Numerical Results of the Experiments in the Paper titled: New inertial-based spectral projection method for solving system of nonlinear equations with convex constraints

Aliyu Muhammed Awwal^{1,2}, Poom Kumam^{1*}, Mohammed Yusuf Waziri³ Lin Wang⁴ Ahmadu Muhammadu Bappah² and Adamu Ishaku²

In the tables below, (i) number of iterations is denoted by #iter, (ii) number of function evaluations is represented by #fval, and (iii) the norm of the objective function $\|\Omega(\widehat{z})\|$ is denoted by Norm. Also, DIM denotes dimensions and IP represents initial points.

Finally, NISPM stands for the method "New inertial-based spectral projection method for solving system of nonlinear equations with convex constraints", DAIS1 represents the method "A Modified Spectral Gradient Projection Method for Solving Non-linear Monotone Equations with Convex Constraints and Its Application", and DAIS1 denotes the method "Inertial-Based Derivative-Free Method for System of Monotone Nonlinear Equations and Application".

Table 1: Numerical results of NISPM, DAIS1 and MSGP methods for Problem 1

Problem 1 NISPM DAIS1 MSGP

Problem 1

Problem 1		NISPM		M		DAIS	61	MSGP			
DIM	IP	#iter	#fval	Norm	#iter	#fval	Norm	#iter	#fval	Norm	
	1	3	10	0	4	15	1.49E-07	3	8	2.16E-07	
	2	2	7	9.93E-16	10	31	8.05E-08	8	17	2.22E-09	
	3	3	10	0	7	24	2.97E-08	6	14	2.38E-09	
	4	3	10	0	9	30	7.33E-08	6	14	3.04E-07	
	5	1	4	0	6	21	3.85E-07	6	14	2.48E-09	
	6	1	4	0	6	21	3.6E-07	6	14	2.47E-09	
10000	7	1	4	0	6	21	3.85E-07	6	14	2.48E-09	
	8	1	4	0	6	21	3.61E-07	6	14	2.52E-09	
	9	1	4	0	6	21	5.34E-07	5	12	7.71E-07	
	10	1	4	0	6	21	2.32E-07	5	12	1.49E-07	
	11 12	1 2	4 7	0	5 10	18 33	3.49E-08 1.98E-08	4	10 22	8.93E-09 1.09E-08	
	13	2	7	0	6	21	2.16E-08	10 7	16	5.06E-09	
	1	3	10	0	4	15	2.64E-07	3	8	4.68E-07	
	2	2	7	9.93E-16	10	31	8.05E-08	8	17	2.22E-09	
	3	3	10	0	7 9	24	5.2E-08	6	14	5.14E-09	
	4 5	3 1	10 4	0		30 21	7.34E-08 6.38E-07	6	14 14	3.07E-07	
	6	1	4	0	6 6	21	6.25E-07	6 6	14	5.94E-09 5.94E-09	
20000	7	1	4	0	6	21	6.23E-07 6.38E-07	6	14	5.94E-09	
30000	8	1	4	0	6	21	6.25E-07	6	14	5.96E-09	
	9	1	4	0	6	21	6.2E-07	6	14	3.57E-09	
	10	1	4	0	6	21	4.02E-07	5	12	3.22E-07	
	11	1	4	0	5	18	6.49E-08	4	10	1.36E-08	
	12	2	7	0	10	33	4.45E-08	10	22	1.15E-07	
	13	2	7	0	6	21	3.66E-08	7	16	1.02E-08	
	1	3	10	0	4	15	3.42E-07	3	8	6.6E-07	
	2	2	7	9.93E-16	10	31	8.05E-08	8	17	2.22E-09	
	3	3	10	0	7	24	6.72E-08	6	14	7.23E-09	
	4	3	10	0	9	30	7.34E-08	6	14	3.08E-07	
	5	1	4	0	6	21	8.17E-07	6	14	8.42E-09	
	6	1	4	0	6	21	8.07E-07	6	14	8.42E-09	
50000	7	1	4	0	6	21	8.17E-07	6	14	8.42E-09	
	8	1	4	0	6	21	8.07E-07	6	14	8.44E-09	
	9	1	4	0	6	21	7.31E-07	6	14	6.76E-09	
	10	1	4	0	6	21	5.19E-07	5	12	4.53E-07	
	11	1	4	0	5	18	8.5E-08	4	10	1.83E-08	
	12	2	7	0	10	33	6E-08	10	22	1.7E-07	
	13	2	7	0	6	21	4.7E-08	7	16	1.42E-08	
	1	3	10	0	4	15	4.33E-07	4	10	7.38E-10	
	2	2	7	9.93E-16	10	31	8.05E-08	8	17	2.22E-09	
	3	3	10	0	7	24	8.51E-08	6	14	1.61E-08	
	4	3	10	0	9	30	7.34E-08	6	14	3.08E-07	
	5	1	4	0	7	24	5.12E-09	6	14	1.89E-08	
	6	1	4	0	7	24	5.08E-09	6	14	1.89E-08	
80000	7	1	4	0	7	24	5.12E-09	6	14	1.89E-08	
	8	1	4	0	7	24	5.08E-09	6	14	1.89E-08	
	9	1	4	0	6	21	9.31E-07	6	14	1.81E-08	
	10	1	4	0	6	21	6.56E-07	6	14	5.05E-10	
	11	1	4	0	5	18	1.08E-07	4	10	3.92E-08	
	12	2	7 7	0	10	33	7.71E-08	10	22	3.85E-07	
	13	2		0	6	21	5.93E-08	7	16	3.1E-08	
	1	3	10	0	4	15	4.85E-07	4	10	1.04E-09	
	2	2	7	9.93E-16	10	31	8.05E-08	8	17	2.22E-09	
	3	3	10	0	7	24	9.52E-08	6	14	2.28E-08	
	4	3	10	0	9	30	7.34E-08	6	14	3.08E-07	
	5	1	4	0	7	24	5.71E-09	6	14	2.67E-08	
	6	1	4	0	7	24	5.68E-09	6	14	2.67E-08	
100000	7	1	4	0	7	24	5.71E-09	6	14	2.67E-08	
	8 9	1	4	0	7 7	24	5.68E-09	6	14 14	2.67E-08	
	10	1 1	4	0	6	24 21	5.38E-09	6	14	2.9E-08 7.14E-10	
	11	1	4	0	5	18	7.34E-07 1.21E-07	6 4	14 10	5.52E-08	
	12	2	7	0	10	33	8.65E-08	10	22	5.45E-07	
	13	2	7	0	6	21	6.62E-08	7	16	4.37E-08	
	13			U	0	<u> </u>	0.04E-00		10	4.57 E-00	

Table 2: Numerical results of NISPM, DAIS1 and MSGP methods for Problem 2

Problem 2 NISPM DAIS1 MSGP

NISPM DAIS1 MSGP

1	Problem 2		NISPM		M		DAIS	61	MSGP			
1	DIM	IP	#iter	#fval	Norm	#iter	#fval	Norm	#iter	#fval	Norm	
1		1	6	20	3.8E-11	4	15	3.73E-07	3	8	5.28E-07	
1		2	4	14	3.43E-07	7	24	2.75E-08	4	10	4.43E-08	
10000		3	6	20	1.08E-07	6	21	2.31E-08	5	12	9.41E-07	
10000									4		2.99E-08	
10000									6		5.37E-09	
											5.37E-09	
1	10000										5.37E-09	
10											5.42E-09	
11											5.26E-09	
12											1.04E-09	
13												
1												
1												
3											1.16E-09	
1												
5												
1												
30000												
S	20000											
9	30000											
10												
11												
12											1.34E-09	
13 9 29 8.15E-10 11 36 1.09E-07 11 24 5.39E-10 1 6 20 8.5E-11 4 15 8.33E-07 4 10 1.64E-10 10 1.77E-10 10 1.77E											7.67E-08	
1											5.39E-07	
1												
3												
1												
5											4.7E-08	
50000 6 7 23 9.86E-08 9 30 1.77E-08 6 14 1.77E-5000 7 7 23 9.86E-08 9 30 1.77E-08 6 14 1.77E-18 6 12 1.75E-08 6 12 1.75E-08 5 12 1.25E-19 12 1.25E-07 13 28 2.68E-18 1 1 6 20 1.07E-10 5 18 1.04E-08 4 10 3.68E-26 2.14E-10 10 33 2.23E-08 6 14 4.1E-14 1.75E-14 </td <td></td> <td>1.77E-08</td>											1.77E-08	
50000 7 7 23 9.86E-08 9 30 1.77E-08 6 14 1.77E-18 6 14 1.77E-10 9 30 1.76E-08 6 14 1.78E-11 10 6 20 3.62B-08 6 21 5.79E-08 5 12 1.9E-12 11 6 20 3.62E-10 10 33 3.65E-07 10 22 2.25E-13 13 8 26 2.14E-10 10 33 3.65E-07 10 22 2.25E-13 13 8 26 2.14E-10 10 33 2.23E-07 13 28 2.68E-12 1 6 20 1.07E-10 5 18 1.04E-08 4 10 4.41E-41E-41 10 3.42E-08											1.77E-08	
8 7 23 9.87E-08 9 30 1.77E-08 6 14 1.78E-10 6 20 6.14E-08 7 24 1.73E-07 5 12 3.23E-11 1 6 20 3E-08 6 21 5.79E-08 5 12 1.9E-02 2.25E-13 3 3.65E-07 10 22 2.25E-13 3 3.65E-07 10 3.28E-68E-10 10 3.36E-07 13 28 2.68E-11 3.65E-07 13 28 2.68E-11 4 4 4 4 4 4 4 4 4 4 4 4 4 4 <t< td=""><td>50000</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1.77E-08</td></t<>	50000										1.77E-08	
9	30000										1.77E-08	
10											1.78E-08	
11 6 20 3E-08 6 21 5.79E-08 5 12 1.9E-0 12 7 23 6.27E-10 10 33 3.65E-07 10 22 2.25E-10 13 8 26 2.14E-10 10 33 2.23E-07 13 28 2.68E-10 1 6 20 1.07E-10 5 18 1.04E-08 4 10 3.67E-10 2 4 14 3.4E-07 7 24 2.75E-08 4 10 4.41E-10 3 6 20 3.03E-07 6 21 6.55E-08 6 14 6.57E-10 4 8 26 1.27E-10 8 27 2.04E-08 6 14 3.97E-10 4 8 26 1.25E-07 9 30 2.24E-08 6 14 3.97E-10 80000 7 7 23 1.25E-07 9 30 2.24E-08 <td></td> <td>10</td> <td>6</td> <td></td> <td></td> <td>7</td> <td></td> <td></td> <td></td> <td>12</td> <td>3.23E-09</td>		10	6			7				12	3.23E-09	
13 8 26 2.14E-10 10 33 2.23E-07 13 28 2.68E-10 1 6 20 1.07E-10 5 18 1.04E-08 4 10 3.67E-10 3 6 20 3.03E-07 6 21 6.55E-08 6 14 6.57E-10 4 8 26 1.27E-10 8 27 2.04E-08 4 10 4.86E-10 6 7 23 1.25E-07 9 30 2.24E-08 6 14 3.97E-10 8 7 7 7 23 1.25E-07 9 30 2.24E-08 6 14 3.97E-10 8 7 7 7 23 1.25E-07 9 30 2.24E-08 6 14 3.97E-10 8 7 23 1.25E-07 9 30 2.24E-08 6 14 3.97E-10 8 7 23 1.25E-07 9 30 2.24E-08 6 14 3.97E-10 9 7 23 1.34E-07 9 30 2.24E-08 6 14 3.97E-10 9 7 23 1.34E-07 9 30 2.24E-08 6 14 3.86E-10 6 20 7.76E-08 7 24 2.18E-07 5 12 7.21E-11 10 6 20 3.79E-08 6 21 7.33E-08 5 12 4.25E-12 7 23 7.96E-10 10 33 1.13E-07 11 24 5.87E-10 10 10 10 10 10 10 10						6				12	1.9E-09	
1 6 20 1.07E-10 5 18 1.04E-08 4 10 3.67E-10		12	7	23	6.27E-10	10	33	3.65E-07	10	22	2.25E-07	
2		13	8	26	2.14E-10	10	33	2.23E-07	13	28	2.68E-07	
2		1	6	20	1.07E-10	5	18	1.04E-08	4	10	3.67E-09	
3											4.41E-08	
4											6.57E-09	
80000 7 23 1.25E-07 9 30 2.24E-08 6 14 3.97E-08 80000 7 7 23 1.25E-07 9 30 2.24E-08 6 14 3.97E-08 8 7 23 1.25E-07 9 30 2.24E-08 6 14 3.97E-09 9 30 2.24E-08 6 14 3.97E-09 9 30 2.24E-08 6 14 3.97E-09 9 30 2.24E-08 6 14 3.97E-08 6 21 7.33E-08 6 14 3.86E-10 10 6 20 7.76E-08 7 24 2.18E-07 5 12 7.21E-10 11 6 20 3.79E-08 6 21 7.33E-08 5 12 4.25E-10 11 6 20 3.79E-08 6 21 7.33E-08 5 12 4.25E-10 12 7.57E-11 10 33 1.13E-07 11 24 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>4.86E-08</td></td<>											4.86E-08	
80000 7 7 23 1.25E-07 9 30 2.24E-08 6 14 3.97E-8 8 7 23 1.25E-07 9 30 2.24E-08 6 14 3.97E-8 9 7 23 1.34E-07 9 30 2.24E-08 6 14 3.86E-7 10 6 20 7.76E-08 7 24 2.18E-07 5 12 7.21E-7.21E-7.21E-7.21E-7.21E-7.21E-7.22E											3.97E-08	
8 7 23 1.25E-07 9 30 2.24E-08 6 14 3.97E-14 9 7 23 1.34E-07 9 30 2.24E-08 6 14 3.86E-10 10 6 20 7.76E-08 7 24 2.18E-07 5 12 7.21E-11 11 6 20 3.79E-08 6 21 7.33E-08 5 12 4.25E-12 12 7 23 7.96E-10 10 33 4.62E-07 10 22 7.57E-13 13 8 26 2.91E-11 10 33 1.13E-07 11 24 5.87E-14 1 6 20 1.2E-10 5 18 1.17E-08 4 10 5.87E-14 2 4 14 3.4E-07 7 24 2.75E-08 4 10 4.41E-14 3 6 20 3.38E-07 6 21 7.32E-08 6 <td></td> <td>6</td> <td>7</td> <td>23</td> <td>1.25E-07</td> <td>9</td> <td>30</td> <td>2.24E-08</td> <td>6</td> <td>14</td> <td>3.97E-08</td>		6	7	23	1.25E-07	9	30	2.24E-08	6	14	3.97E-08	
9	80000	7	7	23	1.25E-07	9	30	2.24E-08	6	14	3.97E-08	
10 6 20 7.76E-08 7 24 2.18E-07 5 12 7.21E-11 6 20 3.79E-08 6 21 7.33E-08 5 12 4.25E-12 4.25E-12 7.33E-08 5 12 4.25E-12 12 7.27E-12 10 33 4.62E-07 10 22 7.57E-13 8 26 2.91E-11 10 33 1.13E-07 11 24 5.87E-12 1 6 20 1.2E-10 5 18 1.17E-08 4 10 5.19E-12 4 4.41E-12 4 4.41E-12 4.41E-12 4		8	7	23	1.25E-07	9	30	2.24E-08	6	14	3.97E-08	
11 6 20 3.79E-08 6 21 7.33E-08 5 12 4.25E-12 12 7 23 7.96E-10 10 33 4.62E-07 10 22 7.57E-13 13 8 26 2.91E-11 10 33 1.13E-07 11 24 5.87E-12 1 6 20 1.2E-10 5 18 1.17E-08 4 10 5.19E-12 2 4 14 3.4E-07 7 24 2.75E-08 4 10 4.41E-12 3 6 20 3.38E-07 6 21 7.32E-08 6 14 9.29E-14 4 8 26 1.27E-10 8 27 2.04E-08 4 10 4.88E-16 5 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E-16 100000 7 7 23 1.4E-07 9 30 2.5E-08 <td></td> <td>9</td> <td>7</td> <td>23</td> <td>1.34E-07</td> <td>9</td> <td>30</td> <td>2.24E-08</td> <td>6</td> <td>14</td> <td>3.86E-08</td>		9	7	23	1.34E-07	9	30	2.24E-08	6	14	3.86E-08	
12 7 23 7.96E-10 10 33 4.62E-07 10 22 7.57E-13 13 8 26 2.91E-11 10 33 1.13E-07 11 24 5.87E-13 1 6 20 1.2E-10 5 18 1.17E-08 4 10 5.19E-14 2 4 14 3.4E-07 7 24 2.75E-08 4 10 4.41E-16 3 6 20 3.38E-07 6 21 7.32E-08 6 14 9.29E-16 4 8 26 1.27E-10 8 27 2.04E-08 4 10 4.88E-16 5 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E-16 100000 7 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E-16 9 7 23 1.66E-07 9 30 2.5E-08		10	6	20	7.76E-08	7	24	2.18E-07	5	12	7.21E-09	
13 8 26 2.91E-11 10 33 1.13E-07 11 24 5.87E-19E-11 1 6 20 1.2E-10 5 18 1.17E-08 4 10 5.19E-10 2 4 14 3.4E-07 7 24 2.75E-08 4 10 4.41E-10 3 6 20 3.38E-07 6 21 7.32E-08 6 14 9.29E-10 4 8 26 1.27E-10 8 27 2.04E-08 4 10 4.88E-10 5 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E-10 100000 7 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E-10 8 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E-10 9 7 23 1.66E-07 9 30 2.5E-08		11	6	20	3.79E-08	6	21	7.33E-08	5	12	4.25E-09	
1 6 20 1.2E-10 5 18 1.17E-08 4 10 5.19E- 2 4 14 3.4E-07 7 24 2.75E-08 4 10 4.41E- 3 6 20 3.38E-07 6 21 7.32E-08 6 14 9.29E- 4 8 26 1.27E-10 8 27 2.04E-08 4 10 4.88E- 5 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E- 6 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E- 100000 7 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E- 8 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E- 9 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E- 10 6 20 8.67E-08 7 24 2.44E-07 5 12 1.02E- 11 6 20 4.24E-08 6 21 8.19E-08 5 12 6.01E- 12 7 23 8.91E-10 10 33 5.16E-07 11 24 3.03E-		12	7	23	7.96E-10	10	33	4.62E-07	10	22	7.57E-07	
2		13	8	26	2.91E-11	10	33	1.13E-07	11	24	5.87E-07	
2		1	6	20	1.2E-10	5	18	1.17E-08	4	10	5.19E-09	
4 8 26 1.27E-10 8 27 2.04E-08 4 10 4.88E- 5 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E- 6 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E- 100000 7 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E- 8 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E- 9 7 23 1.66E-07 9 30 2.51E-08 6 14 5.61E- 10 6 20 8.67E-08 7 24 2.44E-07 5 12 1.02E- 11 6 20 4.24E-08 6 21 8.19E-08 5 12 6.01E- 12 7 23 8.91E-10 10 33 5.16E-07 11 24 3.03E-											4.41E-08	
10000		3	6	20	3.38E-07	6	21	7.32E-08	6	14	9.29E-09	
100000 6 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E-100000000000000000000000000000000000		4									4.88E-08	
100000 7 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E-61E-61E-61E-61E-61E-61E-61E-61E-61E-		5	7	23	1.4E-07	9	30	2.5E-08	6	14	5.61E-08	
8 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E-9 9 7 23 1.66E-07 9 30 2.51E-08 6 14 5.86E-10 10 6 20 8.67E-08 7 24 2.44E-07 5 12 1.02E-11 11 6 20 4.24E-08 6 21 8.19E-08 5 12 6.01E-12 12 7 23 8.91E-10 10 33 5.16E-07 11 24 3.03E-12		6	7	23	1.4E-07	9	30	2.5E-08	6	14	5.61E-08	
8 7 23 1.4E-07 9 30 2.5E-08 6 14 5.61E-9 9 7 23 1.66E-07 9 30 2.51E-08 6 14 5.86E-10 10 6 20 8.67E-08 7 24 2.44E-07 5 12 1.02E-11 11 6 20 4.24E-08 6 21 8.19E-08 5 12 6.01E-12 12 7 23 8.91E-10 10 33 5.16E-07 11 24 3.03E-12	100000	7	7	23	1.4E-07	9	30	2.5E-08	6	14	5.61E-08	
10 6 20 8.67E-08 7 24 2.44E-07 5 12 1.02E-11 11 6 20 4.24E-08 6 21 8.19E-08 5 12 6.01E-12 12 7 23 8.91E-10 10 33 5.16E-07 11 24 3.03E-12				23	1.4E-07	9	30	2.5E-08	6	14	5.61E-08	
11 6 20 4.24E-08 6 21 8.19E-08 5 12 6.01E- 12 7 23 8.91E-10 10 33 5.16E-07 11 24 3.03E-		9	7	23	1.66E-07	9	30	2.51E-08	6	14	5.86E-08	
12 7 23 8.91E-10 10 33 5.16E-07 11 24 3.03E-			6			7		2.44E-07	5		1.02E-08	
						6			5		6.01E-09	
13 8 26 1.35E-12 10 33 5.08E-08 15 32 1.27E-											3.03E-08	
		13	8	26	1.35E-12	10	33	5.08E-08	15	32	1.27E-08	

Table 3: Numerical results of NISPM, DAIS1 and MSGP methods for Problem 3 $$^{\rm NISPM}$$ DAIS1 $$^{\rm MSGP}$$

Problem 3			NISPN	1		DAIS	S1	MSGP			
DIM	IP	#iter	#fval	Norm	#iter	#fval	Norm	#iter	#fval	Norm	
	1	2	7	0	6	21	3.66E-08	3	8	5.01E-08	
	2	1	4	0	6	21	1.27E-08	3	8	4.24E-08	
	3	1	4	0	7	24	1.96E-07	4	10	3.26E-07	
	4	1	4	0	6	21	5.53E-08	4	10	4.59E-08	
	5	1	4	0	8	27	7.88E-07	4	10	1.3E-07	
	6	1	4	0	8	27	7.88E-07	4	10	1.3E-07	
10000	7	1	4	0	8	27	7.88E-07	4	10	1.3E-07	
	8	1	4	0	8	27	7.88E-07	4	10	1.33E-07	
	9	1	4	0	8	27	7.93E-07	4	10	1.19E-07	
	10	1	4	0	7	24	3.01E-07	5	12	1.07E-09	
	11	1	4	0	6	21	9.7E-07	4	10	1.13E-09	
	12 13	2	7 7	0 0	9 7	30 24	1.46E-08 2.31E-07	6 6	14 14	7.28E-08 1.27E-08	
	1	2	7	0	6	21	6.34E-08	3	8	1.12E-07	
	2	1	4	0	6	21	1.27E-08	3	8	4.24E-08	
	3	1	4	0	7	24	3.39E-07	4	10	7.29E-07	
	4	1 1	4	0	6 9	21	5.53E-08	4	10	4.59E-08	
	5 6	1	4	0 0	9	30 30	1.35E-08 1.35E-08	4	10 10	2.94E-07 2.94E-07	
30000	7	1	4	0	9	30	1.35E-08	4	10	2.94E-07 2.94E-07	
30000	8	1	4	0	9	30	1.35E-08	4	10	2.95E-07	
	9	1	4	0	9	30	1.34E-08	4	10	2.81E-07	
	10	1	4	0	7	24	5.22E-07	5	12	2.39E-09	
	11	1	4	0	8	27	5.38E-07	4	10	2.52E-09	
	12	2	7	0	9	30	2.54E-08	6	14	1.63E-07	
	13	2	7	0	7	24	3.39E-07	6	14	2.91E-08	
	1	2	7	0	6	21	8.18E-08	3	8	1.58E-07	
	2	1	4	0	6	21	1.27E-08	3	8	4.24E-08	
	3	1	4	0	7	24	4.37E-07	5	12	1.03E-09	
	4	1	4	0	6	21	5.53E-08	4	10	4.59E-08	
	5	1	4	0	9	30	1.74E-08	4	10	4.16E-07	
	6	1	4	0	9	30	1.74E-08	4	10	4.16E-07	
50000	7	1	4	0	9	30	1.74E-08	4	10	4.16E-07	
	8	1	4	0	9	30	1.74E-08	4	10	4.17E-07	
	9	1	4	0	9	30	1.75E-08	4	10	4.12E-07	
	10	1	4	0	7	24	6.74E-07	5	12	3.38E-09	
	11	1	4	0	8	27	6.94E-07	4	10	3.57E-09	
	12	2	7	0	9	30	3.27E-08	6	14	2.31E-07	
	13	2	7	0	7	24	4.2E-07	6	14	4.12E-08	
	1	2	7	0	6	21	1.03E-07	3	8	3.54E-07	
	2	1	4	0	6	21	1.27E-08	3	8	4.24E-08	
	3	1	4	0	7	24	5.53E-07	5	12	2.3E-09	
	4	1	4	0	6	21	5.53E-08	4	10	4.59E-08	
	5	1	4	0	9	30	2.21E-08	4	10	9.32E-07	
	6	1	4	0	9	30	2.21E-08	4	10	9.32E-07	
80000	7	1	4	0	9	30	2.21E-08	4	10	9.32E-07	
	8	1	4	0	9	30	2.21E-08	4	10	9.32E-07	
	9	1	4	0	9	30	2.19E-08	4	10	9.42E-07	
	10 11	1 1	4	0 0	7 8	24 27	8.53E-07 8.78E-07	5 4	12 10	7.56E-09 7.98E-09	
	12	2	7	0	9	30	4.14E-08	6	14		
	13	2	7	0	7	24	5.19E-07	6	14	5.16E-07 9.25E-08	
	1	2	7	0	6	21	1.16E-07	3	8	5.01E-07	
	2	1	4	0	6	21	1.27E-08	3	8	4.24E-08	
	3	1	4	0	7	24	6.19E-07	5	12	3.26E-09	
	4 5	1 1	4	0	6 9	21 30	5.53E-08	4	10 12	4.59E-08	
	6	1	4	0	9	30	2.47E-08 2.47E-08	5 5	12	1.32E-09 1.32E-09	
100000	6 7	1	4	0 0	9	30	2.47E-08 2.47E-08	5 5	12	1.32E-09 1.32E-09	
100000	8	1	4	0	9	30	2.47E-08 2.47E-08	5 5	12	1.32E-09 1.32E-09	
	9	1	4	0	9	30	2.47E-08 2.47E-08	5 5	12	1.32E-09 1.32E-09	
	10	1	4	0	7	24	9.53E-07	5	12	1.07E-08	
	11	1	4	0	8	27	9.55E-07 9.81E-07	4	10	1.07E-08 1.13E-08	
	12	2	7	0	9	30	4.63E-08	6	14	7.3E-07	
	13	2	7	0	7	24	5.76E-07	6	14	1.31E-07	
	10		,	J	,	-7	J., OL-07		17	1.01L-07	

Table 4: Numerical results of NISPM, DAIS1 and MSGP methods for Problem 4

Problem 4 NISPM DAIS1 MSGP

NISPM DAIS1 MSGP

Problem 4		NISPM		M		DAIS	61	MSGP			
DIM	IP	#iter	#fval	Norm	#iter	#fval	Norm	#iter	#fval	Norm	
	1	2	7	0	1	4	0	1	3	0	
	2	2	7	2.22E-16	1	4	0	5	11	9.88E-09	
	3	3	10	0	1	4	0	1	3	0	
	4	2	7	0	4	15	1.56E-08	1	3	0	
	5	3	10	0	5	18	8.83E-07	1	3	0	
	6	3	10	0	5	18	8.83E-07	1	3	0	
10000	7	3	10	0	5	18	8.83E-07	1	3	0	
	8	3	10	0	5	18	8.85E-07	1	3	0	
	9	3	10	0	5	18	8.31E-07	1	3	0	
	10	3	10	0	1	4	0	1	3	0	
	11	2	7	0	1	4	0	1	3	0	
	12 13	3 1	10 4	0	1 9	4 30	0 5.31E-07	1 7	3 16	0 3.34E-07	
	1	2	7	0	1	4	0	1	3	0	
	2	2	7	2.22E-16	1	4	0	5	11	9.88E-09	
	3	3	10	0	1	4	0	1	3	0	
	4 5	2	7 10	0	4	15	1.55E-08	1 1	3 3	0	
	6	3	10	0	6 6	21 21	1.52E-08 1.52E-08	1	3	0	
30000	7	3	10	0	6	21	1.52E-08	1	3	0	
30000	8	3	10	0	6	21	1.52E-08	1	3	0	
	9	3	10	0	6	21	1.52E-08	1	3	0	
	10	3	10	0	1	4	0	1	3	0	
	11	2	7	0	1	4	0	1	3	0	
	12	3	10	0	1	4	0	1	3	0	
	13	1	4	0	9	30	6.13E-07	8	18	3.33E-09	
	1	2	7	0	1	4	0	1	3	0	
	2	2	7	2.22E-16	1	4	0	5	11	9.88E-09	
	3	3	10	0	1	4	0	1	3	0	
	4	2	7	0	4	15	1.54E-08	1	3	0	
	5	3	10	0	6	21	1.96E-08	1	3	0	
	6	3	10	0	6	21	1.96E-08	1	3	0	
50000	7	3	10	0	6	21	1.96E-08	1	3	0	
	8	3	10	0	6	21	1.96E-08	1	3	0	
	9	3	10	0	6	21	2.11E-08	1	3	0	
	10	3	10	0	1	4	0	1	3	0	
	11	2	7	0	1	4	0	1	3	0	
	12	3	10	0	1	4	0	1	3	0	
	13	1	4	0	9	30	6.41E-07	7	16	1.39E-07	
	1	2	7	0	1	4	0	1	3	0	
	2	2	7	2.22E-16	1	4	0	5	11	9.88E-09	
	3	3	10	0	1	4	0	1	3	0	
	4	2	7	0	4	15	1.54E-08	1	3	0	
	5	3	10	0	6	21	2.48E-08	1	3	0	
	6	3	10	0	6	21	2.48E-08	1	3	0	
80000	7	3	10	0	6	21	2.48E-08	1	3	0	
	8 9	3 3	10 10	0	6 6	21 21	2.48E-08	1 1	3 3	0	
	10	3	10	0	1	4	2.46E-08 0	1	3	0	
	11	2	7	0	1	4	0	1	3	0	
	12	3	10	0	1	4	0	1	3	0	
	13	1	4	0	9	30	6.73E-07	8	18	1.8E-08	
	1	2	7	0	1	4	0	1	3	0	
	2	2	7	2.22E-16	1	4	0	5	3 11	9.88E-09	
	3	3	10	0	1	4	0	1	3	0	
	4	2	7	0	4	15	1.54E-08	1	3	0	
	5	3	10	0	6	21	2.77E-08	1	3	0	
	6	3	10	0	6	21	2.77E-08	1	3	0	
100000	7	3	10	0	6	21	2.77E-08	1	3	0	
100000	8	3	10	0	6	21	2.77E-08	1	3	0	
	9	3	10	0	6	21	2.83E-08	1	3	0	
	10	3	10	0	1	4	0	1	3	0	
	11	2	7	0	1	4	0	1	3	0	
	12	3	10	0	1	4	0	1	3	0	
	13	1	4	0	9	30	6.94E-07	8	18	4.76E-07	

Table 5: Numerical results of NISPM, DAIS1 and MSGP methods for Problem 5

Problem 5			NISP	M		DAIS	61	MSGP			
DIM	IP	#iter	#fval	Norm	#iter	#fval	Norm	#iter	#fval	Norm	
	1	2	8	5.13E-10	5	18	6.35E-07	4	10	2.31E-08	
	2	2	8	5.53E-10	5	18	6.59E-07	4	10	2.17E-08	
	3	1	5	2.03E-08	4	15	3.45E-07	3	8	3.48E-07	
	4	2	8	5.52E-10	5	18	6.59E-07	4	10	1.96E-08	
	5 6	2 2	8 8	3.84E-10 3.84E-10	5 5	18 18	5.43E-07 5.43E-07	4	10 10	2.01E-08 2.01E-08	
10000	7	2	8	3.84E-10	5	18	5.43E-07	4	10	2.01E-08	
10000	8	2	8	3.84E-10	5	18	5.43E-07	4	10	2E-08	
	9	2	8	5.4E-10	5	18	5.43E-07	4	10	7.01E-08	
	10	2	8	1.12E-10	4	15	5.85E-07	3	8	5.9E-07	
	11	2	8	3.69E-10	5	18	5.38E-07	4	10	1.96E-08	
	12	2	8	2.52E-10	4	15	7.86E-07	3	8	8.81E-07	
	13	2	8	2.13E-09	5	18	7.03E-07	4	10	2.83E-07	
	1	2	8	9.86E-11	6	21	5.56E-07	4	10	2.64E-09	
	2	2	8	1.06E-10	6	21	5.77E-07	4	10	2.74E-09	
	3 4	1 2	5	3.9E-09	4	15	5.98E-07 5.77E-07	3 4	8 10	7.25E-07	
	5	2	8 8	1.06E-10 7.37E-11	6 5	21 18	9.4E-07	4	10	2.74E-09 2.26E-09	
	6	2	8	7.37E-11 7.37E-11	5	18	9.4E-07	4	10	2.26E-09	
30000	7	2	8	7.37E-11	5	18	9.4E-07	4	10	2.26E-09	
	8	2	8	7.37E-11	5	18	9.4E-07	4	10	2.26E-09	
	9	2	8	1.03E-10	5	18	9.39E-07	4	10	2.27E-09	
	10	2	8	2.13E-11	5	18	5.12E-07	4	10	1.23E-09	
	11	2	8	7.08E-11	5	18	9.32E-07	4	10	2.24E-09	
	12 13	2	8	4.81E-11 4.11E-10	5 6	18 21	6.88E-07 6.15E-07	4	10 10	1.65E-09 3.16E-09	
	1 2	2	8	4.59E-11	6	21	7.17E-07 7.45E-07	4	10	3.74E-09	
	3	2 2	8 8	4.94E-11 3.5E-12	6 4	21 15	7.45E-07 7.72E-07	4	10 10	3.88E-09 1.03E-09	
	4	2	8	4.94E-11	6	21	7.45E-07	4	10	3.88E-09	
	5	2	8	3.43E-11	6	21	6.13E-07	4	10	3.19E-09	
	6	2	8	3.43E-11	6	21	6.13E-07	4	10	3.19E-09	
50000	7	2	8	3.43E-11	6	21	6.13E-07	4	10	3.19E-09	
	8	2	8	3.43E-11	6	21	6.13E-07	4	10	3.19E-09	
	9	2	8	4.81E-11	6	21	6.13E-07	4	10	3.2E-09	
	10 11	2 2	8 8	9.95E-12 3.3E-11	5 6	18 21	6.61E-07 6.08E-07	4	10 10	1.74E-09 3.17E-09	
	12	2	8	2.24E-11	5	18	8.88E-07	4	10	2.34E-09	
	13	2	8	1.91E-10	6	21	7.93E-07	4	10	4.26E-09	
	1	2	8	2.27E-11	6	21	9.07E-07	4	10	8.36E-09	
	2	2	8	2.44E-11	6	21	9.42E-07	4	10	8.68E-09	
	3	2	8	1.77E-12	4	15	9.76E-07	4	10	2.29E-09	
	4	2	8	2.44E-11	6	21	9.42E-07	4	10	8.68E-09	
	5	2	8	1.7E-11	6	21	7.75E-07	4	10	7.14E-09	
	6	2	8	1.7E-11	6	21	7.75E-07	4	10	7.14E-09	
80000	7	2	8	1.7E-11	6	21	7.75E-07	4	10	7.14E-09	
	8 9	2	8	1.7E-11 2.38E-11	6	21 21	7.75E-07	4	10	7.14E-09	
	10	2	8 8	5.03E-11	6 5	18	7.75E-07 8.36E-07	4	10 10	7.14E-09 3.89E-09	
	11	2	8	1.63E-11	6	21	7.69E-07	4	10	7.08E-09	
	12	2	8	1.11E-11	6	21	5.67E-07	4	10	5.22E-09	
	13	2	8	9.43E-11	7	24	5.07E-07	4	10	9.25E-09	
	1	2	8	1.62E-11	7	24	5.12E-07	4	10	1.18E-08	
	2	2	8	1.76E-11	7	24	5.32E-07	4	10	1.23E-08	
	3	2	8	1.27E-12	5	18	1.08E-08	4	10	3.24E-09	
	4	2	8	1.76E-11	7	24	5.32E-07	4	10	1.23E-08	
	5	2	8	1.21E-11	6	21	8.67E-07	4	10	1.01E-08	
400000	6 7	2	8	1.21E-11	6	21	8.67E-07	4	10	1.01E-08	
100000	8	2 2	8 8	1.21E-11 1.21E-11	6 6	21 21	8.67E-07 8.67E-07	4	10 10	1.01E-08 1.01E-08	
	9	2	8	1.7E-11	6	21	8.67E-07	4	10	1.01E-08	
	10	2	8	3.52E-12	5	18	9.35E-07	4	10	5.5E-09	
	11	2	8	1.17E-11	6	21	8.59E-07	4	10	1E-08	
	12	2	8	7.91E-12	6	21	6.34E-07	4	10	7.39E-09	
	13	3	11	2.22E-13	7	24	5.67E-07	4	10	1.31E-08	

1	Problem 6			NISP	M		DAIS	61	MSGP			
2	DIM	IP #i	#iter	#fval	Norm	#iter	#fval	Norm	#iter	#fval	Norm	
3		1 -	4	14	6.97E-09	4	15	6.38E-07	5	12	6.06E-08	
10000		2	4	14	3.94E-07	6	21	1.23E-08	5	12	5.06E-08	
10000		3	7	23	6.05E-09	5	18	7.36E-08	4	10	8.77E-07	
10000					3.77E-07			1.32E-08			3.37E-09	
10000			6		1.38E-07			1.58E-07			1.03E-07	
8 6 20 1.38E-07 7 2 24 1.58E-07 5 12 1.0 9 6 6 20 1.29E-07 7 24 1.71E-07 5 12 1.1 10 3 11 3.17E-08 5 18 6.16E-07 4 10 1.3 11 6 19 1.44E-07 3 12 2.32E-08 2 6 5.1 12 6 20 4.44E-07 9 30 2.26E-07 9 20 7.3 13 6 20 9.44E-07 7 24 1.14E-08 6 14 9.9 1 4 14 1.21E-08 5 18 5.88E-09 5 12 1.3 2 4 14 6.81E-07 6 21 1.17E-08 5 12 1.0 3 7 23 1.05E-08 5 18 1.27E-07 5 12 1.0 4 4 14 6.69E-07 8 27 3.78E-08 6 14 1.9 5 6 20 2.39E-07 7 24 2.74E-07 5 12 2.3 30000 7 6 20 2.39E-07 7 24 2.74E-07 5 12 2.3 30000 7 6 20 2.39E-07 7 24 2.74E-07 5 12 2.3 30000 7 6 20 2.39E-07 7 24 2.74E-07 5 12 2.3 10 3 11 5.49E-08 6 21 5.67E-09 4 10 3.1 11 6 19 2.49E-07 3 12 4.02E-08 2 6 6 1.1 12 6 20 7.61E-07 9 30 3.86E-07 9 20 1.2 13 9 28 1.01E-07 7 24 1.31E-08 5 12 1.3 4 4 14 1.56E-08 5 18 7.58E-09 5 12 1.3 5 6 20 3.08E-07 7 24 1.31E-08 5 12 2.3 5 7 6 20 3.08E-07 7 24 2.74E-07 5 12 2.3 5 7 6 20 3.08E-07 7 24 2.74E-07 5 12 2.3 5 7 6 20 3.08E-07 7 24 2.74E-07 5 12 2.3 5 7 7 8 8 6 7 8 8 7 8 8 8 8 8 8 8 8 8 8 8											1.03E-07	
9 6 20 1.29E-07 7 2 24 1.71E-07 5 12 1. 10 3 11 3.17E-08 5 18 6.16E-07 4 10 11. 11 6 19 1.44E-07 9 30 2.26E-07 9 20 7.3 13 6 20 9.44E-07 7 24 1.14E-08 6 14 9.0 11 4 14 1.21E-08 5 18 5.88E-09 5 12 1. 12 4 14 6.81E-07 6 21 1.17E-08 5 12 1. 3 7 23 1.05E-08 5 18 1.27E-07 5 12 1. 4 4 14 6.69E-07 7 24 2.74E-07 5 12 1. 4 4 14 6.69E-07 7 24 2.74E-07 5 12 2. 5 6 20 2.39E-07 7 24 2.74E-07 5 12 2. 30000 7 6 20 2.39E-07 7 24 2.74E-07 5 12 2. 30000 7 6 20 2.39E-07 7 24 2.74E-07 5 12 2. 8 6 6 20 2.39E-07 7 24 2.74E-07 5 12 2. 9 6 20 2.39E-07 7 24 2.74E-07 5 12 2. 10 3 11 5.49E-08 6 21 5.67E-09 4 10 3. 11 6 19 2.49E-07 3 12 4.02E-08 2 6 1. 12 6 20 7.61E-07 9 30 3.86E-07 9 20 1. 13 9 28 1.01E-07 7 24 1.31E-08 7 16 1. 14 14 1.56E-08 5 18 1.64E-07 5 12 1. 14 14 8.869E-07 7 24 3.53E-07 5 12 1. 15 6 20 3.08E-07 7 24 3.53E-07 5 12 1. 16 6 6 20 3.08E-07 7 24 3.53E-07 5 12 1. 17 4 14 8.69E-07 8 27 3.35E-08 5 12 1. 18 6 6 7 20 3.08E-07 7 24 3.53E-07 5 12 1. 19 6 6 7 20 3.08E-07 7 24 3.53E-07 5 12 1. 10 3 11 7.09E-08 6 21 1.15E-08 5 12 1. 11 4 14 1.70E-08 5 18 1.64E-07 5 12 1. 11 4 14 1.70E-08 5 18 1.64E-07 5 12 1. 12 6 20 3.08E-07 7 24 3.53E-07 5 12 1. 13 9 28 1.3E-08 7 7 24 3.53E-07 5 12 1. 14 14 1.70E-08 5 18 1.64E-07 5 12 1. 15 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 30000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 50000 7 6 20 3.08E-07 7 24 3.53E-08 6 6 14 9. 50000 7 6 20 3.98E-07 7 24 4.47E-07 5 12 7. 50000 7 6 20 3.98E-07 7 24 4.	10000										1.03E-07	
10											1.06E-07	
11											1.18E-07	
12											1.54E-07 5.17E-08	
13											7.55E-09	
1 4 14 1.21E-08 5 18 5.88E-09 5 12 1. 2 4 14 6.81E-07 6 21 1.17E-08 5 12 1. 3 7 23 1.05E-08 5 18 1.27E-07 5 12 1. 4 4 14 6.69E-07 8 27 3.78E-08 6 14 13. 5 6 20 2.39E-07 7 24 2.74E-07 5 12 2. 30000 7 6 20 2.39E-07 7 24 2.74E-07 5 12 2. 8 6 6 20 2.39E-07 7 24 2.74E-07 5 12 2. 9 6 6 20 2.39E-07 7 24 2.74E-07 5 12 2. 9 6 6 20 2.39E-07 7 24 2.74E-07 5 12 2. 10 3 11 5.49E-08 6 21 5.67E-09 4 10 3. 11 6 19 2.49E-07 3 12 4.02E-08 2 6 1. 12 6 20 7.61E-07 9 30 3.86E-07 9 20 1. 13 9 28 1.01E-07 7 24 1.31E-08 7 16 1. 1 4 14 1.56E-08 5 18 7.58E-09 5 12 1. 3 7 23 1.35E-08 5 18 1.64E-07 5 12 1. 3 7 23 1.35E-08 5 18 1.64E-07 5 12 1. 4 4 14 8.69E-07 8 27 4.69E-08 9 20 9. 5 6 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 5 6 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 5 6 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 10 3 11 7.09E-08 6 21 7.32E-09 4 10 4. 11 6 19 3.22E-07 3 12 5.19E-09 5 12 3. 10 3 11 7.09E-08 6 21 7.32E-09 4 10 4. 11 6 19 3.22E-07 3 12 5.19E-08 5 12 3. 11 6 19 3.22E-07 7 24 3.53E-07 5 12 3. 11 6 19 3.22E-07 7 24 3.53E-07 5 12 3. 11 6 19 3.22E-07 7 24 3.59E-07 5 12 3. 11 6 19 3.22E-07 7 24 3.59E-07 5 12 3. 11 6 19 3.22E-07 7 24 3.59E-07 5 12 3. 11 6 19 3.22E-07 7 24 3.59E-07 5 12 3. 11 6 19 3.22E-07 7 24 3.59E-07 5 12 3. 11 6 19 3.22E-07 7 24 3.59E-07 5 12 3. 11 6 19 3.22E-07 7 24 3.59E-07 5 12 3. 11 6 19 3.22E-07 7 24 3.59E-07 5 12 3. 11 6 19 3.22E-07 7 24 3.59E-07 5 12 3. 11 6 19 3.22E-07 7 24 3.59E-07 5 12 3. 11 6 19 3.22E-07 7 24 3.59E-07 5 12 3. 11 6 19 3.22E-07 7 24 3.59E-07 5 12 3. 11 6 19 3.22E-07 7 24 4.47E-07 5 12 7. 11 6 19 3.22E-07 7 24 4.47E-07 5 12 7. 11 6 19 4.07E-07 7 24 4.47E-07 5 12 7. 12 7. 13 9 28 1.09E-07 7 24 4.47E-07 5 12 7. 14 14 1.97E-08 5 18 1.07E-08 5 12 7. 15 14 4.47E-07 5 12 7. 16 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 17 14 14 1.40T-08 5 18 2.08E-07 5 12 3. 18 10 3.9E-07 7 24 4.47E-07 5 12 7. 18 10 3 11 8.9FE-08 5 18 2.08E-07 5 12 7. 28 10 3.9E-07 7 24 4.47E-07 5 12 7. 29 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 20 6 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 20 7 7 7 24 4.47E-07 5 12 7. 20 7 7 7 24 4.47E-07 5 12 7. 20 7 7											9.08E-07	
2												
3 7 23 1.05E-08 5 18 1.27E-07 5 12 1.0 4 4 14 6.69E-07 8 27 3.78E-08 6 14 1.9 5 6 20 2.39E-07 7 24 2.74E-07 5 12 2.3 30000 7 6 20 2.39E-07 7 24 2.74E-07 5 12 2.3 30000 7 6 20 2.39E-07 7 24 2.74E-07 5 12 2.3 9 6 20 2.39E-07 7 24 2.74E-07 5 12 2.3 10 3 11 5.49E-08 6 21 5.67E-09 4 10 3.4 11 6 19 2.49E-07 3 12 4.02E-08 2 6 1.3 12 6 20 7.61E-07 9 30 3.86E-07 9 20 1.4 13 9 28 1.01E-07 7 24 1.31E-08 7 16 1.3 14 14 15.66E-08 5 18 7.58E-09 5 12 1.9 2 4 14 8.8E-07 6 21 1.15E-08 5 12 1.9 3 7 23 1.35E-08 5 18 1.64E-07 5 12 1.9 5 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 5 6 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 5 7 23 1.35E-08 5 18 7.58E-09 5 12 1.9 10 3 11 7.09E-08 6 21 3.53E-07 5 12 3.3 10 3 11 7.09E-08 6 21 7.32E-09 4 10 4.3 11 6 19 3.22E-07 3 12 4.02E-09 4 10 4.3 11 6 19 3.22E-07 3 12 4.02E-09 5 12 3.3 13 9 28 1.3E-07 7 24 3.53E-07 5 12 3.3 13 9 28 1.3E-07 7 24 3.54E-07 5 12 3.3 10 3 11 7.09E-08 6 21 7.32E-09 4 10 4.3 11 6 19 3.22E-07 3 12 5.19E-08 7 16 1.1 14 14 1.97E-08 5 18 9.59E-09 5 12 3.3 13 9 28 1.3E-07 7 24 1.3TE-08 7 16 1.1 14 14 1.97E-08 5 18 9.59E-09 5 12 3.3 17 23 3.79E-07 7 24 4.47E-07 5 12 3.3 17 23 3.79E-07 7 24 4.47E-07 5 12 3.3 18 9 28 1.3E-07 7 24 4.47E-07 5 12 3.3 18 9 28 1.3E-07 7 24 4.47E-07 5 12 3.3 18 9 28 1.3E-07 7 24 4.47E-07 5 12 3.3 19 10 3 11 7.09E-08 6 21 7.32E-09 5 12 3.3 11 6 19 3.22E-07 3 12 5.19E-08 7 16 1.1 11 6 19 3.22E-07 3 12 5.19E-08 7 16 1.1 11 6 19 3.22E-07 3 12 5.19E-08 6 14 9.2 11 6 20 9.3BE-07 7 24 4.47E-07 5 12 7.3 11 6 19 3.20E-07 7 24 4.47E-07 5 12 7.3 11 6 19 3.0E-07 7 24 4.47E-07 5 12 7.3 11 6 19 4.07E-08 5 18 2.08E-07 5 12 3.3 11 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 11 6 19 4.07E-08 5 18 2.08E-07 5 12 3.3 11 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 11 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 11 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 11 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 11 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 11 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 11 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 11 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 11 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 11 6 6 20 3.9E-07											1.36E-07 1.09E-07	
4											1.09E-07 1.05E-09	
5											1.98E-07	
30000 7 6 20 2.39E-07 7 24 2.74E-07 5 12 2.3 8 6 20 2.39E-07 7 24 2.74E-07 5 12 2.3 8 6 20 2.39E-07 7 24 2.74E-07 5 12 2.3 9 6 20 2.31E-07 7 24 2.82E-07 5 12 2.3 10 3 11 5.49E-08 6 21 5.67E-09 4 10 3.4 11 6 19 2.49E-07 3 12 4.02E-08 2 6 1.3 12 6 20 7.61E-07 9 30 3.86E-07 9 20 1.4 13 9 28 1.01E-07 7 24 1.31E-08 7 16 1.4 3 7 13 9 28 1.01E-07 7 24 1.31E-08 5 12 1.3 3 7 23 1.35E-08 5 18 7.58E-09 5 12 1.4 4 14 8.69E-07 8 27 4.69E-08 9 20 9.4 5 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 6 6 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 5 0000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3.4 10 3 11 7.09E-08 6 21 7.32E-09 4 10 4.3 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.4 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.4 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.4 11 6 19 3.22E-07 3 12 5.19E-08 5 12 3.3 13 9 28 1.3E-07 7 24 1.37E-08 7 16 1.4 11 6 19 3.22E-07 3 12 5.19E-08 5 12 3.4 11 6 19 3.22E-07 3 12 5.19E-08 5 12 3.4 11 6 19 3.23E-07 7 24 1.37E-08 5 12 3.4 11 6 19 3.29E-07 7 24 1.37E-08 5 12 3.4 11 6 19 3.29E-07 7 24 1.37E-08 5 12 3.4 11 6 19 3.29E-07 7 24 1.37E-08 7 16 1.4 11 6 19 3.29E-07 7 24 1.37E-08 7 16 1.4 11 6 19 3.29E-07 7 24 1.37E-08 7 16 1.4 11 6 19 3.29E-07 7 24 1.37E-08 7 16 1.4 11 6 19 3.29E-07 7 24 1.37E-08 7 16 1.4 11 6 19 3.29E-07 7 24 1.37E-08 7 16 1.4 11 6 19 3.29E-07 7 24 1.37E-08 7 16 1.4 11 6 19 3.29E-07 7 24 4.47E-07 5 12 7.3 11 6 19 4.07E-07 7 24 4.47E-07 5 12 7.3 11 6 19 4.07E-07 7 24 4.47E-07 5 12 7.3 11 6 19 4.07E-07 7 24 4.47E-07 5 12 7.3 11 6 19 4.07E-07 7 24 4.47E-07 5 12 7.3 11 6 19 4.07E-07 7 24 4.47E-07 5 12 7.3 11 6 19 4.07E-07 7 24 4.47E-07 5 12 7.3 11 6 19 4.07E-07 7 24 4.38E-07 5 12 7.3 11 6 19 4.07E-07 7 24 4.38E-07 5 12 7.3 11 6 19 4.07E-07 7 24 4.38E-07 5 12 7.3 11 6 19 4.07E-07 7 24 4.38E-07 5 12 7.3 11 6 19 4.07E-07 7 24 4.38E-07 5 12 7.3 11 6 19 4.07E-07 7 24 4.38E-07 5 12 7.3 11 6 19 4.07E-07 7 24 4.38E-07 5 12 7.3 11 6 19 4.07E-07 7 24 4.38E-07 5 12 7.3 11 6 19 4.07E-07 7 24 4.38E-07 5 12 7.3 11 6 19 4.07E-07 7 24 4.38E-07 5 12 7.3 11 6 19 4.07E-07 7 24 4.38E-07 5 12 7.3 11 6 19 4.07E-07 7 24 4.38E-07 5 12 7.3 11											2.33E-07	
30000											2.33E-07	
8 6 20 2.39E-07 7 24 2.74E-07 5 12 2.3 9 6 20 2.31E-07 7 24 2.82E-07 5 12 2.1 10 3 11 5.49E-08 6 21 5.67E-09 4 10 3.1 11 6 19 2.49E-07 3 12 4.02E-08 2 6 1.1 12 6 20 7.61E-07 9 30 3.86E-07 9 20 1.4 13 9 28 1.01E-07 7 24 1.31E-08 7 16 1.3 14 14 1.56E-08 5 18 7.58E-09 5 12 1.5 2 4 14 8.8E-07 6 21 1.15E-08 5 12 1.5 3 7 23 1.35E-08 5 18 1.64E-07 5 12 1.5 4 4 4 14 8.69E-07 8 27 4.69E-08 9 20 9.4 4 4 14 8.69E-07 8 27 4.69E-08 9 20 9.4 5 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 6 6 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 9 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 10 3 11 7.09E-08 6 21 7.32E-09 4 10 4.3 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.1 12 6 20 9.81E-07 9 30 4.96E-07 9 20 2.0 13 9 28 1.3E-07 7 24 1.37E-08 7 16 1.3 14 14 1.97E-08 5 18 9.59E-09 5 12 3.3 15 6 6 20 3.9E-07 7 24 4.47E-07 5 12 3.4 16 6 6 6 20 3.9E-07 7 24 4.47E-07 5 12 3.4 17 6 19 3.92E-07 7 24 4.47E-07 5 12 3.4 18 6 20 3.9E-07 7 24 4.47E-07 5 12 3.4 19 6 20 3.9E-07 7 24 4.47E-07 5 12 3.4 10 3 11 7.09E-08 6 21 7.32E-09 5 12 3.4 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.4 12 6 20 9.31E-07 9 30 4.96E-07 9 20 2.6 13 9 28 1.3E-07 7 24 4.47E-07 5 12 3.4 10 3 11 8.97E-08 5 18 2.08E-07 5 12 3.4 11 6 19 3.22E-07 7 24 4.47E-07 5 12 7.5 11 6 10 3 3.9E-07 7 24 4.47E-07 5 12 7.5 11 6 19 4.07E-08 5 18 2.08E-07 5 12 3.4 11 6 19 4.07E-08 5 18 2.08E-07 5 12 3.4 11 6 19 3.22E-07 7 24 4.47E-07 5 12 7.5 11 6 19 4.07E-08 5 18 2.08E-07 5 12 3.5 11 6 19 4.07E-08 5 18 2.08E-07 5 12 3.5 11 6 19 4.07E-07 7 24 4.47E-07 5 12 7.5 11 6 19 4.07E-07 7 24 4.47E-07 5 12 7.5 11 6 19 4.07E-07 7 24 4.47E-07 5 12 7.5 11 6 19 4.07E-07 7 24 4.47E-07 5 12 7.5 11 6 19 4.07E-07 7 24 4.47E-07 5 12 7.5 11 6 19 4.07E-07 7 24 4.47E-07 5 12 7.5 11 6 19 4.07E-07 7 24 4.47E-07 5 12 7.5 11 6 19 4.07E-07 7 24 4.47E-07 5 12 7.5 11 6 19 4.07E-07 7 24 4.47E-07 5 12 7.5 11 6 19 4.07E-07 7 24 5.5E-07 6 14 9.5 11 6 19 4.07E-07 7 24 5.5E-07 6 14 9.5 11 6 19 4.07E-07 7 24 5.5E-07 6 14 4.5 11 6 6 6 6 20 4.36E-07 7 24 5.5E-07 6 14 1.1 11 6 19 4.07E-07 7 24 5.5E-07 6 14 1.1 11 6 19 4.07	30000										2.33E-07	
9 6 20 2.31E-07 7 24 2.82E-07 5 12 2. 10 3 11 5.49E-08 6 21 5.67E-09 4 10 3. 11 6 19 2.49E-07 3 12 4.02E-08 2 6 1. 12 6 20 7.61E-07 9 30 3.86E-07 9 20 1. 13 9 28 1.01E-07 7 24 1.31E-08 7 16 1. 1 4 14 1.56E-08 5 18 7.58E-09 5 12 1. 2 4 14 8.8E-07 6 21 1.15E-08 5 12 1. 3 7 23 1.35E-08 5 18 1.64E-07 5 12 1. 3 7 23 1.35E-08 5 18 1.64E-07 5 12 1. 4 4 4 14 8.69E-07 8 27 4.69E-08 9 20 9. 6 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 6 6 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 8 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 10 3 11 7.09E-08 6 21 7.32E-09 4 10 4. 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1. 12 6 20 9.81E-07 9 30 4.96E-07 9 20 2.0 13 9 28 1.3E-07 7 24 1.37E-08 7 16 1. 1 4 14 1.97E-08 5 18 9.59E-09 5 12 3. 3 7 23 1.71E-08 5 18 9.59E-09 5 12 3. 3 7 23 1.71E-08 5 18 2.08E-07 5 12 3. 3 7 23 1.71E-08 5 18 9.59E-09 5 12 3. 4 6 20 3.9E-07 7 24 4.47E-07 5 12 3. 3 7 23 1.71E-08 5 18 2.08E-07 5 12 3. 3 7 23 1.71E-08 5 18 9.59E-09 5 12 4. 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1. 12 6 20 9.39E-12 8 27 5.22E-08 6 14 9. 2 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 3 7 23 1.71E-08 5 18 2.08E-07 5 12 3. 3 7 23 1.71E-08 5 18 2.08E-07 5 12 3. 4 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 4 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 4 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 4 6 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 4 6 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 4 6 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 4 6 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 4 6 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 4 6 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 4 6 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 4 7 9 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 5 6 6 20 4.9E-07 9 30 6.27E-07 9 20 4. 5 6 6 6 20 4.9E-07 7 24 4.47E-07 5 12 7. 5 7 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 5 8000 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 5 8000 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 5 8000 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 5 8000 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 5 8000 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 5 8000 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 5 8000 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 5 8000 8 6 20 3.9E	30000										2.34E-07	
11 6 19 2.49E-07 3 12 4.02E-08 2 6 1. 12 6 20 7.61E-07 9 30 3.86E-07 9 20 1. 13 9 28 1.01E-07 7 24 1.31E-08 7 16 1. 1 4 14 1.56E-08 5 18 7.58E-09 5 12 1. 2 4 14 8.89E-07 6 21 1.15E-08 5 12 1. 3 7 23 1.35E-08 5 18 1.64E-07 5 12 1. 4 4 14 8.69E-07 8 27 4.69E-08 9 20 9.4 5 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 6 6 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3. 9 6 20 3.08E-07 7 24 3.54E-07 5 12 3. 9 6 20 3.08E-07 7 24 3.54E-07 5 12 3. 9 6 20 3.08E-07 7 24 3.54E-07 5 12 3. 10 3 11 7.09E-08 6 21 7.32E-09 4 10 4.3 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.6 12 6 20 9.81E-07 9 30 4.96E-07 9 20 2. 13 9 28 1.3E-07 7 24 1.37E-08 7 16 1. 1 4 14 1.97E-08 5 18 9.59E-09 5 12 4. 2 6 20 9.33E-12 6 21 1.14E-08 5 12 3. 3 7 23 1.71E-08 5 18 9.59E-09 5 12 4. 4 6 20 9.19E-12 8 27 5.22E-08 6 14 9.3 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 80000 7 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 80000 7 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 10 3 11 6 19 4.07E-07 7 24 4.48E-07 5 12 7. 11 6 19 4.07E-07 7 24 4.48E-07 5 12 7. 12 6 20 9.39E-07 7 24 4.47E-07 5 12 7. 13 9 28 1.65E-07 7 24 4.47E-07 5 12 7. 14 14 14 1.97E-08 5 18 2.08E-07 5 12 7. 15 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 16 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 17 4 4 4 4.07E-07 3 12 6.56E-08 2 6 3. 18 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 19 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 20 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 21 1.14E-08 5 12 7. 22 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 23 1.91E-08 5 18 1.07E-08 5 12 7. 24 2.6 20 3.9E-07 7 24 4.47E-07 5 12 7. 25 6 20 4.36E-07 7 24 4.48E-08 10 22 1. 26 6 20 4.36E-07 7 24 4.48E-08 5 12 6.66E-08 2 6 6 3. 27 6 20 4.36E-07 7 24 4.48E-07 5 12 7. 28 6 20 4.36E-07 7 24 4.48E-08 5 12 4. 29 28 1.09E-07 9 30 6.27E-07 9 20 4. 30 7 23 1.91E-08 5 18 2.33E-07 5 12 4. 4 6 20 1.04E-11 6 21 1.13E-08 5 12 4. 4 6 20 1.04E-11 6 21 1.13E-08 5 12 4. 5 6 20 4.36E-07 7 24 5.9E-07 6 14 1.											2.1E-07	
12 6 20 7.61E-07 9 30 3.86E-07 9 20 1.4 13 9 28 1.01E-07 7 24 1.31E-08 7 16 1.3 1 4 14 1.56E-08 5 18 7.58E-09 5 12 1.3 2 4 14 8.8E-07 6 21 1.15E-08 5 12 1.3 3 7 23 1.35E-08 5 18 1.64E-07 5 12 1.4 4 4 14 8.69E-07 8 27 4.69E-08 9 20 9.4 5 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 6 6 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 6 6 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 8 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 9 6 20 3.08E-07 7 24 3.54E-07 5 12 3.4 10 3 11 7.09E-08 6 21 7.32E-09 4 10 4.8 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.6 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.6 12 6 20 9.81E-07 9 30 4.96E-07 9 20 2.0 13 9 28 1.3E-07 7 24 1.37E-08 7 16 1.3 1 4 14 1.97E-08 5 18 9.59E-09 5 12 3.3 3 7 23 1.71E-08 5 18 9.59E-09 5 12 3.3 8 6 20 3.9E-07 7 24 4.47E-07 5 12 3.4 11 6 20 9.19E-12 8 27 5.22E-08 6 14 9.5 12 6 20 9.9E-07 7 24 4.47E-07 5 12 3.4 13 9 28 1.3E-07 7 24 4.47E-07 5 12 3.4 14 6 20 9.19E-12 8 27 5.22E-08 6 14 9.5 15 6 20 3.9E-07 7 24 4.48E-07 5 12 7.3 16 6 6 20 3.9E-07 7 24 4.48E-07 5 12 7.3 17 4 14 14 1.97E-08 5 18 2.08E-07 5 12 3.4 18 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 19 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 10 3 11 8.97E-08 6 21 9.26E-09 5 12 7.3 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.0 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.0 12 9 28 1.09E-07 7 24 4.48E-07 5 12 7.3 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.0 12 9 28 1.09E-07 7 24 4.48E-07 5 12 7.3 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.0 12 9 28 1.09E-07 7 24 4.38E-07 5 12 7.3 13 9 28 1.65E-07 7 24 4.38E-07 5 12 7.3 14 4 4 2.21E-08 5 18 1.07E-08 5 12 6.3 15 6 20 1.04E-11 6 21 1.13E-08 5 12 6.3 16 6 6 20 1.04E-11 6 21 1.13E-08 5 12 4.3 17 5 6 6 20 1.04E-11 6 21 1.13E-08 5 12 4.3 18 6 20 1.04E-11 6 21 1.13E-08 5 12 4.3 18 6 20 1.04E-11 6 21 1.13E-08 5 12 4.3 18 6 20 1.04E-11 6 21 1.13E-08 5 12 4.3 18 6 20 1.04E-11 6 21 1.13E-08 5 12 4.3 18 6 20 1.04E-11 6 21 1.13E-08 5 12 4.3 18 6 20 1.04E-11 6 21 1.13E-08 5 12 4.3 18 6 20 1.04E-11 6 21 1.13E-08 5 12 4.3 18 6 20 1.04E-11 6 21 1.13E-08 5 12 4.3 18 6 20 1.04E-11 6 21 1.53E-07 6 14 1.4		10	3	11	5.49E-08	6	21	5.67E-09	4	10	3.44E-07	
13 9 28 1.01E-07 7 24 1.31E-08 7 16 1. 1 4 14 1.56E-08 5 18 7.58E-09 5 12 1.5 2 4 14 8.8E-07 6 21 1.15E-08 5 12 1.3 3 7 23 1.35E-08 5 18 1.64E-07 5 12 1.2 4 4 14 8.69E-07 8 27 4.69E-08 9 20 9.2 6 6 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 50000 7 6 20 3.08E-07 7 24 3.54E-07 5 12 3.2 10 3 11 7.09E-08 6 21 7.32E-09 <td></td> <td>11</td> <td>6</td> <td>19</td> <td>2.49E-07</td> <td>3</td> <td>12</td> <td>4.02E-08</td> <td>2</td> <td>6</td> <td>1.16E-07</td>		11	6	19	2.49E-07	3	12	4.02E-08	2	6	1.16E-07	
1 4 14 1.56E-08 5 18 7.58E-09 5 12 1.9 2 4 14 8.8E-07 6 21 1.15E-08 5 12 1.9 3 7 23 1.35E-08 5 18 1.64E-07 5 12 1.9 4 4 14 8.69E-07 8 27 4.69E-08 9 20 9.8 5 6 20 3.08E-07 7 24 3.53E-07 5 12 3.0 6 6 6 20 3.08E-07 7 24 3.53E-07 5 12 3.0 8 6 20 3.08E-07 7 24 3.53E-07 5 12 3.0 9 6 20 3.08E-07 7 24 3.54E-07 5 12 3.0 9 6 20 3.08E-07 7 24 3.9E-07 5 12 3.0 10 3 11 7.09E-08 6 21 7.32E-09 4 10 4.9 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.0 12 6 20 9.81E-07 9 30 4.96E-07 9 20 2.0 13 9 28 1.3E-07 7 24 1.37E-08 7 16 1.0 14 1 1 1.97E-08 5 18 9.59E-09 5 12 4.3 3 7 23 1.71E-08 5 18 2.08E-07 5 12 3.4 8 6 20 3.9E-07 7 24 4.47E-07 5 12 3.4 8 6 20 3.9E-07 7 24 4.47E-07 5 12 3.4 8 6 20 3.9E-07 7 24 4.47E-07 5 12 3.4 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 8 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 8 7 23 1.91E-08 5 18 1.07E-08 5 12 6.0 8 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 8 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 8 8 6 20 3.9E-07 7 24 4.47E-		12	6	20	7.61E-07	9	30	3.86E-07	9	20	1.46E-08	
2		13	9	28	1.01E-07	7	24	1.31E-08	7	16	1.13E-08	
3		1 -	4	14	1.56E-08	5	18	7.58E-09	5	12	1.92E-07	
4 4 14 8.69E-07 8 27 4.69E-08 9 20 9.4 5 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 8 6 20 3.08E-07 7 24 3.54E-07 5 12 3.3 10 3 11 7.09E-08 6 21 7.32E-09 4 10 4.3 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.0 12 6 20 9.81E-07 9 30 4.96E-07 9 20 2.0 13 9 28 1.3E-07 7 24 1.37E-08 7 16 1. 12 6 20 9.33E-12 6 21 1.14E-08 5 12 <td></td> <td>2</td> <td>4</td> <td>14</td> <td>8.8E-07</td> <td>6</td> <td>21</td> <td>1.15E-08</td> <td>5</td> <td>12</td> <td>1.54E-07</td>		2	4	14	8.8E-07	6	21	1.15E-08	5	12	1.54E-07	
5 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 8 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 9 6 20 3.06E-07 7 24 3.54E-07 5 12 3.4 10 3 11 7.09E-08 6 21 7.32E-09 4 10 4.4 11 6 19 3.22E-07 3 12 5.19E-08 2 6 10 4.4 4.4 12 6 20 9.81E-07 9 30 4.96E-07 9 20 2.0 13 9 28 1.3E-07 7 24 1.37E-08 7 16 1. 14 14 1.9.7E-08 5 18 9.59E-07 5<		3	7	23	1.35E-08	5	18	1.64E-07	5	12	1.49E-09	
50000 6 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 9 6 20 3.08E-07 7 24 3.54E-07 5 12 3.1 10 3 11 7.09E-08 6 21 7.32E-09 4 10 4.4 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.6 12 6 20 9.81E-07 9 30 4.96E-07 9 20 2.6 13 9 28 1.3E-07 7 24 1.37E-08 7 16 1. 2 6 20 9.33E-12 6 21 1.14E-08 5 12 3.3 3 7 23 1.71E-08 5 18 2.08E-07 5 </td <td></td> <td>4</td> <td>4</td> <td>14</td> <td>8.69E-07</td> <td>8</td> <td>27</td> <td>4.69E-08</td> <td>9</td> <td>20</td> <td>9.48E-10</td>		4	4	14	8.69E-07	8	27	4.69E-08	9	20	9.48E-10	
50000 7 6 20 3.08E-07 7 24 3.53E-07 5 12 3.3 8 6 20 3.08E-07 7 24 3.54E-07 5 12 3.3 9 6 20 3.06E-07 7 24 3.9E-07 5 12 3.4 10 3 11 7.09E-08 6 21 7.32E-09 4 10 4.8 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.0 12 6 20 9.81E-07 9 30 4.96E-07 9 20 2.0 13 9 28 1.3E-07 7 24 1.37E-08 7 16 1. 2 6 20 9.33E-12 6 21 1.14E-08 5 12 3.3 3 7 23 1.71E-08 5 18 2.08E-07 5 12		5	6	20	3.08E-07	7	24	3.53E-07	5	12	3.29E-07	
8 6 20 3.08E-07 7 24 3.54E-07 5 12 3. 9 6 20 3.06E-07 7 24 3.9E-07 5 12 3. 10 3 11 7.09E-08 6 21 7.32E-09 4 10 4.8 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.0 12 6 20 9.81E-07 9 30 4.96E-07 9 20 2.0 13 9 28 1.3E-07 7 24 1.37E-08 7 16 1. 1 4 14 1.97E-08 5 18 9.59E-09 5 12 4.3 2 6 20 9.33E-12 6 21 1.14E-08 5 12 3.3 3 7 23 1.71E-08 5 18 2.08E-07 5 12 3.3 4 6 20 9.19E-12 8 27 5.22E-08 6 14 9.3 5 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 6 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 6 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 80000 7 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 11 8.97E-08 6 21 9.26E-09 5 12 5.3 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.4 12 9 28 1.09E-07 9 30 6.27E-07 9 20 4.4 13 9 28 1.65E-07 7 24 1.43E-08 10 22 1.3 14 4 14 2.21E-08 5 18 1.07E-08 5 12 6.56E-08 2 6 3.4 12 9 28 1.09E-07 9 30 6.27E-07 9 20 4.4 13 9 28 1.65E-07 7 24 1.43E-08 10 22 1.3 14 4 14 2.21E-08 5 18 1.07E-08 5 12 6.5 15 6 20 1.04E-11 6 21 1.13E-08 5 12 6.5 16 6 20 1.03E-11 8 27 5.35E-08 6 14 9.5 17 6 6 6 20 4.36E-07 7 24 5E-07 6 14 1.4			6					3.53E-07			3.29E-07	
9 6 20 3.06E-07 7 24 3.9E-07 5 12 3.0 10 3 11 7.09E-08 6 21 7.32E-09 4 10 4.8 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.0 12 6 20 9.81E-07 9 30 4.96E-07 9 20 2.0 13 9 28 1.3E-07 7 24 1.37E-08 7 16 1.0 14 14 14 1.97E-08 5 18 9.59E-09 5 12 4.3 2 6 20 9.33E-12 6 21 1.14E-08 5 12 3.4 3 7 23 1.71E-08 5 18 2.08E-07 5 12 3.3 4 6 20 9.19E-12 8 27 5.22E-08 6 14 9.3 5 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 80000 7 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 80000 7 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.0 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.0 12 9 28 1.09E-07 9 30 6.27E-07 9 20 4.4 13 9 28 1.65E-07 7 24 1.43E-08 10 22 1.3 14 14 2.21E-08 5 18 1.07E-08 5 12 6.0 13 7 23 1.91E-08 5 18 1.07E-08 5 12 6.0 14 2.21E-08 5 18 1.07E-08 5 12 4.4 14 2.21E-08 5 18 1.07E-08 5 12 6.0 13 7 23 1.91E-08 5 18 2.33E-07 5 12 6.0 14 6 20 1.03E-11 8 27 5.35E-08 6 14 9.2 15 6 20 4.36E-07 7 24 5.50F-07 6 14 1.4 16 6 6 20 4.36E-07 7 24 5.50F-07 6 14 1.4	50000										3.29E-07	
10 3 11 7.09E-08 6 21 7.32E-09 4 10 4.8 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.6 12 6 20 9.81E-07 9 30 4.96E-07 9 20 2.6 13 9 28 1.3E-07 7 24 1.37E-08 7 16 1. 1 4 14 1.97E-08 5 18 9.59E-09 5 12 4.3 2 6 20 9.33E-12 6 21 1.14E-08 5 12 3.3 3 7 23 1.71E-08 5 18 2.08E-07 5 12 3.3 4 6 20 9.19E-12 8 27 5.22E-08 6 14 9.3 6 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 80000 7 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 10 3 11 8.97E-08 6 21 9.26E-09 5 12 5.4 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.0 12 9 28 1.09E-07 9 30 6.27E-07 9 20 4.4 13 9 28 1.65E-07 7 24 1.43E-08 10 22 1.3 11 4 14 2.21E-08 5 18 1.07E-08 5 12 6.0 2 6 20 1.04E-11 6 21 1.13E-08 5 12 4.3 3 7 23 1.91E-08 5 18 2.33E-07 5 12 4.3 4 6 20 1.03E-11 8 27 5.35E-08 6 14 9.2 5 6 20 4.36E-07 7 24 5.50F-07 6 14 1.4											3.3E-07	
11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.0 12 6 20 9.81E-07 9 30 4.96E-07 9 20 2.0 13 9 28 1.3E-07 7 24 1.37E-08 7 16 1.0 1 4 14 1.97E-08 5 18 9.59E-09 5 12 4.0 2 6 20 9.33E-12 6 21 1.14E-08 5 12 3.0 3 7 23 1.71E-08 5 18 2.08E-07 5 12 3.0 4 6 20 9.19E-12 8 27 5.22E-08 6 14 9.0 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7.0 6 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7.0 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7.0 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7.0 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7.0 9 6 20 3.9E-07 7 24 4.47E-07 5 12 7.0 9 6 20 3.9E-07 7 24 4.47E-07 5 12 7.0 10 3 11 8.97E-08 6 21 9.26E-09 5 12 5.0 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.0 12 9 28 1.09E-07 9 30 6.27E-07 9 20 4.0 13 9 28 1.65E-07 7 24 1.43E-08 10 22 1.0 14 14 2.21E-08 5 18 1.07E-08 5 12 6.0 2 6 20 1.04E-11 6 21 1.13E-08 5 12 4.0 3 7 23 1.91E-08 5 18 2.33E-07 5 12 4.0 4 6 20 1.03E-11 8 27 5.35E-08 6 14 9.0 5 6 20 4.36E-07 7 24 5E-07 6 14 1.0											3.03E-07	
12 6 20 9.81E-07 9 30 4.96E-07 9 20 2.0 13 9 28 1.3E-07 7 24 1.37E-08 7 16 1. 1 4 14 1.97E-08 5 18 9.59E-09 5 12 4. 2 6 20 9.33E-12 6 21 1.14E-08 5 12 3. 3 7 23 1.71E-08 5 18 2.08E-07 5 12 3. 4 6 20 9.9E-07 7 24 4.47E-07 5 12 7. 5 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7. 9 6 20 3.9E-07 7 24 4.47E-07 5 12 7.											4.86E-07	
13 9 28 1.3E-07 7 24 1.3TE-08 7 16 1. 1 4 14 1.9TE-08 5 18 9.59E-09 5 12 4.3 2 6 20 9.33E-12 6 21 1.14E-08 5 12 3.4 3 7 23 1.71E-08 5 18 2.08E-07 5 12 3.3 4 6 20 9.19E-12 8 27 5.22E-08 6 14 9.3 5 6 20 3.9E-07 7 24 4.4TE-07 5 12 7.3 80000 7 6 20 3.9E-07 7 24 4.4TE-07 5 12 7.3 8 6 20 3.9E-07 7 24 4.4TE-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.4TE-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.4TE-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.4TE-07 5 12 7.3 10 3 11 8.9TE-08 6 21 9.26E-09 5 12 5.3 11 6 19 4.0TE-07 3 12 6.56E-08 2 6 3.4 12 9 28 1.09E-07 9 30 6.2TE-07 9 20 4.4 13 9 28 1.65E-07 7 24 1.43E-08 10 22 1.3 1 4 14 2.21E-08 5 18 1.0TE-08 5 12 6.4 2 6 20 1.04E-11 6 21 1.13E-08 5 12 4.4 3 7 23 1.91E-08 5 18 2.33E-07 5 12 4.4 4 6 20 1.03E-11 8 27 5.35E-08 6 14 9.2 5 6 20 4.36E-07 7 24 5E-07 6 14 1.4											1.63E-07	
1 4 14 1.97E-08 5 18 9.59E-09 5 12 4.3 2 6 20 9.33E-12 6 21 1.14E-08 5 12 3.4 3 7 23 1.71E-08 5 18 2.08E-07 5 12 3.3 4 6 20 9.19E-12 8 27 5.22E-08 6 14 9.3 5 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.48E-07 5 12 7.3 10 3 11 8.97E-08 6 21 9.26E-09 5 12 5.3 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.6 12 9 28 1.09E-07 9 30 6.27E-07 9 20 4.4 13 9 28 1.65E-07 7 24 1.43E-08 10 22 1.3 1 4 14 2.21E-08 5 18 1.07E-08 5 12 6.0 2 6 20 1.04E-11 6 21 1.13E-08 5 12 4.3 3 7 23 1.91E-08 5 18 2.33E-07 5 12 4.3 4 6 20 1.03E-11 8 27 5.35E-08 6 14 9.3 5 6 20 4.36E-07 7 24 5E-07 6 14 1.4											2.03E-08	
2 6 20 9.33E-12 6 21 1.14E-08 5 12 3.4 3 7 23 1.71E-08 5 18 2.08E-07 5 12 3.3 4 6 20 9.19E-12 8 27 5.22E-08 6 14 9.3 5 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 9 6 20 3.96E-07 7 24 4.38E-07 5 12 7.3 10 3 11 8.97E-08 6 21 9.26E-09 5 12 5. </td <td></td> <td>1.2E-08</td>											1.2E-08	
3 7 23 1.71E-08 5 18 2.08E-07 5 12 3.3 4 6 20 9.19E-12 8 27 5.22E-08 6 14 9.3 5 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 10 3 11 8.97E-08 6 21 9.26E-09 5 12 5.3 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.4 </td <td></td> <td>4.29E-07</td>											4.29E-07	
4 6 20 9.19E-12 8 27 5.22E-08 6 14 9.3 5 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 80000 7 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 10 3 11 8.97E-08 6 21 9.26E-09 5 12 7.4 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.4 12 9 28 1.65E-07 7 24 1.43E-08 10 22 1.3 13 9 28 1.65E-07 7 24 1.43E-08 <td></td> <td>3.42E-07</td>											3.42E-07	
80000 5 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 80000 7 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 10 3 11 8.97E-08 6 21 9.26E-09 5 12 7.4 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.0 12 9 28 1.65E-07 7 24 1.43E-08 10 22 1.3 13 9 28 1.65E-07 7 24 1.43E-08 10 22 1.3 2 6 20 1.04E-11 6 21 1.13E-08 5 </td <td></td> <td>3.33E-09</td>											3.33E-09	
80000 6 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 80000 7 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 10 3 11 8.97E-08 6 21 9.26E-09 5 12 5.4 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.4 12 9 28 1.09E-07 9 30 6.27E-07 9 20 4.4 13 9 28 1.65E-07 7 24 1.43E-08 10 22 1.3 1 4 14 2.21E-08 5 18 1.07E-08 5 12 6.0 2 6 20 1.04E-11 6 21 1.13E-08 5 </td <td></td> <td>9.37E-08 7.37E-07</td>											9.37E-08 7.37E-07	
80000 7 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 8 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 9 6 20 3.9E-07 7 24 4.38E-07 5 12 7.3 10 3 11 8.9FE-08 6 21 9.26E-09 5 12 5.4 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.0 12 9 28 1.09E-07 9 30 6.27E-07 9 20 4.4 13 9 28 1.65E-07 7 24 1.43E-08 10 22 1.3 1 4 14 2.21E-08 5 18 1.07E-08 5 12 6.0 2 6 20 1.04E-11 6 21 1.13E-08 5 12											7.37E-07 7.37E-07	
8 6 20 3.9E-07 7 24 4.47E-07 5 12 7.3 9 6 20 3.96E-07 7 24 4.38E-07 5 12 7.4 10 3 11 8.97E-08 6 21 9.26E-09 5 12 5.3 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.4 12 9 28 1.09E-07 9 30 6.27E-07 9 20 4.4 13 9 28 1.65E-07 7 24 1.43E-08 10 22 1.3 1 4 14 2.21E-08 5 18 1.07E-08 5 12 6.0 2 6 20 1.04E-11 6 21 1.13E-08 5 12 4.3 3 7 23 1.91E-08 5 18 2.33E-07 5 12 4.3 4 6 20 1.03E-11 8 27 5.35E-08 6 <td>90000</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>7.37E-07 7.37E-07</td>	90000										7.37E-07 7.37E-07	
9 6 20 3.96E-07 7 24 4.38E-07 5 12 7.4 10 3 11 8.97E-08 6 21 9.26E-09 5 12 5.3 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.4 12 9 28 1.09E-07 9 30 6.27E-07 9 20 4.4 13 9 28 1.65E-07 7 24 1.43E-08 10 22 1.3 1 4 14 2.21E-08 5 18 1.07E-08 5 12 6.0 2 6 20 1.04E-11 6 21 1.13E-08 5 12 4.3 3 7 23 1.91E-08 5 18 2.33E-07 5 12 4.3 4 6 20 1.03E-11 8 27 5.35E-08 6 14 9.3 5 6 20 4.36E-07 7 24 5E-07 6 14 1.4	80000										7.37E-07	
10 3 11 8.97E-08 6 21 9.26E-09 5 12 5.4 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.4 12 9 28 1.09E-07 9 30 6.27E-07 9 20 4.4 13 9 28 1.65E-07 7 24 1.43E-08 10 22 1.3 1 4 14 2.21E-08 5 18 1.07E-08 5 12 6.0 2 6 20 1.04E-11 6 21 1.13E-08 5 12 4.4 3 7 23 1.91E-08 5 18 2.33E-07 5 12 4.5 4 6 20 1.03E-11 8 27 5.35E-08 6 14 9.2 5 6 20 4.36E-07 7 24 5E-07 6 14 1.4 6 6 6 20 4.36E-07 7 24 5E-07 6 14 1.4											7.41E-07	
11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.0 12 9 28 1.09E-07 9 30 6.27E-07 9 20 4.4 13 9 28 1.65E-07 7 24 1.43E-08 10 22 1.3 1 4 14 2.21E-08 5 18 1.07E-08 5 12 6.0 2 6 20 1.04E-11 6 21 1.13E-08 5 12 4.3 3 7 23 1.91E-08 5 18 2.33E-07 5 12 4.3 4 6 20 1.03E-11 8 27 5.35E-08 6 14 9.2 5 6 20 4.36E-07 7 24 5E-07 6 14 1.4 6 6 20 4.36E-07 7 24 5E-07 6 14 1.4											5.82E-10	
12 9 28 1.09E-07 9 30 6.27E-07 9 20 4.4 13 9 28 1.65E-07 7 24 1.43E-08 10 22 1.3 1 4 14 2.21E-08 5 18 1.07E-08 5 12 6.0 2 6 20 1.04E-11 6 21 1.13E-08 5 12 4.3 3 7 23 1.91E-08 5 18 2.33E-07 5 12 4.3 4 6 20 1.03E-11 8 27 5.35E-08 6 14 9.2 5 6 20 4.36E-07 7 24 5E-07 6 14 1.4 6 6 20 4.36E-07 7 24 5E-07 6 14 1.4											3.65E-07	
1 4 14 2.21E-08 5 18 1.07E-08 5 12 6.0 2 6 20 1.04E-11 6 21 1.13E-08 5 12 4.3 3 7 23 1.91E-08 5 18 2.33E-07 5 12 4.3 4 6 20 1.03E-11 8 27 5.35E-08 6 14 9.3 5 6 20 4.36E-07 7 24 5E-07 6 14 1.6 6 6 20 4.36E-07 7 24 5E-07 6 14 1.6				28			30	6.27E-07	9		4.47E-08	
2 6 20 1.04E-11 6 21 1.13E-08 5 12 4.8 3 7 23 1.91E-08 5 18 2.33E-07 5 12 4.8 4 6 20 1.03E-11 8 27 5.35E-08 6 14 9.2 5 6 20 4.36E-07 7 24 5E-07 6 14 1.4 6 6 20 4.36E-07 7 24 5E-07 6 14 1.4		13	9	28	1.65E-07	7	24	1.43E-08	10	22	1.38E-08	
2 6 20 1.04E-11 6 21 1.13E-08 5 12 4.8 3 7 23 1.91E-08 5 18 2.33E-07 5 12 4.8 4 6 20 1.03E-11 8 27 5.35E-08 6 14 9.2 5 6 20 4.36E-07 7 24 5E-07 6 14 1.4 6 6 20 4.36E-07 7 24 5E-07 6 14 1.4		1 .	4	14	2.21E-08	5	18	1.07E-08	5	12	6.06E-07	
3 7 23 1.91E-08 5 18 2.33E-07 5 12 4.3 4 6 20 1.03E-11 8 27 5.35E-08 6 14 9.3 5 6 20 4.36E-07 7 24 5E-07 6 14 1.4 6 6 20 4.36E-07 7 24 5E-07 6 14 1.4											4.84E-07	
4 6 20 1.03E-11 8 27 5.35E-08 6 14 9.3 5 6 20 4.36E-07 7 24 5E-07 6 14 1.6 6 6 20 4.36E-07 7 24 5E-07 6 14 1.6											4.71E-09	
5 6 20 4.36E-07 7 24 5E-07 6 14 1.4 6 6 20 4.36E-07 7 24 5E-07 6 14 1.4											9.23E-08	
6 6 20 4.36E-07 7 24 5E-07 6 14 1.4											1.42E-09	
100000 7 6 20 4.36E-07 7 24 5E-07 6 14 1.4		6	6	20	4.36E-07	7	24	5E-07	6	14	1.42E-09	
	100000	7	6	20	4.36E-07	7	24	5E-07	6	14	1.42E-09	
8 6 20 4.36E-07 7 24 5E-07 6 14 1.4					4.36E-07			5E-07	6	14	1.42E-09	
											1.46E-09	
											8.23E-10	
											5.17E-07	
											6.32E-08	
13 9 28 1.84E-07 7 24 1.46E-08 10 22 1.8		13	9	28	1.84E-07	7	24	1.46E-08	10	22	1.85E-08	

Table 7: Numerical results of NISPM, DAIS1 and MSGP methods for Problem 7

Problem 7 NISPM DAIS1 MSGP

MSGP

Problem 7			NISP	M		DAIS	61	MSGP			
DIM	IP	#iter	#fval	Norm	#iter	#fval	Norm	#iter	#fval	Norm	
	1	1	4	0	4	15	3.24E-08	3	8	3.76E-07	
	2	1	4	2.22E-16	4	15	1.95E-08	6	14	3.99E-08	
	3	1	4	0	1	4	0	1	3	0	
	4	2	7	0	6	21	1.63E-08	8	18	6.59E-09	
	5	6	19	0	11	36	1.34E-08	8	18	7.87E-09	
	6	6	19	0	11	36	1.34E-08	8	18	7.87E-09	
10000	7	6	19	0	11	36	1.34E-08	8	18	7.87E-09	
	8	6	19	0	11	36	1.42E-08	8	18	8.52E-09	
	9	6	19	0	11	36	5.79E-09	8	18	1.73E-09	
	10	1	4	0	1	4	0	1	3	0	
	11	1	4	0	1	4	0	1	3	0	
	12 13	20 2	61 7	0	18 47	57 144	1.38E-07 2.64E-08	13 44	28 90	2.92E-08 3.65E-09	
	1	1	4	0	4	15	5.61E-08	3	8	8.41E-07	
	2	1	4	2.22E-16	4	15	1.95E-08	6	14	3.99E-08	
	3	1	4	0	1	4	0	1	3	0	
	4	2	7	0	6	21	1.63E-08	8	18	6.56E-09	
	5	6	19	0	11	36	7.22E-08	8	18	1.41E-07	
20000	6 7	6 6	19 19	0	11 11	36 36	7.22E-08 7.22E-08	8 8	18 18	1.41E-07 1.41E-07	
30000	8	6	19	0	11	36	7.22E-08 7.32E-08	8	18	1.41E-07	
	9	6	19	0	11	36	2.14E-07	8	18	1.43E-07	
	10	1	4	0	1	4	0	1	3	0	
	11	1	4	0	1	4	0	1	3	0	
	12	24	73	0	18	57	2.61E-07	13	28	1.38E-07	
	13	2	7	0	-	-	-	-	-	-	
	1	1	4	0	4	15	7.25E-08	4	10	2.4E-10	
	2	1	4	2.22E-16	4	15	1.95E-08	6	14	3.99E-08	
	3	1	4	0	1	4	0	1	3	0 0	
	4	2	7	0	6	21	1.63E-08	8	18	6.55E-09	
	5	6	19	0	11	36	2.1E-07	8	18	2.52E-07	
	6	6	19	0	11	36	2.1E-07	8	18	2.52E-07	
50000	7	6	19	0	11	36	2.1E-07	8	18	2.52E-07	
50000	8	6	19	0	11	36	2.12E-07	8	18	2.54E-07	
	9	7	22	0	12	39	3.99E-09	8	18	1.54E-07	
	10	1	4	0	1	4	0	1	3	0	
	11	1	4	0	1	4	0	1	3	0	
	12	22	67	0	18	57	3.39E-07	13	28	1.99E-07	
	13	2	7	0	-	-	-	-	-	-	
	1	1	4	0	4	15	9.17E-08	4	10	5.37E-10	
	2	1	4	2.22E-16	4	15	1.95E-08	6	14	3.99E-08	
	3	1	4	0	1	4	0	1	3	0	
	4	2	7	0	6	21	1.63E-08	8	18	6.55E-09	
	5	6	19	0	11	36	4.13E-07	8	18	6.11E-07	
	6	6	19	0	11	36	4.13E-07	8	18	6.11E-07	
80000	7	6	19	0	11	36	4.13E-07	8	18	6.11E-07	
	8	6	19	0	11	36	4.15E-07	8	18	6.11E-07	
	9	6	19	0	11	36	3.78E-07	8	18	3.7E-07	
	10	1	4	0	1	4	0	1	3	0	
	11	1	4	0	1	4	0	1	3	0	
	12	34	103	0	18	57	4.29E-07	13	28	4.47E-07	
	13	2	7	0	-	-	-	-	-	-	
	1	1	4	0	4	15	1.03E-07	4	10	7.6E-10	
	2	1	4	2.22E-16	4	15	1.95E-08	6	14	3.99E-08	
	3	1	4	0	1	4	0	1	3	0	
	4	2	7	0	6	21	1.63E-08	8	18	6.55E-09	
	5	6	19	0	11	36	5.11E-07	8	18	8.65E-07	
	6	6	19	0	11	36	5.11E-07	8	18	8.65E-07	
100000	7	6	19	0	11	36	5.11E-07	8	18	8.65E-07	
	8	6	19	0	11	36	5.14E-07	8	18	8.66E-07	
	9	7	22	0	11	36	3.55E-07	8	18	9.64E-07	
	10	1	4	0	1	4	0	1	3	0	
	10			^	-	4		-	^	^	
	11	1	4	0	1	4	0	1	3	0	
			4 100 7	0 0 0	1 18	4 57 -	0 4.79E-07 -	1 13	3 28 -	0 6.32E-07	

Table 8: Numerical results of NISPM, DAIS1 and MSGP methods for Problem 8

Problem 8 NISPM DAIS1 MSGP

Problem 8

DIM	Problem 8			NISPM			DAIS	61	MSGP			
1	DIM	IP	#iter	#fval	Norm	#iter	#fval	Norm	#iter	#fval	Norm	
1		1	7	23	1.97E-10	5	18	5.56E-09	3	8	3.19E-09	
1		2	15	47	7.28E-07	33	102	8.1E-07	25	52	3.21E-07	
10000		3	9	28	1.05E-07	8	27	1.1E-07	5	12	1.27E-09	
10000		4	14	43	4.52E-07	26	81		25	52	8.93E-07	
10000												
8 14 43 1.5E-07 28 87 7.7ZE-07 20 42 5.5ZE-07 10 6 20 6.0ZE-07 5 18 9.19E-09 4 10 1.66E-07 11 6 19 1.44E-07 35 18 9.19E-09 4 10 1.66E-07 11 6 19 1.44E-07 35 108 6.26E-07 26 54 1.31E-07 13 15 46 2.79E-07 28 87 5.37E-07 21 44 8.93E-07 13 15 46 2.79E-07 28 87 5.37E-07 21 44 8.93E-07 13 15 46 2.79E-07 28 87 5.37E-07 21 44 8.93E-07 21 44 4 7.24E-07 33 102 5.24E-07 2 3 48 6.5E-07 24 4 7.24E-07 33 102 5.24E-07 2 3 48 6.5E-07 24 15 46 6.12E-07 26 81 5.18E-07 24 50 6.5E-07 24 6.5E-07 24 50 6.5E-07 26 81 5.18E-07 20 42 7.76E-07 26 81 5.18E-07 22 46 7.76E-07 27 28 28 28 28 28 28 28 28 28 28 28 28 28												
10	10000											
10												
11												
12												
13												
1												
2												
3												
1												
5												
6												
30000												
8 12 38 6.77E-07 26 81 5.18E-07 20 42 7.68E-07 9 11 34 4.6E-07 27 84 9.32E-07 24 50 3.75E-07 10 9 228 7.87E-08 6 21 1.5E-07 4 10 3.71E-07 11 6 19 2.49E-07 3 12 4.02E-08 2 6 1.16E-07 12 12 37 5.87E-07 35 108 5.53E-07 25 52 6.37E-07 1 7 23 4.41E-10 5 18 1.24E-08 3 8 1.01E-08 2 13 41 4.89E-07 26 81 5.82E-07 23 48 7.29E-07 4 16 49 5.15E-07 26 81 5.82E-07 23 48 7.29E-07 5 12 37 1.68E-07 26 81 5.82E-07	30000											
10		8	12	38	6.77E-07	26	81	5.18E-07	20	42		
11		9	11	34	4.6E-07	27	84	9.32E-07	24	50	3.75E-07	
12		10	9	28	7.87E-08	6	21	1.5E-07	4	10	3.71E-07	
13 12 37 4.1E-07 28 87 9.44E-07 22 46 6.47E-07 1 7 23 4.41E-10 5 18 1.24E-08 3 8 1.01E-08 2 13 41 4.89E-07 32 99 9.82E-07 26 54 3.71E-07 3 9 28 2.34E-07 8 27 2.45E-07 5 12 4.02E-09 4 16 49 5.15E-07 25 78 9.98E-07 24 50 6.6E-07 5 12 37 1.68E-07 26 81 5.82E-07 23 48 7.29E-07 6 12 38 4.88E-07 26 81 5.82E-07 23 48 7.29E-07 7 12 37 1.68E-07 26 81 5.82E-07 23 48 7.29E-07 8 12 38 4.88E-07 26 81 5.82E-07 23 48 7.29E-07 9 11 34 6.23E-07 28 87 6.01E-07 24 50 4.87E-07 10 9 28 1.02E-07 6 21 1.93E-07 4 10 5.25E-07 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.63E-07 12 13 41 4.46E-07 32 99 6.34E-07 25 52 3.23E-07 13 13 41 7.36E-07 29 90 6.02E-07 22 46 5.49E-07 1 7 23 5.58E-10 5 18 1.57E-08 3 8 2.26E-07 3 9 28 2.96E-07 8 27 3.1E-07 5 12 8.99E-09 4 15 47 6.42E-07 26 81 7.31E-07 25 52 4.8E-07 8 12 38 6.78E-07 29 90 6.37E-07 22 46 8.1E-07 8 12 38 6.78E-07 29 90 6.37E-07 22 46 8.1E-07 8 12 38 6.78E-07 29 90 6.37E-07 22 46 8.1E-07 8 12 38 6.82E-07 26 81 7.31E-07 20 42 2.97E-07 8 12 38 6.82E-07 29 90 6.37E-07 22 46 8.1E-07 10 9 28 1.29E-07 6 21 2.44E-07 5 12 6.28E-10 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.65E-07 12 14 43 2.1E-07 31 96 8.78E-07 24 50 7.96E-07 10 9 28 3.31E-07 29 90 7.61E-07 23 48 5.46E-07 10 9 28 3.31E-07 29 90 7.61E-07 25 52 5.75E-07 10 9 28 3.31E-07 27 84 8.32E-07 21 44 3.93E-07 10 9 28 3.48E-07 27 84 8.32E-07 21 44 3.93E-07 10 9 28 3.48E-07 27 84 8.32E-07 21 44 3.93E-07 10											1.16E-07	
1												
1		13	12	37	4.1E-07	28	87	9.44E-07	22	46	6.47E-07	
3		1	7	23	4.41E-10	5	18	1.24E-08	3	8	1.01E-08	
1												
5												
50000 6 12 38 4.88E-07 26 81 5.72E-07 21 44 5.65E-07 50000 7 12 37 1.68E-07 26 81 5.82E-07 23 48 7.29E-07 8 12 38 4.88E-07 26 81 5.72E-07 21 44 5.5E-07 9 11 34 6.23E-07 28 87 6.01E-07 24 50 4.87E-07 10 9 28 1.02E-07 6 21 1.93E-07 4 10 5.25E-07 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.63E-07 12 13 41 4.46E-07 32 99 6.34E-07 25 52 3.23E-07 13 13 41 7.36E-07 29 90 6.02E-07 22 46 5.49E-07 1 7 23 5.58E-10 5												
The state of the												
8 12 38 4.88E-07 26 81 5.72E-07 21 44 5.5E-07 9 11 34 6.23E-07 28 87 6.01E-07 24 50 4.87E-07 10 9 28 1.02E-07 6 21 1.93E-07 4 10 5.25E-07 11 6 19 3.22E-07 3 12 5.19E-08 2 6 1.63E-07 12 13 41 4.46E-07 32 99 6.34E-07 25 52 3.23E-07 13 13 41 7.36E-07 29 90 6.02E-07 22 46 5.49E-07 2 15 46 3.38E-07 30 93 6.08E-07 25 52 4.8E-07 3 9 28 2.96E-07 8 27 3.1E-07 5 12 8.99E-09 4 15 47 6.42E-07 26 81 5.2E-07												
9	50000											
10 9												
11												
12 13												
13 13 41 7.36E-07 29 90 6.02E-07 22 46 5.49E-07 1 7 23 5.58E-10 5 18 1.57E-08 3 8 2.26E-08 2 15 46 3.38E-07 30 93 6.08E-07 25 52 4.8E-07 3 9 28 2.96E-07 8 27 3.1E-07 5 12 8.99E-09 4 15 47 6.42E-07 26 81 5.2E-07 25 52 6.87E-07 5 11 35 9.66E-07 29 90 6.37E-07 22 46 8.1E-07 6 12 38 6.78E-07 26 81 7.31E-07 20 42 2.97E-07 8 12 38 6.82E-07 26 81 7.31E-07 20 42 2.97E-07 9 11 34 6.86E-07 29 90 6.37E-07 22 46 8.1E-07 9 11 34 6.86E-07 28 87 7.61E-07 25 52 7.55E-07 10 9 28 1.29E-07 6 21 2.44E-07 5 12 6.28E-10 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.65E-07 12 14 43 2.1E-07 31 96 8.78E-07 24 50 7.96E-07 13 15 46 3.77E-07 29 90 7.61E-07 23 48 5.46E-07 1 7 23 6.23E-10 5 18 1.76E-08 3 8 3.19E-08 2 15 46 5.8E-07 29 90 7.24E-07 25 52 5.47E-07 3 9 28 3.31E-07 8 27 3.47E-07 5 12 1.27E-08 4 15 47 9.66E-07 26 81 5.43E-07 26 54 7.81E-07 5 12 37 6.45E-07 27 84 8.32E-07 21 44 3.93E-07 6 11 35 5.28E-07 27 84 8.32E-07 21 44 3.93E-07 8 11 35 5.28E-07 27 84 8.32E-07 21 44 3.93E-07 9 11 34 7.63E-07 27 84 8.32E-07 21 44 3.93E-07 100000 7 12 37 6.45E-07 27 84 8.32E-07 21 44 3.93E-07 9 11 34 7.63E-07 27 84 8.32E-07 21 44 3.93E-07 10 9 28 1.44E-07 6 21 2.73E-07 5 12 8.89E-10 10 9 28 1.44E-07 6 21 2.73E-07 5 12 8.89E-10 10 9 28 1.44E-07 6 21 2.73E-07 5 12 8.89E-10 11 6 19 4.55E-07 3 12 7.34E-08 2 6 5.17E-07 12 12 38 4.11E-07 30 93 9.78E-07 28 58 5.21E-07 12 12 38 4.11E-07 30 93 9.78E-07 28 58 5.21E-07												
2							90			46		
2		1	7	23	5.58E-10	5	18	1.57E-08	3	8	2 26E-08	
3 9 28 2.96E-07 8 27 3.1E-07 5 12 8.99E-09												
5 11 35 9.66E-07 29 90 6.37E-07 22 46 8.1E-07 80000 7 11 35 9.66E-07 29 90 6.37E-07 22 46 8.1E-07 8 12 38 6.82E-07 26 81 7.31E-07 20 42 2.97E-07 9 11 34 6.86E-07 28 87 7.61E-07 25 52 7.55E-07 10 9 28 1.29E-07 6 21 2.44E-07 5 12 6.28E-10 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.65E-07 12 14 43 2.1E-07 31 96 8.78E-07 24 50 7.96E-07 13 15 46 3.77E-07 29 90 7.61E-07 23 48 5.46E-07 2 15 46 5.8E-07 29 90												
80000 6 12 38 6.78E-07 26 81 7.31E-07 20 42 2.97E-07 80000 7 11 35 9.66E-07 29 90 6.37E-07 22 46 8.1E-07 9 11 34 6.86E-07 28 87 7.61E-07 25 52 7.55E-07 10 9 28 1.29E-07 6 21 2.44E-07 5 12 6.28E-10 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.65E-07 12 14 43 2.1E-07 31 96 8.78E-07 24 50 7.96E-07 13 15 46 3.87E-07 29 90 7.61E-07 23 48 5.46E-07 2 15 46 5.8E-07 29 90 7.24E-07 25 52 5.47E-07 3 9 28 3.31E-07 8		4	15	47	6.42E-07	26	81	5.2E-07	25	52	6.87E-07	
80000 7 11 35 9.66E-07 29 90 6.37E-07 22 46 8.1E-07 8 12 38 6.82E-07 26 81 7.31E-07 20 42 3.02E-07 9 11 34 6.86E-07 28 87 7.61E-07 25 52 7.55E-07 10 9 28 1.29E-07 6 21 2.44E-07 5 12 6.28E-10 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.65E-07 12 14 43 2.1E-07 31 96 8.78E-07 24 50 7.96E-07 13 15 46 3.77E-07 29 90 7.61E-07 23 48 5.46E-07 2 15 46 5.8E-07 29 90 7.24E-07 25 52 5.47E-07 3 9 28 3.31E-07 8 27		5	11	35	9.66E-07	29	90	6.37E-07	22	46	8.1E-07	
8 12 38 6.82E-07 26 81 7.31E-07 20 42 3.02E-07 9 11 34 6.86E-07 28 87 7.61E-07 25 52 7.55E-07 10 9 28 1.29E-07 6 21 2.44E-07 5 12 6.28E-10 11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.65E-07 12 14 43 2.1E-07 31 96 8.78E-07 24 50 7.96E-07 13 15 46 3.77E-07 29 90 7.61E-07 23 48 5.46E-07 2 15 46 5.8E-07 29 90 7.24E-07 25 52 5.47E-07 3 9 28 3.31E-07 8 27 3.47E-07 25 52 5.47E-07 4 15 47 9.66E-07 26 81 5.43E-07					6.78E-07			7.31E-07		42	2.97E-07	
9	80000											
10												
11 6 19 4.07E-07 3 12 6.56E-08 2 6 3.65E-07 12 14 43 2.1E-07 31 96 8.78E-07 24 50 7.96E-07 13 15 46 3.77E-07 29 90 7.61E-07 23 48 5.46E-07 2 15 46 5.8E-07 29 90 7.24E-07 25 52 5.47E-07 3 9 28 3.31E-07 8 27 3.47E-07 5 12 1.27E-08 4 15 47 9.66E-07 26 81 5.43E-07 26 54 7.81E-07 5 12 37 6.45E-07 27 84 8.32E-07 21 44 3.93E-07 100000 7 12 37 6.45E-07 27 84 8.32E-07 21 44 3.93E-07 100000 7 12 37 6.45E-07 27												
12												
13 15 46 3.77E-07 29 90 7.61E-07 23 48 5.46E-07 1 7 23 6.23E-10 5 18 1.76E-08 3 8 3.19E-08 2 15 46 5.8E-07 29 90 7.24E-07 25 52 5.47E-07 3 9 28 3.31E-07 8 27 3.47E-07 5 12 1.27E-08 4 15 47 9.66E-07 26 81 5.43E-07 26 54 7.81E-07 5 12 37 6.45E-07 27 84 8.32E-07 21 44 3.93E-07 100000 7 12 37 6.45E-07 27 84 8.32E-07 20 42 8.64E-07 8 11 35 5.28E-07 27 84 8.32E-07 21 44 3.93E-07 9 11 34 7.63E-07 28 87												
1 7 23 6.23E-10 5 18 1.76E-08 3 8 3.19E-08 2 15 46 5.8E-07 29 90 7.24E-07 25 52 5.47E-07 3 9 28 3.31E-07 8 27 3.47E-07 5 12 1.27E-08 4 15 47 9.66E-07 26 81 5.43E-07 26 54 7.81E-07 5 12 37 6.45E-07 27 84 8.32E-07 21 44 3.93E-07 6 11 35 5.27E-07 27 84 7.89E-07 20 42 8.64E-07 100000 7 12 37 6.45E-07 27 84 8.32E-07 21 44 3.93E-07 8 11 35 5.28E-07 27 84 8.32E-07 21 44 3.93E-07 8 11 35 5.28E-07 27 84 7.89E-07 19 40 9.97E-07 9 11 34 7.63E-07 28 87 8.51E-07 26 54 3.17E-07 10 9 28 1.44E-07 6 21 2.73E-07 5 12 8.89E-10 11 6 19 4.55E-07 3 12 7.34E-08 2 6 5.17E-07 12 12 38 4.11E-07 30 93 9.78E-07 28 58 5.21E-07												
2 15 46 5.8E-07 29 90 7.24E-07 25 52 5.47E-07 3 9 28 3.31E-07 8 27 3.47E-07 5 12 1.27E-08 4 15 47 9.66E-07 26 81 5.43E-07 26 54 7.81E-07 5 12 37 6.45E-07 27 84 8.32E-07 21 44 3.93E-07 100000 7 12 37 6.45E-07 27 84 8.32E-07 20 42 8.64E-07 27 84 8.32E-07 21 44 3.93E-07 28 11 35 5.28E-07 27 84 8.32E-07 21 44 3.93E-07 28 27 28 27 28 28 28 2												
3 9 28 3.31E-07 8 27 3.47E-07 5 12 1.27E-08 4 15 47 9.66E-07 26 81 5.43E-07 26 54 7.81E-07 5 12 37 6.45E-07 27 84 8.32E-07 21 44 3.93E-07 100000 7 12 37 6.45E-07 27 84 7.89E-07 20 42 8.64E-07 10 8 11 35 5.28E-07 27 84 8.32E-07 21 44 3.93E-07 8 11 35 5.28E-07 27 84 8.32E-07 21 44 3.93E-07 9 11 34 7.63E-07 28 87 8.51E-07 26 54 3.17E-07 10 9 28 1.44E-07 6 21 2.73E-07 5 12 8.89E-10 11 6 19 4.55E-07 3 12 7.34E-08 2 6 5.17E-07 12 12 38 4.11E-07 30 93 9.78E-07 28 58 5.21E-07 28 58 5.21E-07 27 38 4.11E-07 30 93 9.78E-07 28 58 5.21E-07 30 30 30 30 30 30 30												
4 15 47 9.66E-07 26 81 5.43E-07 26 54 7.81E-07 5 12 37 6.45E-07 27 84 8.32E-07 21 44 3.93E-07 100000 7 12 37 6.45E-07 27 84 7.89E-07 20 42 8.64E-07 8 11 35 5.28E-07 27 84 8.32E-07 21 44 3.93E-07 8 11 35 5.28E-07 27 84 8.32E-07 21 44 3.93E-07 9 11 34 7.63E-07 28 87 8.51E-07 26 54 3.17E-07 10 9 28 1.44E-07 6 21 2.73E-07 5 12 8.89E-10 11 6 19 4.55E-07 3 12 7.34E-08 2 6 5.17E-07 12 12 38 4.11E-07 30 93 9.78E-07 28 58 5.21E-07 30 30 30 30 30 30 30												
5 12 37 6.45E-07 27 84 8.32E-07 21 44 3.93E-07 100000 6 11 35 5.27E-07 27 84 7.89E-07 20 42 8.64E-07 8 11 35 5.28E-07 27 84 8.32E-07 21 44 3.93E-07 9 11 34 7.63E-07 28 87 8.51E-07 26 54 3.17E-07 10 9 28 1.44E-07 6 21 2.73E-07 5 12 8.89E-10 11 6 19 4.55E-07 3 12 7.34E-08 2 6 5.17E-07 12 12 38 4.11E-07 30 93 9.78E-07 28 58 5.21E-07												
100000 6 11 35 5.27E-07 27 84 7.89E-07 20 42 8.64E-07 100000 7 12 37 6.45E-07 27 84 8.32E-07 21 44 3.93E-07 8 11 35 5.28E-07 27 84 7.89E-07 19 40 9.97E-07 9 11 34 7.63E-07 28 87 8.51E-07 26 54 3.17E-07 10 9 28 1.44E-07 6 21 2.73E-07 5 12 8.89E-10 11 6 19 4.55E-07 3 12 7.34E-08 2 6 5.17E-07 12 12 38 4.11E-07 30 93 9.78E-07 28 58 5.21E-07												
100000 7 12 37 6.45E-07 27 84 8.32E-07 21 44 3.93E-07 8 11 35 5.28E-07 27 84 7.89E-07 19 40 9.97E-07 9 11 34 7.63E-07 28 87 8.51E-07 26 54 3.17E-07 10 9 28 1.44E-07 6 21 2.73E-07 5 12 8.89E-10 11 6 19 4.55E-07 3 12 7.34E-08 2 6 5.17E-07 12 12 38 4.11E-07 30 93 9.78E-07 28 58 5.21E-07												
8 11 35 5.28E-07 27 84 7.89E-07 19 40 9.97E-07 9 11 34 7.63E-07 28 87 8.51E-07 26 54 3.17E-07 10 9 28 1.44E-07 6 21 2.73E-07 5 12 8.89E-10 11 6 19 4.55E-07 3 12 7.34E-08 2 6 5.17E-07 12 12 38 4.11E-07 30 93 9.78E-07 28 58 5.21E-07	100000											
9 11 34 7.63E-07 28 87 8.51E-07 26 54 3.17E-07 10 9 28 1.44E-07 6 21 2.73E-07 5 12 8.89E-10 11 6 19 4.55E-07 3 12 7.34E-08 2 6 5.17E-07 12 12 38 4.11E-07 30 93 9.78E-07 28 58 5.21E-07	100000											
10 9 28 1.44E-07 6 21 2.73E-07 5 12 8.89E-10 11 6 19 4.55E-07 3 12 7.34E-08 2 6 5.17E-07 12 12 38 4.11E-07 30 93 9.78E-07 28 58 5.21E-07												
11 6 19 4.55E-07 3 12 7.34E-08 2 6 5.17E-07 12 12 38 4.11E-07 30 93 9.78E-07 28 58 5.21E-07												
		11	6		4.55E-07	3				6		
13 15 46 5.86E-07 29 90 8.51E-07 23 48 6.81E-07												
		13	15	46	5.86E-07	29	90	8.51E-07	23	48	6.81E-07	

Table 9: Numerical results of NISPM, DAIS1 and MSGP methods for Problem 9

Problem 9

NISPM DAIS1 MSGP

MSGP

Problem 9			NISP	M		DAIS	61	MSGP			
DIM	IP	#iter	#fval	Norm	#iter	#fval	Norm	#iter	#fval	Norm	
	1	10	32	3.87E-07	13	42	7.7E-08	13	28	1.83E-09	
	2	10	32	4.59E-08	13	42	5.49E-08	14	30	3.09E-08	
	3	10	32	8.42E-08	15	48	4.25E-08	10	22	4.74E-07	
	4	9	28	1.12E-07	13	42	2.92E-08	10	22	6.74E-07	
	5	9	28	1.36E-08	11	36	4.77E-08	13	28	7.31E-07	
	6	14	44	8.41E-09	39	120	7.78E-08	14	30	5.07E-08	
10000	7	9	28	1.36E-08	11	36	4.77E-08	13	28	7.31E-07	
	8	15	47	8.67E-09	33	102	9.27E-07	14	30	5.12E-08	
	9	18	56	6.02E-09	46	141	3.56E-07	13	28	3.51E-07	
	10	12	37	1.04E-08	14	45	1.69E-08	13	28	1.03E-08	
	11	10	32	2.98E-08	15	48	7.24E-07 5.21E-07	11	24	5.18E-08	
	12 13	11 11	34 35	2.74E-08 4.78E-07	17 30	54 93	5.21E-07 5.55E-07	14 14	30 30	4.89E-07 7.51E-07	
	1	11	35	6.23E-09	13	42	1.56E-07	13	28	9.69E-07	
	2	9	29	3.14E-08	13	42	1.17E-07	14	30	2.38E-07	
	3	11	35	3.14E-08	19	60	2.88E-07	12	26	4.11E-09	
	4 5	10 10	32	3.51E-12 4.22E-10	13	42 45	1.2E-07	14 13	30	4.28E-07	
	6	15	32 47	4.61E-09	14 43	132	4.31E-07 3.23E-07	15	28 32	1.03E-08 1.06E-08	
20000	7	10	32	4.01E-09 4.22E-10	14	45	4.31E-07	13	28	1.03E-08	
30000	8	15	47	2.01E-09	44	135	6.86E-08	15	32	9.49E-09	
	9	17	53	1.92E-11	52	159	2.12E-07	16	34	1.47E-08	
	10	12	38	3.82E-09	14	45	1.02E-07	14	30	6.47E-08	
	11	14	44	3.05E-08	16	51	5E-07	13	28	4.54E-09	
	12	10	32	2.88E-07	19	60	1.9E-07	16	34	7.3E-08	
	13	14	44	4.41E-09	33	102	1.39E-07	16	34	4.46E-09	
	1	9	29	2.43E-07	13	42	2.07E-07	16	34	7.17E-09	
	2	10	32	6.11E-07	13	42	1.35E-07	15	32	6.2E-07	
	3	11	35	6.2E-07	18	57	4.92E-07	12	26	4.21E-0	
	4	9	29	3.87E-08	13	42	1.44E-07	14	30	9.3E-08	
	5	9	28	7.34E-07	13	42	7.84E-07	15	32	6.05E-08	
	6	15	47	1.73E-07	47	144	1.4E-08	19	40	5.9E-09	
50000	7	9	28	7.34E-07	13	42	7.84E-07	15	32	6.05E-08	
	8	15	47	8.39E-11	51	156	5.4E-08	19	40	5.85E-09	
	9	18	56	3.61E-08	67	204	7.07E-07	16	34	7.55E-08	
	10	12	38	7.16E-09	14	45	2.24E-07	14	30	3.89E-08	
	11	14	44	1.77E-09	17	54	1.8E-08	12	26	9.6E-07	
	12	14	44	3.22E-08	18	57	5.7E-08	19	40	1.42E-07	
	13	13	41	7.79E-12	22	69	2.86E-07	15	32	1.18E-07	
	1	8	26	2.98E-07	13	42	2.64E-07	20	42	2.18E-07	
	2	10	32	4.09E-07	13	42	1.63E-07	21	44	3.6E-07	
	3	13	41	1.15E-08	16	51	2.78E-07	15	32	1.81E-07	
	4	9	29	3.02E-08	13	42	1.71E-07	20	42	1.18E-0	
	5	8	26	6.97E-08	14	45	1.91E-07	17	36	3.78E-08	
	6	15	47	1.55E-08	52	159	8.24E-08	19	40	6.08E-08	
80000	7	8	26	6.97E-08	14	45	1.91E-07	17	36	3.78E-0	
	8	14	44	4.63E-09	51	156	3.74E-08	19	40	6.08E-0	
	9	20	62	1.58E-08	70	213	2.36E-08	20	42	9.58E-0	
	10	12	38	1.61E-08	14	45	4.47E-07	17	36	1.32E-0	
	11	15	47	2.27E-07 7.03E-07	18	57	4.13E-07	14	30	2.39E-0	
	12 13	12 15	38 47	1.79E-10	19 25	60 78	1.99E-08	18 19	38	1.28E-0	
							6.73E-08		40	2.01E-0	
	1	8	26	2.9E-07	13	42	2.97E-07	21	44	1.31E-0	
	2	12	38	1.61E-10	13	42	1.81E-07	24	50	6.59E-0	
	3	15	46	9.59E-07	17	54	1.88E-08	17	36	2.27E-0	
	4	11	35	2.72E-08	13	42	1.87E-07	24	50	1.32E-0	
	5	8	26	4.9E-08	14	45	2.18E-07	17	36	1.26E-0	
	6	15	47	8.1E-09	54	165	1.55E-08	17	36	2.04E-0	
100000	7	8	26	4.9E-08	14	45	2.18E-07	17	36	1.26E-0	
	8 9	13	41 50	1.44E-08	55 73	168	3.3E-08 7.75E-07	17	36 42	2.02E-0	
	10	19 12	59 38	3.58E-07 2.32E-08	73 14	222 45	7.75E-07	20 19	42 40	8.39E-0	
	11	14	38 44	2.32E-08 2.91E-07	14 17	45 54	5.56E-07 2.79E-07	16	34	1.63E-08 4.66E-09	
	12	12	38	1.63E-09	19	60	1.72E-07	20	42	4.66E-05 8.53E-08	
	13	15	36 47	5.83E-11	23	72	1.72E-07 1.77E-07	19	40	4.3E-07	
	13	13	1/	J.0JE-11	23	14	1.//E-U/	17	40	4.JE-0/	

Table 10: Numerical results of NISPM, DAIS1 and MSGP methods for Problem 10

Problem 10		NISPM				DAIS	61	MSGP			
DIM	IP	#iter	#fval	Norm	#iter	#fval	Norm	#iter	#fval	Norm	
	1	1	4	0	4	15	3.83E-07	3	8	5E-07	
	2	2	7	2.22E-16	8	25	8.11E-08	6	13	9.86E-07	
	3	2	7	0	9	30	1.69E-07	7	16	1.12E-09	
	4	2	7	0	8	27	8.08E-07	5	12	6.67E-08	
	5 6	2 2	7 7	0	8 8	27 27	1.32E-07 1.32E-07	7 7	16 16	2.43E-08 2.43E-08	
10000	7	2	7	0	8	27	1.32E-07 1.32E-07	7	16	2.43E-08 2.43E-08	
10000	8	2	7	0	8	27	1.33E-07	7	16	2.44E-08	
	9	2	7	0	8	27	1.35E-07	7	16	4.2E-08	
	10	2	7	0	7	24	5.9E-08	7	16	1.12E-08	
	11	1	4	0	6	21	2.31E-08	4	10	9.43E-08	
	12	3	10	0	11	36	4.66E-08	9	20	1.24E-09	
	13	2	7	0	9	30	5.38E-07	12	26	4.01E-07	
	1	1	4	0	4	15	6.64E-07	4	10	1.11E-09	
	2	2 2	7 7	2.22E-16 0	8 9	25 30	8.11E-08 2.93E-07	6 7	13 16	9.86E-07 2.51E-09	
	4	2	7	0	8	27	8.09E-07	5	12	7.1E-08	
	5	2	7	0	8	27	2.29E-07	7	16	5.44E-08	
	6	2	7	0	8	27	2.29E-07	7	16	5.44E-08	
30000	7	2	7	0	8	27	2.29E-07	7	16	5.44E-08	
	8	2	7	0	8	27	2.3E-07	7	16	5.45E-08	
	9	2	7	0	8	27	2.36E-07	7	16	6.54E-08	
	10	2	7	0	7	24	1.02E-07	7	16	2.51E-08	
	11 12	1 3	4 10	0	6 11	21 36	4E-08 8.06E-08	4 9	10 20	2.11E-07 2.77E-09	
	13	2	7	0	9	30	5.71E-07	7	16	1.85E-09	
	1	1	4	0	4	15	8.57E-07	4	10	1.57E-09	
	2	2	7	2.22E-16	8	25	8.11E-08	6	13	9.86E-07	
	3	2	7	0	9	30	3.78E-07	7	16	3.54E-09	
	4	2	7	0	8	27	8.09E-07	5	12	7.16E-08	
	5	2	7	0	8	27	2.96E-07	7	16	7.7E-08	
	6	2	7	0	8	27	2.96E-07	7	16	7.7E-08	
50000	7	2	7	0	8	27	2.96E-07	7	16	7.7E-08	
	8 9	2 2	7 7	0	8	27 27	2.96E-07 2.88E-07	7 7	16 16	7.7E-08 7.56E-08	
	10	2	7	0	7	24	1.32E-07	7	16	3.55E-08	
	11	1	4	0	6	21	5.16E-08	4	10	2.98E-07	
	12	3	10	0	11	36	1.04E-07	9	20	3.92E-09	
	13	2	7	0	9	30	5.77E-07	7	16	2.6E-09	
	1	1	4	0	5	18	1.07E-08	4	10	3.51E-09	
	2	2	7	2.22E-16	8	25	8.11E-08	6	13	9.86E-07	
	3	2	7	0	9	30	4.78E-07	7	16	7.93E-09	
	4	2 2	7	0	8	27	8.09E-07 3.75E-07	5 7	12	7.2E-08	
	5 6	2	7 7	0	8 8	27 27	3.75E-07 3.75E-07	7	16 16	1.72E-07 1.72E-07	
80000	7	2	7	0	8	27	3.75E-07	7	16	1.72E-07	
00000	8	2	7	0	8	27	3.75E-07	7	16	1.72E-07	
	9	2	7	0	8	27	3.64E-07	7	16	1.73E-07	
	10	2	7	0	7	24	1.67E-07	7	16	7.94E-08	
	11	1	4	0	6	21	6.53E-08	4	10	6.67E-07	
	12	3	10	0	11	36	1.32E-07	9	20	8.77E-09	
	13	2	7	0	9	30	5.84E-07	7	16	5.78E-09	
	1	1	4	0 2 22E 16	5	18	1.2E-08 8.11E-08	4	10	4.96E-09	
	2	2 2	7 7	2.22E-16 0	8 9	25 30	8.11E-08 5.35E-07	6 7	13 16	9.86E-07 1.12E-08	
	4	2	7	0	8	27	8.09E-07	5	12	7.21E-08	
	5	2	7	0	8	27	4.19E-07	7	16	2.44E-07	
	6	2	7	0	8	27	4.19E-07	7	16	2.44E-07	
100000	7	2	7	0	8	27	4.19E-07	7	16	2.44E-07	
	8	2	7	0	8	27	4.19E-07	7	16	2.44E-07	
	9	2	7	0	8	27	4.14E-07	7	16	2.42E-07	
	10 11	2 1	7 4	0	7	24 21	1.87E-07	7	16 10	1.12E-07	
	12	3	10	0	6 11	36	7.3E-08 1.47E-07	4 9	20	9.43E-07 1.24E-08	
	13	2	7	0	9	30	5.89E-07	7	16	8.16E-09	
				-							