```
"E:\1 □□□□\3 □□□□□\1 □□□□□□\1 □□□□□□□□\1_□□□□□□_□□□□\1_LW _□□□□\4 □□□□\3 python_code\1 exzample\2 □□□□□□\9 Code for this paper\Scripts\python.exe" "D:\Python\Pycharm\setroute\PyCharm Community Edition 2021.2.3\plugins\python-ce\helpers\pydev\pydevconsole.py" --mode=client --port=41960

import sys; print('Python %s on %s' % (sys.version, sys.platform))
sys.path.extend(['E:\\1 □□□□\\3 □□□□□\\1 □□□□□□\\1 □□□□□□□□\\1_□□□□□□_□□□□\\1_LW _□□□□\\4 □□□□\\3 python_code\\9 Code for this paper', 'E:/1 □□□□/3 □□□□□/1 □□□□□□/1 □□□□□□□□/1_□□□□□□_□□□□/1_LW _□□□□/4 □□□□/3 python_code/9 Code for this paper'])

PyDev console: starting.

Python 3.9.7 (tags/v3.9.7:1016ef3, Aug 30 2021, 20:19:38) [MSC v.1929 64 bit (AMD64)] on win32
>>> runfile('E:/1 □□□□/3 □□□□□/1 □□□□□□/1 □□□□□□□□/1_□□□□□□_□□□□/1_LW _□□□□/4 □□□□/3 python_code/9 Code for this paper/main_DM.py', wdir='E:/1 □□□□/3 □□□□□/1 □□□□□□/1 □□□□□□□□/1_□□□□□□_□□□□/1_LW _□□□□/4 □□□□/3 python_code/9 Code for this paper')
Backend TkAgg is interactive backend. Turning interactive mode on.
Waiting 5s.....

-----------------------------------------------
Warning: your license will expire in 14 days
-----------------------------------------------

Set parameter TimeLimit to value 10800
Gurobi Optimizer version 10.0.2 build v10.0.2rc0 (win64)

CPU model: 11th Gen Intel(R) Core(TM) i7-11370H @ 3.30GHz, instruction set [SSE2|AVX|AVX2|AVX512]
Thread count: 4 physical cores, 8 logical processors, using up to 8 threads

Optimize a model with 1062962 rows, 72324 columns and 3171405 nonzeros
Model fingerprint: 0x5299fd26
Variable types: 0 continuous, 72324 integer (60921 binary)
Coefficient statistics:
  Matrix range     [1e-01, 1e+15]
  Objective range  [1e+00, 5e+01]
  Bounds range     [1e+00, 1e+00]
  RHS range        [1e+00, 2e+15]
Warning: Model contains large matrix coefficient range
Warning: Model contains large rhs
         Consider reformulating model or setting NumericFocus parameter
         to avoid numerical issues.
Presolve removed 746454 rows and 39100 columns (presolve time = 5s) ...
Presolve removed 766271 rows and 40402 columns (presolve time = 10s) ...
Presolve removed 913797 rows and 50474 columns
Presolve time: 14.38s
Presolved: 149165 rows, 21850 columns, 516238 nonzeros
Variable types: 0 continuous, 21850 integer (21494 binary)

Deterministic concurrent LP optimizer: primal simplex, dual simplex, and barrier
Showing barrier log only...

Root relaxation presolved: 21840 rows, 170985 columns, 536639 nonzeros

Root barrier log...

Ordering time: 3.23s

Barrier statistics:
 Dense cols : 101
 Free vars  : 365
 AA' NZ     : 8.631e+05
 Factor NZ  : 4.508e+07 (roughly 400 MB of memory)
 Factor Ops : 2.060e+11 (roughly 6 seconds per iteration)
 Threads    : 1

Barrier performed 0 iterations in 19.21 seconds (32.98 work units)
Barrier solve interrupted - model solved by another algorithm

Concurrent spin time: 0.31s

Solved with primal simplex

Root relaxation: objective 6.803514e+02, 16162 iterations, 4.35 seconds (7.28 work units)
Total elapsed time = 20.90s

     Nodes    |    Current Node    |     Objective Bounds      |     Work
  Expl Unexpl |  Obj  Depth IntInf | Incumbent    BestBd   Gap | It/Node Time

     0     0  680.35144    0 1068          -  680.35144      -     -   23s
     0     0  680.86479    0 1090          -  680.86479      -     -   24s
     0     0  702.13096    0 1195          -  702.13096      -     -   29s
     0     0  702.13096    0 1176          -  702.13096      -     -   29s
     0     0  707.00455    0  919          -  707.00455      -     -   30s
     0     0  707.00455    0  922          -  707.00455      -     -   30s
     0     0  709.41975    0 1057          -  709.41975      -     -   32s
     0     0  711.73705    0 1130          -  711.73705      -     -   33s
```

80	0	0	711.73705	0	1129	-	711.73705	-	-	34s
81	0	0	711.80374	0	1372	-	711.80374	-	-	34s
82	0	0	712.03938	0	1458	-	712.03938	-	-	35s
83	0	0	712.04808	0	1476	-	712.04808	-	-	35s
84	0	0	712.24000	0	1454	-	712.24000	-	-	35s
85	0	0	712.24019	0	1461	-	712.24019	-	-	36s
86	0	0	714.00948	0	1769	-	714.00948	-	-	39s
87	0	0	714.37214	0	1525	-	714.37214	-	-	41s
88	0	0	714.37214	0	1524	-	714.37214	-	-	41s
89	0	0	714.76677	0	1715	-	714.76677	-	-	42s
90	0	0	714.90417	0	1446	-	714.90417	-	-	42s
91	0	0	715.16229	0	1509	-	715.16229	-	-	43s
92	0	0	715.17751	0	1500	-	715.17751	-	-	44s
93	0	0	715.29510	0	1442	-	715.29510	-	-	44s
94	0	0	715.34311	0	1753	-	715.34311	-	-	45s
95	0	0	715.37202	0	1748	-	715.37202	-	-	45s
96	0	0	715.59508	0	2271	-	715.59508	-	-	46s
97	0	0	715.67585	0	2550	-	715.67585	-	-	46s
98	0	0	715.68004	0	2505	-	715.68004	-	-	47s
99	0	0	724.94586	0	1451	-	724.94586	-	-	53s
100	0	0	724.94586	0	1442	-	724.94586	-	-	53s
101	0	0	725.06274	0	1472	-	725.06274	-	-	54s
102	0	0	725.06274	0	1426	-	725.06274	-	-	54s
103	0	0	726.21420	0	779	-	726.21420	-	-	55s
104	0	0	726.44843	0	743	-	726.44843	-	-	57s
105	0	0	726.46216	0	810	-	726.46216	-	-	58s
106	0	0	726.46499	0	1055	-	726.46499	-	-	58s
107	0	0	726.78529	0	1510	-	726.78529	-	-	62s
108	0	0	727.52713	0	1713	-	727.52713	-	-	64s
109	0	0	727.52713	0	1695	-	727.52713	-	-	64s
110	0	0	727.67277	0	1719	-	727.67277	-	-	66s
111	0	0	727.67277	0	1716	-	727.67277	-	-	66s
112	0	0	727.73881	0	2032	-	727.73881	-	-	67s
113	0	0	727.75664	0	1803	-	727.75664	-	-	67s
114	0	0	727.85883	0	1782	-	727.85883	-	-	67s
115	0	0	727.93813	0	2151	-	727.93813	-	-	68s
116	0	0	727.94470	0	2060	-	727.94470	-	-	68s
117	0	0	728.50762	0	1703	-	728.50762	-	-	71s
118	0	0	728.50762	0	1701	-	728.50762	-	-	71s
119	0	0	728.59475	0	1365	-	728.59475	-	-	72s
120	0	0	728.59475	0	1337	-	728.59475	-	-	72s
121	0	0	728.72341	0	1574	-	728.72341	-	-	73s
122	0	0	728.78310	0	1555	-	728.78310	-	-	74s
123	0	0	728.79438	0	1788	-	728.79438	-	-	75s
124	0	0	728.79438	0	1712	-	728.79438	-	-	75s
125	0	0	728.82117	0	1749	-	728.82117	-	-	76s
126	0	0	728.84373	0	1998	-	728.84373	-	-	76s
127	0	0	728.85387	0	1996	-	728.85387	-	-	76s
128	0	0	728.85573	0	1981	-	728.85573	-	-	77s
129	0	0	728.85573	0	1976	-	728.85573	-	-	77s
130	0	0	729.50894	0	1981	-	729.50894	-	-	79s
131	0	0	729.50894	0	1975	-	729.50894	-	-	79s
132	0	0	729.53937	0	2040	-	729.53937	-	-	80s
133	0	0	729.53937	0	1962	-	729.53937	-	-	80s
134	0	0	729.54043	0	1993	-	729.54043	-	-	81s
135	0	0	729.83019	0	2092	-	729.83019	-	-	87s
136	0	0	729.83019	0	2079	-	729.83019	-	-	87s
137	0	0	729.89189	0	1984	-	729.89189	-	-	88s
138	0	0	729.89840	0	2078	-	729.89840	-	-	88s
139	0	0	729.89840	0	2079	-	729.89840	-	-	88s
140	0	0	730.10397	0	2053	-	730.10397	-	-	91s
141	0	0	730.10397	0	2034	-	730.10397	-	-	91s
142	0	0	730.11717	0	1895	-	730.11717	-	-	92s
143	0	0	730.11717	0	1834	-	730.11717	-	-	92s
144	0	0	730.12094	0	1970	-	730.12094	-	-	93s
145	0	0	730.41010	0	1641	-	730.41010	-	-	96s
146	0	0	730.41010	0	1605	-	730.41010	-	-	96s
147	0	0	730.43569	0	1652	-	730.43569	-	-	97s
148	0	0	730.43569	0	1573	-	730.43569	-	-	97s
149	0	0	730.43892	0	1618	-	730.43892	-	-	97s
150	0	0	730.43892	0	1595	-	730.43892	-	-	98s
151	0	0	730.47837	0	1905	-	730.47837	-	-	100s
152	0	0	730.47837	0	1883	-	730.47837	-	-	100s
153	0	0	730.48238	0	1582	-	730.48238	-	-	101s
154	0	0	730.48238	0	1572	-	730.48238	-	-	101s
155	0	0	730.59996	0	1889	-	730.59996	-	-	103s
156	0	0	730.59996	0	1737	-	730.59996	-	-	104s
157	0	0	730.60293	0	1706	-	730.60293	-	-	105s
158	0	0	730.60293	0	1722	-	730.60293	-	-	105s
159	0	0	730.63050	0	1499	-	730.63050	-	-	107s
160	0	0	730.63050	0	1495	-	730.63050	-	-	107s
161	0	0	730.63074	0	1554	-	730.63074	-	-	108s
162	0	0	730.63074	0	1552	-	730.63074	-	-	108s
163	0	0	730.84890	0	1813	-	730.84890	-	-	110s

164	0	0	730.87380	0	1750	-	730.87380	-	-	111s
165	0	0	731.01210	0	1745	-	731.01210	-	-	112s
166	0	0	731.02159	0	1635	-	731.02159	-	-	113s
167	0	0	731.17884	0	1916	-	731.17884	-	-	115s
168	0	0	731.17884	0	1767	-	731.17884	-	-	115s
169	0	0	731.23069	0	1902	-	731.23069	-	-	116s
170	0	0	731.24183	0	1616	-	731.24183	-	-	117s
171	0	0	731.36655	0	1752	-	731.36655	-	-	118s
172	0	0	731.36660	0	1825	-	731.36660	-	-	118s
173	0	0	731.60251	0	1970	-	731.60251	-	-	121s
174	0	0	731.60251	0	1968	-	731.60251	-	-	121s
175	0	0	731.62992	0	1922	-	731.62992	-	-	122s
176	0	0	731.62992	0	1915	-	731.62992	-	-	122s
177	0	0	731.65017	0	1517	-	731.65017	-	-	123s
178	0	0	731.65289	0	1553	-	731.65289	-	-	123s
179	0	0	731.65289	0	1545	-	731.65289	-	-	123s
180	0	0	731.73133	0	1777	-	731.73133	-	-	125s
181	0	0	731.75027	0	1901	-	731.75027	-	-	126s
182	0	0	731.75708	0	1836	-	731.75708	-	-	126s
183	0	0	731.94176	0	1459	-	731.94176	-	-	128s
184	0	0	731.94176	0	1453	-	731.94176	-	-	128s
185	0	0	731.98210	0	1512	-	731.98210	-	-	129s
186	0	0	732.02355	0	1518	-	732.02355	-	-	129s
187	0	0	732.02421	0	1600	-	732.02421	-	-	130s
188	0	0	732.02421	0	1590	-	732.02421	-	-	130s
189	0	0	732.13495	0	1469	-	732.13495	-	-	132s
190	0	0	732.13495	0	1443	-	732.13495	-	-	132s
191	0	0	732.19025	0	1750	-	732.19025	-	-	133s
192	0	0	732.19025	0	1812	-	732.19025	-	-	133s
193	0	0	732.19025	0	1811	-	732.19025	-	-	133s
194	0	0	732.20031	0	1874	-	732.20031	-	-	134s
195	0	0	732.20031	0	1834	-	732.20031	-	-	134s
196	0	0	732.24472	0	1965	-	732.24472	-	-	136s
197	0	0	732.24472	0	1831	-	732.24472	-	-	137s
198	0	0	732.24526	0	1868	-	732.24526	-	-	137s
199	0	0	732.41623	0	1929	-	732.41623	-	-	139s
200	0	0	732.41623	0	1844	-	732.41623	-	-	139s
201	0	0	732.41730	0	1716	-	732.41730	-	-	140s
202	0	0	732.47712	0	1885	-	732.47712	-	-	142s
203	0	0	732.47712	0	1864	-	732.47712	-	-	142s
204	0	0	732.47712	0	1828	-	732.47712	-	-	143s
205	0	0	732.50970	0	1825	-	732.50970	-	-	145s
206	0	0	732.50970	0	1813	-	732.50970	-	-	145s
207	0	0	732.50970	0	1809	-	732.50970	-	-	146s
208	0	2	732.50970	0	1809	-	732.50970	-	-	159s
209	1	4	736.29336	1	1587	-	732.52656	-	5906	165s
210	3	8	736.78089	2	1391	-	733.34884	-	5157	171s
211	11	16	737.70362	3	1390	-	733.68026	-	3756	175s
212	23	28	744.12706	6	1504	-	735.64373	-	3721	191s
213	39	46	744.75303	8	1193	-	735.64373	-	2735	195s
214	54	63	760.55496	9	1086	-	735.64373	-	2415	200s
215	84	94	752.59563	14	1103	-	735.64373	-	1875	206s
216	110	118	808.34370	21	1013	-	735.64373	-	1774	210s
217	124	132	758.85171	23	998	-	735.64373	-	1822	215s
218	168	193	770.10963	35	794	-	735.64373	-	1652	221s
219	262	299	779.00000	50	227	-	735.64373	-	1180	226s
220	397	437	782.33333	77	267	-	735.64373	-	856	232s
221	517	531	804.00000	102	272	-	735.64373	-	706	235s
222	659	647	809.00000	130	80	-	735.64373	-	621	241s
223	772	727	infeasible	143		-	735.64373	-	583	245s
224	883	780	768.81008	6	553	-	743.03081	-	576	251s
225	946	835	774.00000	22	373	-	743.03081	-	587	255s
226	1025	873	1035.00000	52	1809	-	743.03081	-	587	313s
227	1027	874	905.66667	22	873	-	743.03081	-	586	340s
228	1028	875	756.08387	18	832	-	743.03081	-	585	361s
229	1029	876	919.00000	56	1309	-	743.03081	-	584	368s
230	1030	876	769.00000	29	1773	-	743.03081	-	584	376s
231	1032	878	975.06452	160	1417	-	743.03081	-	583	382s
232	1033	878	914.00000	38	1668	-	743.03081	-	582	386s
233	1036	880	869.00000	64	1767	-	743.03081	-	581	401s
234	1037	881	769.00000	29	1026	-	743.03081	-	580	425s
235	1040	883	1196.28328	21	1542	-	743.03081	-	578	438s
236	1041	884	789.00000	71	1272	-	745.57907	-	578	462s
237	1042	884	919.00000	44	1584	-	746.68381	-	577	467s
238	1045	886	756.08387	18	1502	-	747.11961	-	576	477s
239	1046	887	1299.00000	46	1202	-	747.98706	-	575	499s
240	1047	888	769.00000	15	1416	-	748.24009	-	574	500s
241	1049	889	929.00000	90	1548	-	748.34727	-	573	509s
242	1050	890	942.33333	109	1090	-	748.61208	-	573	516s
243	1052	891	907.81252	17	1475	-	748.77189	-	572	523s
244	1053	892	942.33333	100	1312	-	748.90486	-	571	532s
245	1054	892	919.00000	44	1726	-	749.04174	-	571	538s
246	1055	893	1195.08453	27	1692	-	749.05562	-	570	544s
247	1056	894	1035.00000	35	1244	-	749.12307	-	570	555s

```
248   H 1059   850                2449.0000000  749.42542  69.4%   568  563s
249   H 1060   807                1269.0000000  749.42542  40.9%   567  570s
250     1061   808 1034.07010  93 1162 1269.00000  750.29945  40.9%   567  575s
251     1063   809  809.00000 114 2158 1269.00000  750.47295  40.9%   566  583s
252   H 1063   768                 907.0000000  750.69883  17.2%   566  592s
253     1066   770  759.34017  23 1495  907.00000  751.38245  17.2%   564  595s
254     1068   772  907.00000  42 1829  907.00000  751.47252  17.1%   563  600s
255     1069   772  769.00000  30 1059  907.00000  753.51970  16.9%   563  616s
256     1071   774  842.33333 115 1519  907.00000  753.90195  16.9%   562  621s
257     1072   774  907.00000  95 1541  907.00000  753.91822  16.9%   561  627s
258   H 1072   734                 849.0000000  753.91822  11.2%   561  635s
259   H 1072   697                 829.0000000  753.91822  9.06%   561  635s
260   H 1072   661                 809.0000000  755.14701  6.66%   561  642s
261   H 1073   628                 789.0000000  755.14701  4.29%   560  643s
262     1074   629  789.00000  64  872  789.00000  755.69333  4.22%   560  645s
263     1077   631  758.93015   9 1275  789.00000  758.93015  3.81%   558  651s
264     1080   634  787.33333  85 1809  789.00000  758.93015  3.81%   750  686s
265     1082   635  769.00000  31  299  789.00000  758.93015  3.81%   749  694s
266     1083   636  782.33333  55  679  789.00000  758.93015  3.81%   748  708s
267     1084   637  789.00000  72  659  789.00000  759.62876  3.72%   747  711s
268     1086   638  789.00000  28  652  789.00000  761.44735  3.49%   746  717s
269     1087   639  761.50000  11  168  789.00000  761.50000  3.49%   745  726s
270     1088   639  789.00000  29  255  789.00000  761.50000  3.49%   745  731s
271     1089   640  789.00000  33  353  789.00000  763.94170  3.18%   744  739s
272     1090   641  789.00000  84  385  789.00000  764.00000  3.17%   743  740s
273     1092   642  789.00000 109  244  789.00000  764.38462  3.12%   742  751s
274     1094   643  780.11111  63  250  789.00000  765.40505  2.99%   741  761s
275     1095   644  789.00000  37  396  789.00000  765.40505  2.99%   740  765s
276     1096   645  789.00000  28  189  789.00000  765.40505  2.99%   739  773s
277     1097   645  789.00000  45  572  789.00000  765.40505  2.99%   739  778s
278     1098   646  789.00000 118  314  789.00000  765.66667  2.96%   738  784s
279     1099   647  789.00000 165  340  789.00000  765.66667  2.96%   737  788s
280     1100   647  789.00000 136  209  789.00000  765.66667  2.96%   737  796s
281     1101   648  789.00000  99  488  789.00000  765.66667  2.96%   736  801s
282     1102   649  765.66667   4  365  789.00000  765.66667  2.96%   735  812s
283     1103   649  782.33333  55  710  789.00000  765.66667  2.96%   735  818s
284     1104   650  789.00000 129  171  789.00000  765.66667  2.96%   734  822s
285     1105   651  789.00000 145  171  789.00000  765.66667  2.96%   733  825s
286     1109   657  765.66667  26  241  789.00000  765.66667  2.96%   813  830s
287     1125   667  769.00000  29  462  789.00000  769.00000  2.53%   826  835s
288     1149   683     cutoff  32       789.00000  769.00000  2.53%   824  840s
289     1175   715  769.00000  34  618  789.00000  769.00000  2.53%   821  848s
290     1234   713  769.00000  36  601  789.00000  769.00000  2.53%   802  852s
291     1265   740     cutoff  38       789.00000  769.00000  2.53%   812  858s
292     1326   747  775.66667  48  385  789.00000  769.00000  2.53%   805  866s
293     1396   785  775.66667  53  481  789.00000  769.00000  2.53%   811  874s
294     1521   791  784.00000  80  279  789.00000  769.00000  2.53%   773  883s
295     1613   798  779.00000  35  500  789.00000  769.00000  2.53%   778  895s
296     1708   834  773.37500  38  335  789.00000  769.00000  2.53%   781  911s
297     1871   814  774.71429  55  183  789.00000  769.00000  2.53%   787  929s
298     2070   798  787.57143  61  120  789.00000  769.00000  2.53%   777  953s
299     2297   736  772.40426  43  512  789.00000  769.00000  2.53%   772  974s
300     2444   700  769.01531  32  740  789.00000  769.00000  2.53%   788  997s
301     2587   654  769.34483  44  554  789.00000  769.00000  2.53%   810 1022s
302     2694   619  774.96264  36  652  789.00000  769.00000  2.53%   831 1050s
303     2810   608  780.48986  33  560  789.00000  769.00000  2.53%   872 1075s
304     2964   665  769.60897  35  671  789.00000  769.00000  2.53%   892 1123s
305   H 3027   320                 769.0000000  769.00000  0.00%   885 1123s
306
307   Cutting planes:
308     Learned: 16
309     Gomory: 16
310     Cover: 110
311     Implied bound: 42
312     Projected implied bound: 1
313     Clique: 458
314     MIR: 25
315     StrongCG: 10
316     Flow cover: 96
317     GUB cover: 97
318     Zero half: 52
319     RLT: 66
320     Relax-and-lift: 22
321     BQP: 14
322
323   Explored 3151 nodes (2929263 simplex iterations) in 1123.97 seconds (2462.66 work units)
324   Thread count was 8 (of 8 available processors)
325
326   Solution count 8: 769 789 809 ... 2449
327
328   Optimal solution found (tolerance 1.00e-04)
329   Best objective 7.690000000000e+02, best bound 7.690000000000e+02, gap 0.0000%
330   Optimal Obj:  769.0
331   Obj = 769.0
```

Solutions

Vessel i: 0: li: 5, pi: 29-34, ai-di: 54-79, taoi-deltai: 54-68, periodi: 14, taoPi_SP-deltaPi_SP: 54-58, periodPi: 4, betaNi: 8, bi: 14, Txijt: 70, o1i: 70, o2i: 80, o3i: -250, o4i: 160, Ti: 60

Vessel i: 1: li: 6, pi: 14-20, ai-di: 11-34, taoi-deltai: 11-31, periodi: 20, taoPi_SP-deltaPi_SP: 11-16, periodPi: 5, betaNi: 15, bi: 20, Txijt: 120, o1i: 120, o2i: 100, o3i: -390, o4i: 300, Ti: 130

Vessel i: 2: li: 5, pi: 29-34, ai-di: 13-21, taoi-deltai: 13-19, periodi: 6, taoPi_SP-deltaPi_SP: 13-16, periodPi: 3, betaNi: 3, bi: 6, Txijt: 30, o1i: 30, o2i: 60, o3i: -75, o4i: 60, Ti: 75

Vessel i: 3: li: 7, pi: 14-21, ai-di: 47-82, taoi-deltai: 47-71, periodi: 24, taoPi_SP-deltaPi_SP: 47-53, periodPi: 6, betaNi: 14, bi: 24, Txijt: 168, o1i: 168, o2i: 120, o3i: -486, o4i: 280, Ti: 82

Vessel i: 4: li: 5, pi: 29-34, ai-di: 33-46, taoi-deltai: 33-38, periodi: 5, taoPi_SP-deltaPi_SP: 33-35, periodPi: 2, betaNi: 3, bi: 5, Txijt: 25, o1i: 25, o2i: 40, o3i: -75, o4i: 60, Ti: 50

Vessel i: 5: li: 5, pi: 15-20, ai-di: 40-55, taoi-deltai: 40-45, periodi: 5, taoPi_SP-deltaPi_SP: 40-42, periodPi: 2, betaNi: 3, bi: 5, Txijt: 25, o1i: 25, o2i: 40, o3i: -75, o4i: 60, Ti: 50

Vessel i: 6: li: 6, pi: 8-14, ai-di: 9-31, taoi-deltai: 9-23, periodi: 14, taoPi_SP-deltaPi_SP: 9-13, periodPi: 4, betaNi: 9, bi: 14, Txijt: 84, o1i: 84, o2i: 80, o3i: -260, o4i: 180, Ti: 84

Vessel i: 7: li: 7, pi: 20-27, ai-di: 13-47, taoi-deltai: 13-38, periodi: 25, taoPi_SP-deltaPi_SP: 13-20, periodPi: 7, betaNi: 15, bi: 25, Txijt: 175, o1i: 175, o2i: 140, o3i: -486, o4i: 300, Ti: 129

Vessel i: 8: li: 7, pi: 7-14, ai-di: 36-72, taoi-deltai: 36-64, periodi: 28, taoPi_SP-deltaPi_SP: 36-43, periodPi: 7, betaNi: 17, bi: 28, Txijt: 196, o1i: 196, o2i: 140, o3i: -567, o4i: 340, Ti: 109

TimeSolveModel: 1147.000000

TimeAll: 1151.000000