.22	126.1	26.07	
	Interval	35.05e-6	25906	25906	07:11:46	2497331135	10.37e-6	66.175	100.0	100.0	100.0	
	Bernstein	95.21	12928	13023	03:37:03	250988873	51.51e-6	64.526	49.90	50.27	10.05	
	MinVariance	99.28	17795	17895	04:58:15	342719351	51.93e-6	64.680	68.69	69.08	13.72	
	BSplines	95.12	185332	185332	2-03:28:52	3621925291	51.17e-6	66.278	715.4	715.4	145.0	
	MinNorm	103.3	15732	15835	04:23:55	301507075	52.18e-6	64.623	60.73	61.13	12.07	
	MinVolume	102.1	24203	24305	06:45:05	467664703	51.75e-6	64.786	93.43	93.82	18.73	
	ApproxMinVolume	101.8	24757	24859	06:54:19	470631613	52.61e-6	64.791	95.57	95.96	18.85	
	Recursive	98.65	20332	20431	05:40:31	393001825	51.74e-6	64.526	78.48	78.87	15.74	
	Recursive2	99.80	17841	17941	04:59:01	346977299	51.42e-6	64.526	68.87	69.26	13.89	

Table 46: Bisection of problem 2D with problem: 18, type: MaxFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)
0.001	2	Interval	28.85e-6	3.111e-3	3.140e-3	0.003	107	29.08e-6	infeasible	100.0	100.0	100.0
		Bernstein	851.9e-3	3.150e-3	855.0e-3	0.855	69	45.60e-6	infeasible	101.3	27230.4	64.49
		MinVariance	915.9e-3	3.317e-3	919.2e-3	0.919	63	52.65e-6	infeasible	106.6	29275.2	58.88
		BSplines	872.1e-3	3.628e-3	875.7e-3	0.876	113	32.11e-6	infeasible	116.6	27889.3	105.6
		MinNorm	897.1e-3	3.134e-3	900.2e-3	0.900	61	51.38e-6	infeasible	100.7	28669.2	57.01
		MinVolume	878.0e-3	3.081e-3	881.1e-3	0.881	69	44.65e-6	infeasible	99.03	28060.5	64.49
	ApproxMinVolume	879.4e-3	3.101e-3	882.5e-3	0.883	69	44.94e-6	infeasible	99.67	28106.2	64.49	
	Recursive	876.5e-3	3.492e-3	880.0e-3	0.880	93	37.55e-6	infeasible	112.2	28024.6	86.92	
	Recursive2	871.7e-3	3.210e-3	874.9e-3	0.875	123	26.10e-6	infeasible	103.2	27864.4	115.0	
	Interval	30.99e-6	559.4e-3	559.4e-3	0.559	67829	8.247e-6	44.363	100.0	100.0	100.0	
	Bernstein	3.377	347.7e-3	3.725	3.725	59033	5.889e-6	44.358	62.15	665.8	87.03	
	MinVariance	4.619	377.0e-3	4.996	4.996	62027	6.078e-6	44.363	67.40	893.0	91.45	
	BSplines	3.554	1.133	4.687	4.687	171549	6.605e-6	44.451	202.5	837.9	252.9	
	MinNorm	4.515	366.8e-3	4.882	4.882	60287	6.083e-6	44.361	65.56	872.8	88.88	
	MinVolume	3.927	407.0e-3	4.334	4.334	67867	5.996e-6	44.367	72.75	774.8	100.1	
	ApproxMinVolume	3.917	416.6e-3	4.334	4.334	67997	6.127e-6	44.367	74.47	774.7	100.2	
	Recursive	3.843	356.2e-3	4.199	4.199	59535	5.983e-6	44.358	63.68	750.6	87.77	
	Recursive2	4.294	364.3e-3	4.658	4.658	60313	6.040e-6	44.358	65.12	832.7	88.92	
	Interval	25.99e-6	106.3	106.3	01:46	11321541	9.390e-6	33.203	100.0	100.0	100.0	
	Bernstein	12.15	51.76	63.91	01:03	1976463	26.19e-6	33.151	48.69	60.12	17.46	
	MinVariance	16.69	73.04	89.73	01:29	2438639	29.95e-6	33.159	68.70	84.40	21.54	
	BSplines	12.50	416.4	428.9	07:08	14862617	28.02e-6	33.250	391.7	403.4	131.3	
	MinNorm	16.06	64.21	80.27	01:20	2223893	28.87e-6	33.157	60.39	75.50	19.64	
	MinVolume	13.87	83.68	97.55	01:37	2981505	28.07e-6	33.166	78.71	91.76	26.33	
	ApproxMinVolume	13.60	82.09	95.69	01:35	2994203	27.42e-6	33.166	77.21	90.01	26.45	
	Recursive	16.46	56.27	72.73	01:12	2085287	26.98e-6	33.151	52.93	68.41	18.42	
	Recursive2	13.97	56.77	70.74	01:10	2050371	27.69e-6	33.151	53.40	66.54	18.11	
	Interval	31.00e-6	1169670	1169670	13-12:54:30	109246741762	10.71e-6	31.568	100.0	100.0	100.0	
	Bernstein	73.21	1355690	1355690	15-16:34:50	26612339096	50.94e-6	31.442	115.9	115.9	24.36	
	MinVariance	77.95	1776650	1776650	20-13:30:50	34539615227	51.44e-6	31.458	151.9	151.9	31.62	
	BSplines	73.65	in progress	> 60 days								
	MinNorm	77.24	1562000	1562000	18-01:53:20	30651698964	50.96e-6	31.450	133.5	133.5	28.06	
	MinVolume	76.02	2174030	2174030	25-03:53:50	42898379793	50.68e-6	31.472	185.9	185.9	39.27	
	ApproxMinVolume	75.06	2199990	2199990	25-11:06:30	43133314536	51.00e-6	31.472	188.1	188.1	39.48	
	Recursive	74.22	1402990	1403000	16-05:43:20	27599489698	50.83e-6	31.442	119.9	119.9	25.26	
	Recursive2	73.27	1387000	1387000	16-01:16:40	27257663280	50.88e-6	31.442	118.6	118.6	24.95	
	Interval	24.08e-6	2.947e-3	2.971e-3	0.003	107	27.54e-6	infeasible	100.0	100.0	100.0	
	Bernstein	854.4e-3	3.240e-3	857.6e-3	0.858	69	46.96e-6	infeasible	110.0	28868.1	64.49	
	MinVariance	913.6e-3	3.120e-3	916.7e-3	0.917	63	49.53e-6	infeasible	105.9	30855.3	58.88	
	BSplines	851.4e-3	3.482e-3	854.9e-3	0.855	113	30.81e-6	infeasible	118.2	28776.6	105.6	
	MinNorm	892.4e-3	3.096e-3	895.5e-3	0.896	61	50.76e-6	infeasible	105.1	30143.8	57.01	
	MinVolume	878.1e-3	3.513e-3	881.6e-3	0.882	69	50.91e-6	infeasible	119.2	29674.7	64.49	
ApproxMinVolume	885.0e-3	3.499e-3	888.5e-3	0.888	69	50.71e-6	infeasible	118.7	29905.9	64.49		
Recursive	873.6e-3	3.398e-3	877.0e-3	0.877	93	36.54e-6	infeasible	115.3	29518.4	86.92		
Recursive2	859.9e-3	3.243e-3	863.2e-3	0.863	123	26.37e-6	infeasible	110.0	29053.8	115.0		
Interval	34.09e-6	112.8e-3	112.9e-3	0.113	13441	8.394e-6	45.695	100.0	100.0	100.0		
Bernstein	3.290	69.99e-3	3.360	3.360	7541	9.281e-6	45.365	62.04	2977.1	56.10		
MinVariance	4.656	77.27e-3	4.733	4.733	8139	9.494e-6	45.400	68.49	4194.1	60.55		
BSplines	3.374	279.3e-3	3.653	3.653	28201	9.904e-6	46.398	247.6	3237.0	209.8		
MinNorm	4.334	73.13e-3	4.407	4.407	7831	9.339e-6	45.384	64.82	3904.7	58.26		
MinVolume	3.849	84.50e-3	3.933	3.933	9197	9.187e-6	45.434	74.89	3485.2	68.42		
ApproxMinVolume	3.919	92.34e-3	4.011	4.011	9207	10.03e-6	45.435	81.85	3554.2	68.50		
Recursive	3.764	80.81e-3	3.845	3.845	8099	9.978e-6	45.365	71.63	3407.2	60.26		
Recursive2	4.217	84.07e-3	4.301	4.301	8813	9.539e-6	45.365	74.52	3811.3	65.57		
Interval	22.89e-6	11.13	11.13	11.133	1183541	9.407e-6	34.408	100.0	100.0	100.0		
Bernstein	11.64	8.347	19.99	19.988	290217	28.76e-6	33.973	74.97	179.5	24.52		
MinVariance	15.74	11.91	27.66	27.655	362485	32.86e-6	34.010	107.0	248.4	30.63		
BSplines	12.05	54.73	66.78	01:06	1845259	29.60e-6	34.818	491.6	599.8	155.9		
MinNorm	15.27	10.62	25.89	25.893	335011	31.71e-6	33.994	95.43	232.6	28.31		
MinVolume	13.25	12.34	25.59	25.587	431479	28.59e-6	34.071	110.8	229.8	36.46		
ApproxMinVolume	13.13	13.46	26.60	26.596	433717	31.04e-6	34.072	120.9	238.9	36.65		
Recursive	15.73	11.34	27.07	27.066	368149	30.80e-6	33.973	101.9	243.1	31.11		
Recursive2	15.69	11.20	26.89	26.892	362575	30.89e-6	33.973	100.6	241.5	30.63		
Interval	26.94e-6	11199	11199	03:06:39	995655319	11.25e-6	33.874	100.0	100.0	100.0		
Bernstein	98.18	15392	15490	04:18:10	294803321	52.21e-6	32.826	137.4	138.3	29.61		
MinVariance	103.3	19323	19427	05:23:47	361755921	53.42e-6	32.947	172.5	173.5	36.33		
BSplines	97.45	96097	96097	1-02:41:37	1843777424	52.12e-6	34.374	858.0	858.0	185.2		
MinNorm	101.4	17883	17985	04:59:45	332115815	53.85e-6	32.900	159.7	160.6	33.36		
MinVolume	99.49	22987	23086	06:24:46	434072849	52.96e-6	33.059	205.2	206.1	43.60		
ApproxMinVolume	99.28	22737	22837	06:20:37	435725303	52.18e-6	33.061	203.0	203.9	43.76		
Recursive	97.30	18791	18888	05:14:48	357482911	52.57e-6	32.826	167.8	168.7	35.90		
Recursive2	97.49	17439	17536	04:52:16	334202881	52.18e-6	32.826	155.7	156.6	33.57		

Table 47: Bisection of problem 2D with problem: 19, type: MaxFirst

precision	ndof	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	comput_time (%)	total_time (%)	nb_iter (%)	
0.001	2	Interval	31.00e-6	15.88e-3	15.91e-3	0.016	2044	20.00e-6	100.0	100.0	100.0	
		Bernstein	798.9e-3	6.706e-3	805.6e-3	0.806	1456	25.00e-6	65.22	12254.6	67.61	
		MinVariance	859.9e-3	6.746e-3	866.7e-3	0.867	1492	25.00e-6	64.99	13107.2	68.26	
		BSplines	813.7e-3	9.669e-3	823.3e-3	0.823	2399	19.00e-6	79.15	12437.2	111.8	
		MinNorm	854.9e-3	6.771e-3	861.7e-3	0.862	1471	26.00e-6	64.27	13003.7	67.05	
		MinVolume	841.9e-3	7.052e-3	849.0e-3	0.849	1553	24.00e-6	67.03	12855.1	72.45	
		ApproxMinVolume	830.0e-3	7.001e-3	837.0e-3	0.837	1555	24.00e-6	66.17	12690.6	72.52	
		Recursive	814.0e-3	6.820e-3	820.8e-3	0.821	1509	21.00e-6	65.77	12430.7	75.80	
		Recursive2	816.9e-3	7.051e-3	824.0e-3	0.824	1534	20.00e-6	67.21	12479.4	82.56	
	3	Interval	29.00e-6	2.137	2.137	2.137	291396	8.000e-6	100.0	100.0	100.0	
		Bernstein	2.571	750.4e-3	3.322	3.322	80668	9.000e-6	42.63	387.5	39.15	
		MinVariance	3.504	921.9e-3	4.426	4.426	91282	9.000e-6	51.98	499.6	43.83	
		BSplines	2.689	2.724	5.413	5.413	275442	9.000e-6	149.5	510.5	126.2	
		MinNorm	3.379	861.2e-3	4.240	4.240	86279	9.000e-6	48.12	482.7	41.45	
		MinVolume	2.970	987.8e-3	3.958	3.958	102430	9.000e-6	55.53	445.8	49.04	
		ApproxMinVolume	2.956	994.2e-3	3.950	3.950	102740	9.000e-6	55.87	445.8	49.16	
		Recursive	2.900	801.6e-3	3.702	3.702	84015	9.000e-6	45.27	428.7	40.46	
		Recursive2	3.144	811.4e-3	3.956	3.956	83342	9.000e-6	46.00	463.4	40.20	
	4	Interval	29.00e-6	1036	1036	17.16	118990242	9.000e-6	100.0	100.0	100.0	
		Bernstein	7.841	303.4	311.2	05:11	15509297	21.00e-6	34.22	36.98	15.11	
		MinVariance	10.39	385.3	395.7	06:35	18418458	23.00e-6	43.90	47.55	17.88	
		BSplines	8.086	1609	1617	26:57	80660031	21.00e-6	188.1	191.0	79.21	
		MinNorm	10.15	352.6	362.8	06:02	17058387	23.00e-6	40.10	43.67	16.58	
		MinVolume	8.907	438.5	447.4	07:27	21516318	22.00e-6	49.61	52.72	20.81	
		ApproxMinVolume	8.863	439.4	448.3	07:28	21595419	22.00e-6	49.63	52.71	20.89	
		Recursive	9.988	323.6	333.5	05:33	15973579	22.00e-6	36.66	40.26	15.56	
		Recursive2	10.01	339.2	349.2	05:49	16750712	22.00e-6	38.19	41.78	16.17	
	5	Interval	28.00e-6	1085503	1085503	12-13:31:43	97765664157	11.00e-6	100.0	100.0	100.0	
		Bernstein	64.88	441722	441734	5-02:42:14	10498059595	42.00e-6	64.95	64.97	16.14	
		MinVariance	69.19	555135	555145	6-10:12:25	12863110512	43.00e-6	81.36	81.38	19.72	
		BSplines	63.24	2112760	2112768	24-10:52:48	50975345972	39.00e-6	445.4	445.4	109.3	
		MinNorm	69.24	501404	501417	5-19:16:57	11726379813	43.00e-6	73.85	73.87	18.01	
		MinVolume	67.31	661765	661776	7-15:49:36	15459329658	42.00e-6	96.40	96.42	23.64	
		ApproxMinVolume	67.59	667536	667547	7-17:25:47	15541638589	42.00e-6	97.28	97.30	23.76	
		Recursive	65.69	460923	460936	5-08:02:16	10847674989	42.00e-6	67.02	67.04	16.51	
		Recursive2	65.48	466391	466403	5-09:33:23	11028926772	42.00e-6	69.76	69.79	17.25	
	0.01	2	Interval	30.00e-6	18.67e-3	18.70e-3	0.019	533	93.00e-6	100.0	100.0	100.0
			Bernstein	1.127	5.497e-3	1.133	1.133	337	39.00e-6	81.11	16178.4	66.84
			MinVariance	1.117	6.323e-3	1.123	1.123	349	40.00e-6	87.87	16325.4	67.43
			BSplines	1.085	7.050e-3	1.092	1.092	640	29.00e-6	98.95	15836.6	115.6
			MinNorm	1.151	5.957e-3	1.157	1.157	341	46.00e-6	89.40	17260.4	65.80
			MinVolume	1.149	6.395e-3	1.155	1.155	373	39.00e-6	86.95	17252.4	72.15
			ApproxMinVolume	1.181	6.322e-3	1.188	1.188	374	38.00e-6	89.31	18001.4	72.25
			Recursive	1.166	6.361e-3	1.172	1.172	387	34.00e-6	93.90	17908.2	79.35
			Recursive2	1.184	6.123e-3	1.190	1.190	411	32.00e-6	91.33	18228.4	86.47
3		Interval	29.00e-6	367.9e-3	368.0e-3	0.368	49165	8.000e-6	100.0	100.0	100.0	
		Bernstein	2.553	152.8e-3	2.706	2.706	15480	10.00e-6	47.31	1468.6	38.71	
		MinVariance	3.490	182.9e-3	3.673	3.673	17422	10.00e-6	55.98	1936.4	43.47	
		BSplines	2.689	542.0e-3	3.231	3.231	51919	9.000e-6	166.3	1656.3	129.4	
		MinNorm	3.389	170.4e-3	3.559	3.559	16450	10.00e-6	52.35	1888.0	41.06	
		MinVolume	2.977	200.0e-3	3.177	3.177	19466	10.00e-6	61.59	1692.6	48.67	
		ApproxMinVolume	2.958	199.8e-3	3.158	3.158	19527	10.00e-6	61.66	1681.7	48.83	
		Recursive	2.907	186.4e-3	3.093	3.093	18115	10.00e-6	56.72	1660.0	44.56	
		Recursive2	3.129	187.0e-3	3.316	3.316	17985	10.00e-6	56.76	1794.3	44.29	
4		Interval	30.00e-6	85.06	85.06	01:25	9264411	9.000e-6	100.0	100.0	100.0	
		Bernstein	7.742	25.74	33.48	33.485	1211176	22.00e-6	38.40	56.41	16.70	
		MinVariance	10.15	32.53	42.68	42.680	1412576	24.00e-6	48.99	72.70	19.49	
		BSplines	7.986	138.8	146.8	02:26	6197189	22.00e-6	205.7	224.3	83.96	
		MinNorm	9.913	29.68	39.59	39.593	1310372	23.00e-6	44.66	67.81	18.11	
		MinVolume	8.757	36.84	45.59	45.594	1652798	22.00e-6	54.88	75.23	22.70	
		ApproxMinVolume	8.756	36.87	45.63	45.631	1659003	23.00e-6	55.36	75.65	22.79	
		Recursive	9.835	34.69	44.53	44.529	1544402	23.00e-6	49.96	73.02	20.80	
		Recursive2	9.924	39.96	49.88	49.884	1797626	23.00e-6	58.13	81.44	24.29	
5		Interval	30.00e-6	32645	32645	09:04:05	2939694658	10.00e-6	100.0	100.0	100.0	
		Bernstein	78.12	14397	14475	04:01:15	310835714	44.00e-6	79.14	80.32	18.93	
		MinVariance	81.80	17777	17859	04:57:39	376104619	45.00e-6	97.11	98.36	22.69	
		BSplines	79.02	115252	115298	1-08:01:38	2369248363	43.00e-6	551.4	552.5	128.0	
		MinNorm	82.16	16109	16191	04:29:51	343377734	45.00e-6	88.30	89.54	20.81	
		MinVolume	80.34	21399	21479	05:57:59	455149620	44.00e-6	115.0	116.3	27.12	
		ApproxMinVolume	80.43	21584	21665	06:01:05	457327925	44.00e-6	115.5	116.7	27.25	
		Recursive	78.34	20539	20618	05:43:38	428065054	44.00e-6	99.42	100.6	23.37	
		Recursive2	78.50	20441	20520	05:42:00	433903019	44.00e-6	125.1	126.3	29.37	

Table 48: Average of Bisection for 2D problems

problem	n	center of the target	α	criteria
1	4	{0.4; 0.4; 0.7}	1.0	$\sum_i q_i^2$
2	4	{0.6; 0.6; 0.6}	1.0	$\sum_i q_i^2$
3	4	{0.4; 0.4; 0.7}	0.1	$\sum_i q_i^2$
4	4	{0.6; 0.6; 0.6}	0.1	$\sum_i q_i^2$
5	6	{0.4; 0.4; 0.7}	1.0	$\sum_i q_i^2$
6	6	{0.6; 0.6; 0.6}	1.0	$\sum_i q_i^2$
7	6	{0.4; 0.4; 0.7}	0.1	$\sum_i q_i^2$
8	6	{0.6; 0.6; 0.6}	0.1	$\sum_i q_i^2$
11	4	{0.4; 0.4; 0.7}	1.0	$\sum_i \Gamma_i^2$
12	4	{0.6; 0.6; 0.6}	1.0	$\sum_i \Gamma_i^2$
13	4	{0.4; 0.4; 0.7}	0.1	$\sum_i \Gamma_i^2$
14	4	{0.6; 0.6; 0.6}	0.1	$\sum_i \Gamma_i^2$

Table 51: 3D Problem list and their specificities.

precision	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)
0.001	Interval	55.07e-6	268.4	268.4	04:28	4272203	62.83e-6	2.6120	100.0	100.0	100.0
	Bernstein	89.93	27.52	117.4	01:57	1268249	21.70e-6	2.6084	10.25	43.75	29.69
	MinVariance	153.1	28.86	181.9	03:01	1379659	20.92e-6	2.6086	10.75	67.77	32.29
	BSplines	95.29	58.47	153.8	02:33	3196075	18.29e-6	2.6100	21.78	57.28	74.81
	MinNorm	154.2	27.15	181.3	03:01	1327313	20.46e-6	2.6085	10.12	67.56	31.07
	MinVolume	142.5	29.66	172.2	02:52	1489937	19.91e-6	2.6087	11.05	64.14	34.88
	ApproxMinVolume	146.7	29.69	176.4	02:56	1492819	19.89e-6	2.6087	11.06	65.70	34.94
	Recursive	104.9	26.95	131.9	02:11	1270375	21.22e-6	2.6084	10.04	49.13	29.74
	Recursive2	120.3	26.88	147.2	02:27	1270105	21.16e-6	2.6084	10.01	54.84	29.73
	Interval	30.99e-6	24.53	24.53	24:53	401723	61.06e-6	2.7144	100.0	100.0	100.0
0.01	Bernstein	89.60	3.151	92.75	01:32	116209	27.11e-6	2.6766	12.84	37.81	28.93
	MinVariance	158.4	3.188	161.6	02:41	123359	25.84e-6	2.6783	12.99	65.86	30.71
	BSplines	95.63	5.464	101.1	01:41	208225	26.24e-6	2.6975	22.27	412.1	51.83
	MinNorm	153.3	3.139	156.5	02:36	119935	26.18e-6	2.6775	12.80	637.9	29.86
	MinVolume	148.2	3.440	151.6	02:31	129969	26.47e-6	2.6799	14.02	618.1	32.35
	ApproxMinVolume	145.7	3.541	149.2	02:29	130143	27.21e-6	2.6799	14.43	608.3	32.40
	Recursive	104.7	3.246	108.0	01:47	117323	27.67e-6	2.6766	13.23	440.1	29.20
	Recursive2	119.8	3.284	123.1	02:03	117539	27.94e-6	2.6766	13.39	501.6	29.26

Table 52: Bisection of problem 3D with problem: 1, type: MinFirst

precision	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)
0.001	Interval	32.90e-6	1.563	1.563	1:563	24393	64.06e-6	infeasible	100.0	100.0	100.0
	Bernstein	89.48	188.7e-3	89.67	01:29	4157	45.38e-6	infeasible	12.07	5738.0	17.04
	MinVariance	153.1	179.7e-3	156.5	02:36	4157	43.24e-6	infeasible	11.50	10014.1	17.04
	BSplines	96.50	203.5e-3	96.70	01:36	4157	48.97e-6	infeasible	13.03	6188.1	17.04
	MinNorm	150.7	184.7e-3	150.9	02:30	4157	44.42e-6	infeasible	11.82	9656.6	17.04
	MinVolume	144.6	192.7e-3	144.8	02:24	4157	46.35e-6	infeasible	12.33	9263.6	17.04
	ApproxMinVolume	140.2	192.4e-3	140.4	02:20	4157	46.28e-6	infeasible	12.31	8985.3	17.04
	Recursive	105.1	189.3e-3	105.3	01:45	4157	45.54e-6	infeasible	12.11	6736.3	17.04
	Recursive2	119.9	189.6e-3	120.0	02:00	4157	45.60e-6	infeasible	12.13	7681.7	17.04
	Interval	45.06e-6	1.672	1.672	1:672	24393	68.54e-6	infeasible	100.0	100.0	100.0
0.01	Bernstein	89.86	191.4e-3	90.05	01:30	4157	46.05e-6	infeasible	11.45	5385.7	17.04
	MinVariance	162.0	185.7e-3	162.2	02:42	4157	44.68e-6	infeasible	11.11	9703.2	17.04
	BSplines	96.26	199.5e-3	96.46	01:36	4157	47.98e-6	infeasible	11.93	5769.4	17.04
	MinNorm	156.8	192.8e-3	157.0	02:36	4157	46.37e-6	infeasible	11.53	9389.9	17.04
	MinVolume	150.3	196.2e-3	150.5	02:30	4157	47.21e-6	infeasible	11.74	8999.9	17.04
	ApproxMinVolume	147.5	197.2e-3	147.7	02:27	4157	47.43e-6	infeasible	11.79	8832.9	17.04
	Recursive	105.1	188.4e-3	105.3	01:45	4157	45.33e-6	infeasible	11.27	6299.8	17.04
	Recursive2	120.2	189.1e-3	120.4	02:00	4157	45.49e-6	infeasible	11.31	7200.2	17.04

Table 53: Bisection of problem 3D with problem: 2, type: MinFirst

precision	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)
0.001	Interval	36.95e-6	283.0	283.0	04:42	4461159	63.43e-6	2.6120	100.0	100.0	100.0
	Bernstein	89.20	29.68	118.9	01:58	1268485	23.39e-6	2.6084	10.49	42.01	28.43
	MinVariance	160.2	32.76	193.0	03:12	1383413	23.68e-6	2.6086	11.58	68.20	31.01
	BSplines	95.90	70.43	166.3	02:46	3265633	21.57e-6	2.6100	24.89	58.78	73.20
	MinNorm	155.6	32.50	188.1	03:08	1329327	24.45e-6	2.6085	11.48	66.48	29.80
	MinVolume	149.2	35.02	184.2	03:04	1496455	23.40e-6	2.6087	12.38	65.08	33.54
	ApproxMinVolume	146.4	35.73	182.1	03:02	1499327	23.83e-6	2.6087	12.63	64.36	33.61
	Recursive	104.8	30.58	135.4	02:15	1270659	24.07e-6	2.6084	10.81	47.83	28.48
	Recursive2	119.8	30.02	149.8	02:29	1270449	23.63e-6	2.6084	10.61	52.94	28.48
	Interval	41.96e-6	25.23	25.23	25:23	396967	63.56e-6	2.7144	100.0	100.0	100.0
0.01	Bernstein	89.69	4.003	93.69	01:33	114233	35.04e-6	2.6766	15.87	371.3	28.78
	MinVariance	164.7	4.307	169.0	02:48	121209	35.53e-6	2.6783	17.07	669.6	30.53
	BSplines	95.95	7.112	103.1	01:43	201303	35.33e-6	2.6975	28.19	408.5	50.71
	MinNorm	154.1	3.939	158.1	02:38	117841	33.43e-6	2.6775	15.61	626.5	29.69
	MinVolume	148.6	4.414	153.0	02:32	127467	34.63e-6	2.6799	17.50	606.3	32.11
	ApproxMinVolume	146.6	4.462	151.0	02:31	127643	34.96e-6	2.6799	17.69	598.5	32.15
	Recursive	105.3	4.045	109.3	01:49	115373	35.06e-6	2.6766	16.03	433.2	29.06
	Recursive2	119.4	4.075	123.5	02:03	115651	35.23e-6	2.6766	16.15	489.6	29.13

Table 54: Bisection of problem 3D with problem: 3, type: MinFirst

precision	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	criteria	comput_time (%)	total_time (%)	nb_iter (%)
0.001	Interval	36.00e-6	952.0e-3	952.0e-3	0.952	15151	62.83e-6	infeasible	100.0	100.0	100.0
	Bernstein	70.20	204.0e-3	70.40	01:10	2207	92.44e-6	infeasible	21.43	7395.1	14.57
	MinVariance	133.3	213.7e-3	133.5	02:13	2207	96.84e-6	infeasible	22.45	14023.1	14.57
	BSplines	75.89	239.2e-3	76.13	01:16	2637	90.72e-6	infeasible	25.13	7996.8	17.40
	MinNorm	147.6	214.4e-3	147.9	02:27	2205	97.25e-6	infeasible	22.53	15530.8	14.55
	MinVolume	145.2	218.6e-3	145.4	02:25	2257	96.84e-6	infeasible	22.96	15275.6	14.90
	ApproxMinVolume	141.3	218.1e-3	141.5	02:21	2257	96.64e-6	infeasible	22.91	14867.8	14.90
	Recursive	92.43	187.8e-3	92.61	01:32	2285	82.20e-6	infeasible	19.73	9728.4	15.08
Recursive2	104.1	191.9e-3	104.3	01:44	2309	83.10e-6	infeasible	20.16	10952.7	15.24	
0.01	Interval	56.98e-6	943.5e-3	943.6e-3	0.944	15151	62.27e-6	infeasible	100.0	100.0	100.0
	Bernstein	95.47	205.0e-3	95.68	01:35	2207	92.89e-6	infeasible	21.73	10139.9	14.57
	MinVariance	165.5	192.0e-3	165.7	02:45	2207	87.01e-6	infeasible	20.35	17564.0	14.57
	BSplines	102.1	245.6e-3	102.4	01:42	2637	93.12e-6	infeasible	26.03	10848.4	17.40
	MinNorm	159.0	195.4e-3	159.2	02:39	2205	88.62e-6	infeasible	20.71	16875.9	14.55
	MinVolume	157.1	204.6e-3	157.3	02:37	2257	90.67e-6	infeasible	21.69	16667.5	14.90
	ApproxMinVolume	154.7	211.3e-3	154.9	02:34	2257	93.62e-6	infeasible	22.40	16413.2	14.90
	Recursive	110.9	213.3e-3	111.1	01:51	2285	93.34e-6	infeasible	22.61	11778.3	15.08
	Recursive2	127.1	215.7e-3	127.3	02:07	2309	93.42e-6	infeasible	22.86	13494.4	15.24

Table 75: Bisection of problem 3D with problem: 14, type: MaxFirst

robot	precision	solver	prep_time	comput_time	total_time	(D-H:M:S.ms)	nb_iter	time_per_iter	comput_time (%)	total_time (%)	nb_iter (%)	
../././model/kuka_lwr.xml	0.001	Interval	39.00e-6	598958	598958	6-22:22.38	6676040964	89.00e-6	100.0	100.0	100.0	
		Bernstein	378.3	643161	643444	7-10:44:04	10807857179	111.0e-6	6.361	7.065	6.837	
		MinVariance	414.4	733199	733508	8-11:45:08	12258260822	112.0e-6	6.781	7.546	7.339	
		BSplines	375.8	283355	283609	3-06:46:49	4568299416	126.0e-6	16.28	17.22	21.61	
		MinNorm	410.4	694917	695224	8-01:07:04	11577934452	110.0e-6	6.504	7.263	7.106	
		MinVolume	396.9	794907	795201	9-04:53:21	13774006396	110.0e-6	6.993	7.691	7.847	
		ApproxMinVolume	382.0	805262	805544	9-07:45:44	13813523254	110.0e-6	7.004	7.683	7.860	
		Recursive	373.3	641137	641414	7-10:10:14	10821224833	110.0e-6	6.239	6.913	6.837	
	Recursive2	377.2	648204	648486	7-12:08:06	10813911461	110.0e-6	6.341	7.025	6.846		
	0.01	Interval	32.00e-6	332676	332676	3-20:24:36	3624925264	91.00e-6	100.0	100.0	100.0	
		Bernstein	346.8	22166	22513	06:15:13	242652648	126.0e-6	9.706	10.42	7.982	
		MinVariance	384.1	24294	24678	06:51:18	264227566	127.0e-6	10.41	11.21	8.475	
		BSplines	363.4	49644	49908	13:51:48	619888324	122.0e-6	16.82	17.57	16.45	
		MinNorm	388.0	23320	23708	06:35:08	254207507	126.0e-6	10.08	10.90	8.246	
		MinVolume	375.2	25425	25800	07:10:00	285991552	125.0e-6	10.65	11.43	8.969	
		ApproxMinVolume	373.8	25545	25919	07:11:59	286566441	126.0e-6	10.70	11.50	8.982	
		Recursive	341.3	22390	22732	06:18:52	244304039	126.0e-6	9.869	10.60	8.001	
		Recursive2	336.6	22535	22871	06:21:11	244106457	126.0e-6	9.935	10.64	8.049	
		0.001	Interval	38.00e-6	642.5	642.5	10:42	11047784	62.00e-6	100.0	100.0	100.0
			Bernstein	38.50	212.5	297.6	04:57	2079581	61.00e-6	18.94	2995.8	20.74
MinVariance			68.98	268.7	422.2	07:02	2379840	68.00e-6	22.55	5349.6	22.32	
BSplines	41.17		1075	1167	19:27	10671601	60.00e-6	60.90	3238.0	57.08		
MinNorm	66.53		250.1	400.1	06:40	2243746	64.00e-6	20.62	5262.3	21.59		
MinVolume	64.72		297.5	443.0	07:23	2703713	63.00e-6	23.17	5135.8	24.03		
ApproxMinVolume	63.48		298.2	438.4	07:18	2714059	64.00e-6	23.35	5055.6	24.08		
Recursive	45.54		217.5	318.2	05:18	2087414	62.00e-6	19.24	3590.0	20.86		
Recursive2	52.07		222.0	335.6	05:35	2087932	62.00e-6	19.41	4029.8	20.90		
0.01	Interval		38.00e-6	19.14	19.14	19.138	306036	63.00e-6	100.0	100.0	100.0	
	Bernstein		41.20	6.705	94.26	01:34	72424	67.00e-6	21.81	3335.1	21.01	
	MinVariance		72.95	7.779	168.4	02:48	78200	69.00e-6	23.82	6160.4	22.02	
	BSplines	43.92	15.29	112.4	01:52	152933	69.00e-6	40.28	3780.0	35.14		
	MinNorm	70.18	7.492	164.3	02:44	75509	70.00e-6	23.27	6046.8	21.54		
	MinVolume	68.33	8.484	161.3	02:41	84924	70.00e-6	25.57	5953.2	23.19		
	ApproxMinVolume	67.21	8.511	158.2	02:38	85144	70.00e-6	25.75	5842.8	23.23		
	Recursive	48.00	6.977	112.7	01:52	73986	68.00e-6	22.48	4125.0	21.35		
	Recursive2	54.91	7.215	129.0	02:09	74118	69.00e-6	23.04	4744.4	21.44		

Table 76: Average of Bisection for 3D problems