Table 1: Test results of the four methods for problem 3.1

Pnum	Nvars	Ipt	SHZM				ACGD				DLP				NMPD			
			Niter	Nfev	PT	Norm	NIT	FE	PT	Norm	NIT	FE	PT	Norm	NIT	FE	PT	Norm
3.1	1000	**x1**	2	25	0.0200	0	_	_	_	_	16	30	0.0391	3.1760E-09	_	_	_	_
	1000	**x2**	1	13	0.0130	0	17	52	0.0287	0	15	31	0.0121	4.4039E-09	_	_	_	_
	1000	**x3**	1	13	0.0091	0	15	47	0.0493	0	14	34	0.0177	7.1159E-09	8	60	0.03588	0
	1000	**x4**	2	25	0.0162	0	16	37	0.0419	4.3072E-09	19	40	0.0197	3.1583E-09	_	_	_	_
	1000	**x5**	2	25	0.0144	0	16	37	0.0362	4.3749E-09	16	30	0.0252	4.5665E-09	_	_	_	_
	1000	**x6**	1	13	0.0095	0	1	13	0.0087	0	11	25	0.0091	1.6478E-09	1	13	0.00315	0
	1000	**x7**	1	13	0.0186	0	1	13	0.0072	0	1	13	0.0058	0	1	13	0.00654	0
	5000	**x1**	2	25	0.0356	0	15	39	0.0797	0	16	30	0.0619	7.1018E-09	6	61	0.06145	0
	5000	**x2**	1	13	0.0221	0	_	_	_	_	15	31	0.0656	9.8475E-09	_	_	_	_
	5000	**x3**	1	13	0.0221	0	_	_	_	_	17	50	0.0648	6.3521E-09	_	_	_	_
	5000	**x4**	2	25	0.0409	0	18	39	0.0856	2.6925E-09	21	46	0.0659	9.5227E-09	_	_	_	_
	5000	**x5**	2	25	0.0358	0	18	39	0.0970	2.7014E-09	16	30	0.0484	7.2094E-09	_	_	_	_
	5000	**x6**	1	13	0.0288	0	1	13	0.0338	0	14	47	0.0775	3.2391E-09	1	13	0.01259	0
	5000	**x7**	1	13	0.0376	0	1	13	0.0181	0	1	13	0.0133	0	1	13	0.01192	0
	10000	**x1**	2	25	0.0631	0	_	_	_	_	16	35	0.1067	3.0959E-09	6	55	0.09145	0
	10000	**x2**	1	13	0.0581	0	19	55	0.2027	9.6707E-09	18	37	0.1005	1.8124E-09	_	_	_	_
	10000	**x3**	1	13	0.0418	0	19	54	0.2039	3.5804E-09	21	59	0.1348	1.7436E-09	_	_	_	_
	10000	**x4**	2	25	0.0600	0	18	39	0.1775	3.9058E-09	18	32	0.1027	7.9916E-09	_	_	_	_
	10000	**x5**	2	25	0.0551	0	18	39	0.1654	3.9122E-09	18	31	0.0819	2.2103E-09	_	_	_	_
	10000	**x6**	1	13	0.0566	0	1	13	0.0343	0	14	47	0.1044	4.5808E-09	1	13	0.01598	0
	10000	**x7**	1	13	0.0402	0	1	13	0.0244	0	1	13	0.0200	0	1	13	0.0178	0

Table 2: Test results of the four methods for problem 3.2

Pnum	Nvars	Ipt	SHZM				ACGD				DLP				NMPD			
			Niter	Nfev	PT	Norm	NIT	FE	PT	Norm	NIT	FE	PT	Norm	NIT	FE	PT	Norm
3.2	1000	**x1**	2	25	0.0293	0	15	65	0.0500	3.5068E-09	21	69	0.0202	8.9876E-09	_	_	_	_
	1000	**x2**	2	25	0.0246	0	14	66	0.0298	2.6660E-09	22	73	0.0209	4.5086E-09	_	_	_	_
	1000	**x3**	2	25	0.0102	0	15	74	0.0562	2.8568E-09	22	74	0.0211	3.8555E-09	_	_	_	_
	1000	**x4**	2	25	0.0211	0	14	58	0.0330	4.5104E-09	21	68	0.0219	3.8110E-09	_	_	_	_
	1000	**x5**	3	37	0.0176	0	14	58	0.0462	4.4844E-09	21	68	0.0198	3.7539E-09	_	_	_	_
	1000	**x6**	2	25	0.0146	0	5	37	0.0193	0	24	84	0.0290	7.1860E-09	_	_	_	_
	1000	**x7**	5	61	0.0424	0	2	25	0.0201	0	2	25	0.0069	0	_	_	_	_
	5000	**x1**	2	25	0.0423	0	14	65	0.1436	7.8423E-09	22	72	0.1136	7.7872E-09	_	_	_	_
	5000	**x2**	2	25	0.0807	0	14	66	0.1395	6.8232E-09	23	77	0.1309	4.8854E-09	_	_	_	_
	5000	**x3**	2	25	0.0513	0	16	74	0.1563	6.4767E-09	24	83	0.1062	5.2409E-09	_	_	_	_
	5000	**x4**	2	25	0.0430	0	15	62	0.1230	1.9759E-09	22	68	0.1081	8.4393E-09	_	_	_	_
	5000	**x5**	3	37	0.0881	0	15	62	0.1429	1.9736E-09	22	68	0.1239	8.4134E-09	_	_	_	_
	5000	**x6**	2	25	0.0354	0	7	44	0.0803	0	25	99	0.1644	4.5030E-09	_	_	_	_
	5000	**x7**	4	49	0.0907	0	2	25	0.0621	0	2	25	0.0233	0	_	_	_	_
	10000	**x1**	2	25	0.1084	0	15	69	0.2316	2.1024E-09	23	75	0.1784	3.8789E-09	_	_	_	_
	10000	**x2**	2	25	0.0894	0	15	66	0.2470	9.7809E-09	23	77	0.1836	6.9055E-09	_	_	_	_
	10000	**x3**	2	25	0.0759	0	15	74	0.2250	9.1846E-09	24	83	0.1919	5.8589E-09	_	_	_	_
	10000	**x4**	2	25	0.1005	0	15	62	0.2121	2.8269E-09	23	71	0.1726	4.1959E-09	_	_	_	_
	10000	**x5**	3	37	0.1568	0	15	62	0.2327	2.8253E-09	23	71	0.1755	4.1894E-09	_	_	_	_
	10000	**x6**	2	25	0.0855	0	9	59	0.1752	0	26	106	0.2541	7.1498E-09	_	_	_	_
	10000	**x7**	4	49	0.1540	0	2	25	0.0844	0	2	25	0.0479	0	_	_	_	_

Table 3: Test results of the four methods for problem 3.3

Pnum	Nvars	Ipt	SHZM				ACGD				DLP				NMPD			
			Niter	Nfev	PT	Norm	NIT	FE	PT	Norm	NIT	FE	PT	Norm	NIT	FE	PT	Norm
3.3	1000	**x1**	2	25	0.0491	0	_	_	_	_	_	_	_	_	_	_	_	_
	1000	**x2**	2	25	0.0363	0	_	_	_	_	_	_	_	_	_	_	_	_
	1000	**x3**	2	25	0.0268	0	_	_	_	_	_	_	_	_	_	_	_	_
	1000	**x4**	2	25	0.0265	0	_	_	_	_	_	_	_	_	_	_	_	_
	1000	**x5**	2	25	0.0273	0	_	_	_	_	_	_	_	_	_	_	_	_
	1000	**x6**	2	25	0.0463	0	_	_	_	_	_	_	_	_	_	_	_	_
	1000	**x7**	2	25	0.0289	0	_	_	_	_	_	_	_	_	_	_	_	_
	5000	**x1**	2	25	0.1266	0	_	_	_	_	_	_	_	_	_	_	_	_
	5000	**x2**	2	25	0.1027	0	_	_	_	_	_	_	_	_	_	_	_	_
	5000	**x3**	2	25	0.0992	0	_	_	_	_	_	_	_	_	_	_	_	_
	5000	**x4**	2	25	0.0966	0	_	_	_	_	_	_	_	_	_	_	_	_
	5000	**x5**	2	25	0.1125	0	_	_	_	_	_	_	_	_	_	_	_	_
	5000	**x6**	2	25	0.1044	0	_	_	_	_	_	_	_	_	_	_	_	_
	5000	**x7**	2	25	0.1053	0	_	_	_	_	_	_	_	_	_	_	_	_
	10000	**x1**	2	25	0.1871	0	_	_	_	_	_	_	_	_	_	_	_	_
	10000	**x2**	2	25	0.1709	0	_	_	_	_	_	_	_	_	_	_	_	_
	10000	**x3**	2	25	0.1886	0	_	_	_	_	_	_	_	_	_	_	_	_
	10000	**x4**	2	25	0.1842	0	_	_	_	_	_	_	_	_	_	_	_	_
	10000	**x5**	2	25	0.1504	0	_	_	_	_	_	_	_	_	_	_	_	_
	10000	**x6**	2	25	0.1869	0	_	_	_	_	_	_	_	_	_	_	_	_
	10000	**x7**	2	25	0.1920	0	_	_	_	_	_	_	_	_	_	_	_	_

Table 4: Test results of the four methods for problem 3.4

Pnum	Nvars	Ipt	SHZM				ACGD				DLP				NMPD			
			Niter	Nfev	PT	Norm	NIT	FE	PT	Norm	NIT	FE	PT	Norm	NIT	FE	PT	Norm
3.4	1000	**x1**	4	38	0.0183	0	11	18	0.0174	0	14	28	0.0191	6.3387E-09	_	_	_	_
	1000	**x2**	7	73	0.0315	0	24	95	0.0746	0	13	17	0.0153	3.5880E-09	10	102	0.0300	0
	1000	**x3**	18	203	0.0786	0	22	78	0.0400	0	16	34	0.0235	3.2473E-09	_	_	_	_
	1000	**x4**	6	62	0.0334	0	12	32	0.0496	0	16	29	0.0148	1.6676E-09	2	14	0.0061	0
	1000	**x5**	6	62	0.0281	0	16	49	0.0553	0	17	32	0.0174	4.7949E-09	2	14	0.0061	0
	1000	**x6**	3	15	0.0103	0	7	9	0.0288	0	13	15	0.0116	3.9725E-09	3	21	0.0087	0
	1000	**x7**	4	16	0.0317	0	10	12	0.0352	0	16	18	0.0198	1.2776E-09	5	46	0.0173	0
	5000	**x1**	4	38	0.0850	0	19	46	0.1589	0	18	33	0.0784	1.2034E-09	_	_	_	_
	5000	**x2**	7	73	0.1455	0	12	21	0.0918	0	13	17	0.0508	6.0894E-09	7	73	0.0718	0
	5000	**x3**	7	71	0.1365	0	13	22	0.0972	0	17	32	0.0639	4.9163E-09	_	_	_	_
	5000	**x4**	6	62	0.1210	0	13	25	0.1353	0	18	31	0.0644	4.5253E-09	2	14	0.0148	0
	5000	**x5**	6	62	0.1229	0	12	24	0.1150	0	18	40	0.0819	2.0320E-09	2	14	0.0205	0
	5000	**x6**	3	15	0.0553	0	7	9	0.0453	0	14	18	0.0517	6.4696E-09	4	39	0.2106	0
	5000	**x7**	4	16	0.0607	0	9	11	0.0475	0	19	28	0.0828	0	6	67	0.1376	0
	10000	**x1**	4	38	0.1392	0	14	37	0.2229	0	17	27	0.1120	4.3170E-09	_	_	_	_
	10000	**x2**	7	73	0.2309	0	12	21	0.1685	0	14	18	0.0900	2.5432E-09	_	_	_	_
	10000	**x3**	5	47	0.1819	0	15	26	0.1868	0	16	29	0.1232	2.7320E-09	_	_	_	_
	10000	**x4**	6	62	0.2114	0	16	45	0.2225	0	19	33	0.1289	3.1972E-09	2	14	0.0389	0
	10000	**x5**	6	62	0.2226	0	17	46	0.2462	0	19	32	0.1348	5.3086E-09	2	14	0.0508	0
	10000	**x6**	3	15	0.0657	0	7	9	0.0852	0	16	23	0.1291	1.2138E-09	5	56	0.2005	0
	10000	**x7**	4	16	0.0677	0	9	11	0.1381	0	22	42	0.1529	8.1259E-09	6	70	0.2327	0

Table 5: Test results of the four methods for problem 3.5

Pnum	Nvars	Ipt	SHZM				ACGD				DLP				NMPD			
			Niter	Nfev	PT	Norm	NIT	FE	PT	Norm	NIT	FE	PT	Norm	NIT	FE	PT	Norm
3.5	1000	**x1**	2	25	0.0230	0	14	31	0.0446	0	18	38	0.0138	0	7	58	0.0434	0
	1000	**x2**	2	25	0.0304	0	15	34	0.0273	0	18	38	0.0229	0	_	_	_	_
	1000	**x3**	2	25	0.0106	0	14	32	0.0465	0	17	38	0.0135	0	_	_	_	_
	1000	**x4**	2	17	0.0259	0	15	32	0.0347	0	15	26	0.0175	0	_	_	_	_
	1000	**x5**	2	17	0.0127	0	15	33	0.0194	0	18	45	0.0170	0	_	_	_	_
	1000	**x6**	1	13	0.0163	0	13	30	0.0206	0	10	16	0.0091	0	4	35	0.0106	0
	1000	**x7**	1	13	0.0170	0	14	33	0.0218	0	12	25	0.0175	0	4	31	0.0325	0
	5000	**x1**	2	25	0.0427	0	14	31	0.1249	0	16	30	0.0627	0	11	123	0.2095	0
	5000	**x2**	2	25	0.0426	0	15	34	0.1125	0	19	39	0.1146	0	_	_	_	_
	5000	**x3**	2	25	0.0391	0	13	30	0.1266	0	19	48	0.0846	0	_	_	_	_
	5000	**x4**	2	17	0.0328	0	13	28	0.0861	0	15	26	0.0603	0	_	_	_	_
	5000	**x5**	2	17	0.0329	0	13	28	0.1020	0	20	43	0.0780	0	_	_	_	_
	5000	**x6**	1	13	0.0318	0	17	39	0.1033	0	14	31	0.0596	0	4	35	0.0467	0
	5000	**x7**	1	13	0.0496	0	13	31	0.0885	0	18	58	0.0968	0	5	41	0.0816	0
	10000	**x1**	2	25	0.0886	0	15	33	0.1468	0	16	30	0.1119	0	_	_	_	_
	10000	**x2**	2	25	0.0774	0	15	34	0.1922	0	22	51	0.1667	0	_	_	_	_
	10000	**x3**	2	25	0.0835	0	16	36	0.2051	0	22	51	0.1665	0	_	_	_	_
	10000	**x4**	2	17	0.0509	0	15	41	0.1792	0	18	41	0.1194	0	_	_	_	_
	10000	**x5**	2	17	0.0707	0	13	28	0.1543	0	23	51	0.1371	0	_	_	_	_
	10000	**x6**	1	13	0.0797	0	12	28	0.1413	0	15	37	0.1133	0	4	34	0.0717	0
	10000	**x7**	1	13	0.0389	0	18	41	0.1651	0	22	82	0.1862	0	6	55	0.1844	0

Table 6: Test results of the four methods for problem 3.6

Pnum	Nvars	Ipt	SHZM				ACGD				DLP				NMPD			
			Niter	Nfev	PT	Norm	NIT	FE	PT	Norm	NIT	FE	PT	Norm	NIT	FE	PT	Norm
3.6	1000	**x1**	1	13	0.0155	0	1	13	0.0091	0	1	13	0.0136	0	1	13	0.0077	0
	1000	**x2**	1	13	0.0094	0	1	13	0.0139	0	1	13	0.0070	0	1	13	0.0095	0
	1000	**x3**	1	13	0.0102	0	1	13	0.0067	0	1	13	0.0049	0	1	13	0.0200	0
	1000	**x4**	1	13	0.0194	0	1	13	0.0151	0	1	13	0.0069	0	1	13	0.0218	0
	1000	**x5**	1	13	0.0186	0	1	13	0.0200	0	1	13	0.0054	0	1	13	0.0087	0
	1000	**x6**	1	13	0.0145	0	1	13	0.0067	0	1	13	0.0048	0	1	13	0.0093	0
	1000	**x7**	1	13	0.0142	0	1	13	0.0117	0	1	13	0.0048	0	1	13	0.0093	0
	5000	**x1**	1	13	0.0421	0	1	13	0.0356	0	1	13	0.0137	0	1	13	0.0222	0
	5000	**x2**	1	13	0.0150	0	1	13	0.0206	0	1	13	0.0138	0	1	13	0.0438	0
	5000	**x3**	1	13	0.0215	0	1	13	0.0208	0	1	13	0.0134	0	1	13	0.0214	0
	5000	**x4**	1	13	0.0433	0	1	13	0.0281	0	1	13	0.0135	0	1	13	0.0314	0
	5000	**x5**	1	13	0.0289	0	1	13	0.0196	0	1	13	0.0137	0	1	13	0.0355	0
	5000	**x6**	1	13	0.0353	0	1	13	0.0189	0	1	13	0.0131	0	1	13	0.0198	0
	5000	**x7**	1	13	0.0203	0	1	13	0.0368	0	1	13	0.0139	0	1	13	0.0296	0
	10000	**x1**	1	13	0.0404	0	1	13	0.0350	0	1	13	0.0227	0	1	13	0.0327	0
	10000	**x2**	1	13	0.0348	0	1	13	0.0322	0	1	13	0.0243	0	1	13	0.0314	0
	10000	**x3**	1	13	0.0318	0	1	13	0.0542	0	1	13	0.0188	0	1	13	0.0478	0
	10000	**x4**	1	13	0.0226	0	1	13	0.0323	0	1	13	0.0232	0	1	13	0.0543	0
	10000	**x5**	1	13	0.0226	0	1	13	0.0493	0	1	13	0.0237	0	1	13	0.0427	0
	10000	**x6**	1	13	0.0234	0	1	13	0.0543	0	1	13	0.0197	0	1	13	0.0281	0
	10000	**x7**	1	13	0.0270	0	1	13	0.0497	0	1	13	0.0153	0	1	13	0.0425	0

Table 7: Test results of the four methods for problem 3.7

Pnum	Nvars	Ipt	SHZM				ACGD				DLP				NMPD			
			Niter	Nfev	PT	Norm	NIT	FE	PT	Norm	NIT	FE	PT	Norm	NIT	FE	PT	Norm
3.7	1000	**x1**	4	49	0.0216	0	34	246	0.1088	8.8730E-09	12	85	0.0265	0	_	_	_	_
	1000	**x2**	5	61	0.0408	0	52	376	0.2128	9.7685E-09	75	479	0.1388	3.2131E-09	_	_	_	_
	1000	**x3**	6	62	0.0659	0	54	391	0.2067	6.8230E-09	62	354	0.1434	6.6984E-09	_	_	_	_
	1000	**x4**	3	37	0.0327	0	5	52	0.0301	0	33	257	0.1108	0	5	34	0.0166	0
	1000	**x5**	3	37	0.0324	0	59	466	0.2640	7.2649E-09	49	283	0.1100	5.5437E-09	_	_	_	_
	1000	**x6**	2	25	0.0125	0	4	30	0.0570	0	4	36	0.0146	0	20	101	0.0424	0
	1000	**x7**	2	14	0.0190	0	2	25	0.0244	0	2	25	0.0083	0	2	14	0.0089	0
	5000	**x1**	4	49	0.1643	0	51	368	0.7555	8.4208E-09	5	29	0.0665	0	14	119	0.3060	0
	5000	**x2**	5	61	0.1201	0	56	406	0.8067	0	48	283	0.4076	5.6757E-09	_	_	_	_
	5000	**x3**	6	62	0.1928	0	48	349	0.7303	7.0074E-09	55	316	0.4402	3.2294E-09	14	92	0.1776	0
	5000	**x4**	4	38	0.1027	0	4	33	0.0812	0	7	75	0.1308	0	51	90	0.3429	0
	5000	**x5**	3	37	0.0988	0	_	_	_	_	_	_	_	_	4	21	0.0915	0
	5000	**x6**	2	14	0.0643	0	3	30	0.0563	0	3	26	0.0380	0	2	14	0.0564	0
	5000	**x7**	2	14	0.0688	0	2	14	0.0411	0	2	14	0.0309	0	2	14	0.0397	0
	10000	**x1**	4	49	0.1625	0	75	538	1.7755	9.8675E-09	5	29	0.1097	0	14	121	0.4711	0
	10000	**x2**	5	61	0.2214	0	56	411	1.3987	0	55	301	0.7749	6.6958E-09	_	_	_	_
	10000	**x3**	6	62	0.2484	0	51	370	1.3060	7.8892E-09	79	497	1.2296	5.4829E-09	18	112	0.3648	0
	10000	**x4**	4	38	0.1997	0	8	80	0.3043	0	3	27	0.1082	0	5	44	0.1895	0
	10000	**x5**	3	37	0.1329	0	_	_	_	_	190	1743	3.7092	7.5137E-09	4	22	0.1117	0
	10000	**x6**	2	14	0.0985	0	3	30	0.1099	0	3	26	0.0912	0	2	14	0.0905	0
	10000	**x7**	2	14	0.0580	0	2	14	0.0800	0	2	14	0.0484	0	2	14	0.0691	0