```csharp
1  // Ray W. Clough & Joseph Penzien "Dynamics of Structures"
2  //  Page 第202頁至第203頁
3  using System;
4  using Matrix_0;
5
6  namespace ConsoleApp38
7  {
8      internal class Program
9      {
10         static void Main(string[] args)
11         {
12
13 // 初始值InitVal(速度，變位)。
14 double[,] InitVal = { {0}, {9}, {0}, {0.5}, {0.4}, {0.3} };
15
16 // 建構系統矩陣A。
17 double[,] M = { { 1, 0, 0 }, { 0, 1.5, 0 }, { 0, 0, 2 } };
18 double[,] K = { {600, -600, 0}, {-600, 1800, -1200 }, {0, -1200,
   3000} };
19 ReMatrix C = (new Zero(3)).GetMatrix;
20 MKCMatrix mkc = new MKCMatrix(M, K, C);
21 ReMatrix A = mkc.Matrix;
22
23 // 系統特徵值和特徵向量V, Q。
24 EIG eig = new EIG(A);
25 CxMatrix D = eig.CxMatrixD;
26 CxMatrix V = eig.CxVector;
27 CxMatrix Q = eig.CxMatrixQ;
28
29 // 系統係數向量d
30 CxToHexp Hexp = new CxToHexp(D, Q, 0);
31 CxMatrix MatTemp = Hexp.GetCxMatrix;
32 CxMatrix d = ~MatTemp * InitVal;
33
34 // 列印系統與狀態參數V,Q,d。
35 Console.Write("\n****{0,5}系{0,5}統{0,5}與{0,5}狀{0,5}態{0,5}參{0,5}
   數{0,5}****\n", "");
36
37 Console.Write("\n***{0,5}系統特徵值V{0,5}***\n{1}\n", "", new PR
   (V));
38 Console.Write("\n***{0,5}系統特徵向量Q{0,5}***\n{1}\n", "", new PR
   (Q));
39 Console.Write("\n***{0,5}係數向量d{0,5}***\n{1}\n", "", new PR(d));
40
41 // 狀態響應。速度，變位，加速度。(t = 40秒)
42 double step = 0.5;
43 int iRow = (int)(40 / step + 1);
```

```csharp
44  int iCol = M.GetLength(1) + 1;
45  ReMatrix Disp = new ReMatrix(iRow, iCol);
46  ReMatrix Vel = new ReMatrix(iRow, iCol);
47  ReMatrix Acc = new ReMatrix(iRow, iCol);
48  for (int i = 0; i != iRow; i++)
49  {
50      double t = step * i;
51
52      Hexp = new CxToHexp(D, Q, t);
53      MatTemp = Hexp.GetCxMatrix;
54      CxMatrix yh_Cx = MatTemp * d;
55      ReMatrix yh_Re = (ReMatrix)yh_Cx;
56      ReMatrix yhDot_Re = A * yh_Re;
57
58      // 加速度Acc。
59      Acc.Matrix[i, 0] = t;
60      Acc.Matrix[i, 1] = yhDot_Re.Matrix[0, 0];
61      Acc.Matrix[i, 2] = yhDot_Re.Matrix[1, 0];
62      Acc.Matrix[i, 3] = yhDot_Re.Matrix[2, 0];
63
64      // 速度Vel。
65      Vel.Matrix[i, 0] = t;
66      Vel.Matrix[i, 1] = yh_Re.Matrix[0, 0];
67      Vel.Matrix[i, 2] = yh_Re.Matrix[1, 0];
68      Vel.Matrix[i, 3] = yh_Re.Matrix[2, 0];
69
70      // 位移Disp。
71      Disp.Matrix[i, 0] = t;
72      Disp.Matrix[i, 1] = yh_Re.Matrix[3, 0];
73      Disp.Matrix[i, 2] = yh_Re.Matrix[4, 0];
74      Disp.Matrix[i, 3] = yh_Re.Matrix[5, 0];
75
76  }
77
78  // 列印標題。
79  Console.Write("\n****{0,10}狀{0,5}態{0,5}響{0,5}應{0,10}****\n",
        "");
80
81  // 列印狀態響應(節點的變位，速度，和加速)。
82  Console.Write("\n{0,5}***位移反應量***{0,5}\n{0,8}時間(秒)" +
83      "{0,8}第0點位移{0,8}第1點位移{0,8}第2點位移\n\n{1}",
84      "", new PR(Disp));
85  Console.Write("\n{0,5}***速度反應量***{0,5}\n{0,8}時間(秒)" +
86      "{0,8}第0點速度{0,8}第1點速度{0,8}第2點速度\n\n{1}",
87      "", new PR(Vel));
88  Console.Write("\n***{0,5}加速度反應量{0,5}***\n{0,8}時間(秒)" +
89      "{0,7}第0點加速度{0,7}第1點加速度{0,7}第2點加速度\n\n{1}",
```

```
 90        "", new PR(Acc));
 91
 92    // 分別列印時間、節點變位、速度、和加速度等序列。
 93    Console.Write("\n時間序列 :\n{0}\n", new PR4(Disp, 0));
 94
 95    Console.Write("\n第0點變位序列 :\n{0}\n", new PR4(Disp, 1));
 96    Console.Write("\n第1點變位序列 :\n{0}\n", new PR4(Disp, 2));
 97    Console.Write("\n第2點變位序列 :\n{0}\n", new PR4(Disp, 3));
 98    Console.Write("\n第0點速度序列 :\n{0}\n", new PR4(Vel, 1));
 99    Console.Write("\n第1點速度序列 :\n{0}\n", new PR4(Vel, 2));
100    Console.Write("\n第2點速度序列 :\n{0}\n", new PR4(Vel, 3));
101    Console.Write("\n第0點加速度序列 :\n{0}\n", new PR4(Acc, 1));
102    Console.Write("\n第1點加速度序列 :\n{0}\n", new PR4(Acc, 2));
103    Console.Write("\n第2點加速度序列 :\n{0}\n", new PR4(Acc, 3));
104        }
105    }
106 }
107
108 /*
109 ****     系     統     與     狀     態     參     數     ****
110
111 ***      系統特徵值V      ***
112         0.00000  +       46.09947i
113         0.00000  -       46.09947i
114         0.00000  +       31.04770i
115         0.00000  -       31.04770i
116         0.00000  +       14.52167i
117         0.00000  -       14.52167i
118
119 ***      系統特徵向量Q       ***
120   0.27298 + 0.00000i,    0.27298 + 0.00000i,    0.73905 + 0.00000i,
121   0.73905 + 0.00000i,    0.81141 + 0.00000i,    0.81141 + 0.00000i
122
123  -0.69390 + 0.00000i,   -0.69390 + 0.00000i,   -0.44830 + 0.00000i,
124  -0.44830 + 0.00000i,    0.52623 + 0.00000i,    0.52623 + 0.00000i
125
126   0.66597 + 0.00000i,    0.66597 + 0.00000i,   -0.50180 + 0.00000i,
127  -0.50180 + 0.00000i,    0.24492 + 0.00000i,    0.24492 + 0.00000i
128
129   0.00000 - 0.00592i,    0.00000 + 0.00592i,    0.00000 - 0.02380i,
130   0.00000 + 0.02380i,    0.00000 - 0.05588i,    0.00000 + 0.05588i
131
132   0.00000 + 0.01505i,    0.00000 - 0.01505i,    0.00000 + 0.01444i,
133   0.00000 - 0.01444i,    0.00000 - 0.03624i,    0.00000 + 0.03624i
134
135   0.00000 - 0.01445i,    0.00000 + 0.01445i,    0.00000 + 0.01616i,
136   0.00000 - 0.01616i,    0.00000 - 0.01687i,    0.00000 + 0.01687i
```

```
137
138   ***      係數向量d      ***
139        -2.78170   +        1.63905i
140        -2.78170   -        1.63905i
141        -2.23945   -        2.30387i
142        -2.23945   +        2.30387i
143         2.97558   +        5.28200i
144         2.97558   -        5.28200i
145
146   ****          狀    態    響    應          ****
147        ***位移反應量***
148          時間(秒)        第0點位移        第1點位移        第2點位移
149          0.00000        0.50000        0.40000        0.30000
150          0.50000        0.71318        0.29042        0.16971
151          1.00000       -0.01535        0.19230       -0.02364
152          1.50000       -0.45288       -0.39900       -0.13435
153          2.00000       -0.64474       -0.47086       -0.14171
154          2.50000       -0.28078       -0.03707       -0.14830
155          3.00000        0.46792        0.19118        0.13277
156          3.50000        0.62626        0.42805        0.30532
157          4.00000        0.40897        0.26710       -0.05157
158          4.50000       -0.38328       -0.15425        0.03183
159          5.00000       -0.51417       -0.57092       -0.23664
160          5.50000       -0.64593       -0.11707       -0.13498
161          6.00000        0.31567       -0.03181       -0.02128
162          6.50000        0.50226        0.44260        0.35189
163          7.00000        0.66808        0.36601       -0.02597
164          7.50000       -0.13772        0.04499        0.12603
165          8.00000       -0.41434       -0.50809       -0.19846
166          8.50000       -0.77276       -0.24203       -0.20482
167          9.00000       -0.02862       -0.17046       -0.07039
168          9.50000        0.43813        0.28498        0.25114
169         10.00000        0.66708        0.50256        0.08316
170         10.50000        0.26517        0.15105        0.11488
171         11.00000       -0.35858       -0.29612       -0.03524
172         11.50000       -0.67015       -0.37204       -0.32482
173         12.00000       -0.44939       -0.23447       -0.04575
174         12.50000        0.36402        0.03065        0.07631
175         13.00000        0.50896        0.59078        0.18753
176         13.50000        0.63502        0.22004        0.08130
177         14.00000       -0.22135       -0.05398        0.13428
178         14.50000       -0.49983       -0.39754       -0.37623
179         15.00000       -0.72605       -0.30203       -0.05364
180         15.50000        0.14465       -0.18758       -0.04114
181         16.00000        0.36380        0.52861        0.17253
182         16.50000        0.77542        0.32159        0.12000
183         17.00000        0.09183        0.10459        0.20183
```

184	17.50000	-0.38986	-0.25446	-0.28274
185	18.00000	-0.73472	-0.40708	-0.14590
186	18.50000	-0.23415	-0.30140	-0.04495
187	19.00000	0.28227	0.31084	0.02365
188	19.50000	0.66356	0.43831	0.22214
189	20.00000	0.49849	0.16925	0.17619
190	20.50000	-0.30366	-0.00127	-0.09758
191	21.00000	-0.55408	-0.48213	-0.25362
192	21.50000	-0.60562	-0.35351	-0.00270
193	22.00000	0.15876	0.04706	-0.15182
194	22.50000	0.45226	0.46997	0.27810
195	23.00000	0.78533	0.21546	0.16001
196	23.50000	-0.10719	0.22795	0.04699
197	24.00000	-0.36405	-0.42311	-0.25855
198	24.50000	-0.76245	-0.42252	-0.01835
199	25.00000	-0.11865	-0.13708	-0.23278
200	25.50000	0.29610	0.34019	0.19659
201	26.00000	0.80312	0.29549	0.22468
202	26.50000	0.24433	0.34582	0.07350
203	27.00000	-0.25142	-0.20646	-0.12441
204	27.50000	-0.65016	-0.51376	-0.10724
205	28.00000	-0.50216	-0.21052	-0.20479
206	28.50000	0.19418	0.08890	0.00906
207	29.00000	0.60269	0.36253	0.32319
208	29.50000	0.61256	0.37901	0.03108
209	30.00000	-0.13576	0.07098	0.05668
210	30.50000	-0.40656	-0.54002	-0.17303
211	31.00000	-0.79244	-0.24212	-0.16254
212	31.50000	0.02024	-0.15274	-0.15608
213	32.00000	0.36711	0.31453	0.33823
214	32.50000	0.78591	0.41134	0.02859
215	33.00000	0.10644	0.27548	0.15495
216	33.50000	-0.20736	-0.41590	-0.11298
217	34.00000	-0.81957	-0.29981	-0.19399
218	34.50000	-0.29780	-0.28058	-0.20261
219	35.00000	0.21674	0.11094	0.21345
220	35.50000	0.67955	0.47012	0.10470
221	36.00000	0.46223	0.35539	0.13277
222	36.50000	-0.08838	-0.16199	0.06416
223	37.00000	-0.60420	-0.35894	-0.27565
224	37.50000	-0.65375	-0.30318	-0.15893
225	38.00000	0.10075	-0.16704	0.02269
226	38.50000	0.41093	0.48451	0.17996
227	39.00000	0.75245	0.36947	0.07282
228	39.50000	0.06255	0.09750	0.23829
229	40.00000	-0.32576	-0.32351	-0.29580
230				

行	***速度反應量***			
231				
232	時間（秒）	第0點速度	第1點速度	第2點速度
233	0.00000	0.00000	9.00000	0.00000
234	0.50000	0.99358	-9.08588	-0.24465
235	1.00000	-14.04659	-3.77331	0.04379
236	1.50000	-3.44336	-3.07247	-8.86579
237	2.00000	-0.75542	0.69482	7.61280
238	2.50000	14.08332	2.94614	-0.19173
239	3.00000	1.78250	11.87037	1.61119
240	3.50000	5.18683	-6.55677	0.57594
241	4.00000	-11.97648	-3.56951	0.33584
242	4.50000	-7.42981	-3.60689	-8.71605
243	5.00000	-2.55209	-3.19460	4.62928
244	5.50000	8.97992	3.15400	1.57246
245	6.00000	7.20647	10.81837	-0.55501
246	6.50000	4.83712	-1.15846	4.53819
247	7.00000	-4.37584	-4.90792	-1.71387
248	7.50000	-13.29732	-1.09006	-5.76174
249	8.00000	-1.44402	-8.49277	-0.08125
250	8.50000	0.87613	3.63960	4.16419
251	9.00000	11.82981	8.17069	-3.76891
252	9.50000	3.99124	3.78712	8.21829
253	10.00000	3.11170	-4.96532	-2.74508
254	10.50000	-15.47425	1.29217	-3.63336
255	11.00000	-2.26484	-11.44975	-2.59615
256	11.50000	-4.28417	1.51922	4.10922
257	12.00000	10.56982	6.99733	-4.58883
258	12.50000	6.66775	5.10658	8.31448
259	13.00000	5.86182	-1.74449	-0.25186
260	13.50000	-10.87514	1.49846	-4.55765
261	14.00000	-6.87280	-10.31943	-1.16832
262	14.50000	-4.40982	-3.61251	0.65962
263	15.00000	3.29085	7.72438	-2.65327
264	15.50000	11.88790	2.91551	5.11949
265	16.00000	4.76194	3.33953	4.47562
266	16.50000	-2.42353	0.79801	-6.94293
267	17.00000	-11.64520	-6.98571	1.98944
268	17.50000	-2.92726	-8.82065	-3.19132
269	18.00000	-4.79129	7.82960	-1.00160
270	18.50000	14.40031	0.26079	2.09249
271	19.00000	4.58335	6.59754	7.57409
272	19.50000	3.79427	2.13052	-7.24410
273	20.00000	-11.23429	-4.73813	3.21249
274	20.50000	-4.37452	-10.64943	-3.81547
275	21.00000	-8.37729	4.92784	-2.58342
276	21.50000	10.36199	-0.30185	2.02033
277	22.00000	8.13716	5.74779	6.68191

278	22.50000	4.67438	6.50756	-4.03420
279	23.00000	-4.48876	-4.67228	1.41083
280	23.50000	-8.88479	-8.58901	-0.78948
281	24.00000	-7.30524	-0.20438	-6.82484
282	24.50000	1.73755	0.58493	4.00030
283	25.00000	12.75050	2.15261	3.40915
284	25.50000	2.86816	11.48012	0.22972
285	26.00000	3.98552	-4.67492	-0.81799
286	26.50000	-11.72331	-5.42986	2.73335
287	27.00000	-6.08102	-4.06383	-10.06475
288	27.50000	-5.45632	0.05061	4.55835
289	28.00000	13.01669	-0.80522	1.50514
290	28.50000	3.24011	13.43149	1.72437
291	29.00000	8.39437	-2.07888	-0.19992
292	29.50000	-8.44189	-4.14985	3.51208
293	30.00000	-8.34626	-3.90846	-9.41414
294	30.50000	-7.19799	-3.46894	1.65029
295	31.00000	6.82397	-1.39704	2.75138
296	31.50000	7.01803	11.24006	-0.67859
297	32.00000	7.50921	2.99195	3.42241
298	32.50000	0.01457	-4.76858	1.72298
299	33.00000	-12.47368	-0.52077	-5.81830
300	33.50000	-5.23973	-8.08954	-2.88995
301	34.00000	-1.98867	-1.23597	5.09845
302	34.50000	10.16185	7.33348	-4.25444
303	35.00000	5.37754	7.34067	6.72366
304	35.50000	7.90846	-4.60960	0.63146
305	36.00000	-13.20756	2.75227	-2.97038
306	36.50000	-4.56865	-10.16003	-5.18460
307	37.00000	-7.33007	-3.15609	5.08134
308	37.50000	7.79511	5.00452	-5.43118
309	38.00000	6.31799	7.86043	6.39339
310	38.50000	10.43097	-1.63303	2.81528
311	39.00000	-7.56910	3.60864	-3.28042
312	39.50000	-7.45016	-7.98313	-3.44052
313	40.00000	-6.92777	-7.67739	1.82616
314				
315	***	加速度反應量	***	
316		時間(秒)	第0點加速度	第1點加速度	第2點加速↵度
317	0.00000	-60.00000	-40.00000	-210.00000
318	0.50000	-253.65704	72.53658	-80.31146
319	1.00000	124.58784	-255.81091	150.84298
320	1.50000	32.33061	190.16483	-37.87359
321	2.00000	104.32881	193.76735	-69.95062
322	2.50000	146.22697	-186.46438	200.20044
323	3.00000	-166.04225	63.96391	-84.44032

324	3.50000	-118.92881	-18.89619	-201.15310
325	4.00000	-85.12563	-198.18589	237.61900
326	4.50000	137.41762	57.24768	-140.28916
327	5.00000	-34.04558	290.12097	12.40533
328	5.50000	317.31255	-225.86937	132.23123
329	6.00000	-208.49007	147.41301	12.84068
330	6.50000	-35.79677	-48.70174	-262.27770
331	7.00000	-181.24051	-192.76250	258.56944
332	7.50000	109.62647	-8.25181	-162.05566
333	8.00000	-56.24746	285.19775	-7.15825
334	8.50000	318.43992	-182.52617	162.01390
335	9.00000	-85.10239	136.79493	3.30209
336	9.50000	-91.89025	34.18751	-205.72180
337	10.00000	-98.71229	-269.71310	176.79921
338	10.50000	-68.47478	16.71956	-81.69619
339	11.00000	37.47981	183.71560	-124.81005
340	11.50000	178.86692	-81.46940	264.00674
341	12.00000	128.95448	65.00480	-72.05710
342	12.50000	-200.02294	169.87403	-96.06918
343	13.00000	49.08788	-355.32260	73.17046
344	13.50000	-248.98601	55.00270	10.06751
345	14.00000	100.42107	83.66610	-233.81590
346	14.50000	61.37613	-23.86646	325.81623
347	15.00000	254.41000	29.10716	-100.75919
348	15.50000	-199.34095	250.04824	-50.83884
349	16.00000	98.88729	-350.79511	58.38004
350	16.50000	-272.29994	20.26789	12.94556
351	17.00000	7.65692	72.69373	-240.00014
352	17.50000	81.24360	-76.79000	271.43661
353	18.00000	196.58236	77.88756	-25.39264
354	18.50000	-40.35313	232.06420	-113.41902
355	19.00000	17.13673	-241.17438	151.02933
356	19.50000	-135.15219	-82.83803	-70.21759
357	20.00000	-197.54394	137.25163	-162.73926
358	20.50000	181.43296	-198.00283	145.60555
359	21.00000	43.16998	154.02475	91.15648
360	21.50000	151.26532	179.80380	-208.05766
361	22.00000	-67.02081	-114.41938	255.96049
362	22.50000	10.62764	-160.57835	-135.17300
363	23.00000	-341.92282	183.58765	-110.73412
364	23.50000	201.08198	-278.81583	66.27627
365	24.00000	-35.43744	155.27789	133.95116
366	24.50000	203.95440	187.36944	-225.98940
367	25.00000	-11.05820	-69.18616	266.92086
368	25.50000	26.45271	-132.51217	-90.77657
369	26.00000	-304.57551	146.40216	-159.72804
370	26.50000	60.89364	-258.45619	97.24833

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371        27.00000          26.97604         47.65532          62.73767
372        27.50000          81.84166        270.64791        -147.38660
373        28.00000         174.98420       -112.07178         180.87322
374        28.50000         -63.16467        -21.76644          39.75532
375        29.00000        -144.09767         64.58988        -267.26021
376        29.50000        -140.12942       -184.92503         180.78449
377        30.00000         124.04544        -94.14112         -42.42856
378        30.50000         -80.07282        346.97099         -64.46491
379        31.00000         330.19124       -156.46794          98.54444
380        31.50000        -103.78640         66.51248         142.48432
381        32.00000         -31.54862         39.99667        -318.63457
382        32.50000        -224.74137       -156.37633         203.92636
383        33.00000         101.42476       -164.03715         -67.14171
384        33.50000        -125.12014        325.75203         -80.07636
385        34.00000         311.85534       -123.24262         111.09402
386        34.50000          10.33386         55.48403         135.57202
387        35.00000         -63.48027        124.32884        -253.61449
388        35.50000        -125.65718       -208.56431         125.02080
389        36.00000         -64.09873       -135.36474          14.07744
390        36.50000         -44.16109        210.35488        -193.42675
391        37.00000         147.15568        -31.47787         198.12006
392        37.50000         210.33980        -24.82217          56.48001
393        38.00000        -160.67634        258.90308        -134.25879
394        38.50000          44.14547       -273.07237          20.76993
395        39.00000        -229.78576        -84.13502         112.45940
396        39.50000          20.96806         98.65271        -298.93300
397        40.00000           1.35128         21.26411         249.59878

時間序列 :
    0.0000,        0.5000,        1.0000,        1.5000,        2.0000,
    2.5000,        3.0000,        3.5000,        4.0000,        4.5000,
    5.0000,        5.5000,        6.0000,        6.5000,        7.0000,
    7.5000,        8.0000,        8.5000,        9.0000,        9.5000,
   10.0000,       10.5000,       11.0000,       11.5000,       12.0000,
   12.5000,       13.0000,       13.5000,       14.0000,       14.5000,
   15.0000,       15.5000,       16.0000,       16.5000,       17.0000,
   17.5000,       18.0000,       18.5000,       19.0000,       19.5000,
   20.0000,       20.5000,       21.0000,       21.5000,       22.0000,
   22.5000,       23.0000,       23.5000,       24.0000,       24.5000,
   25.0000,       25.5000,       26.0000,       26.5000,       27.0000,
   27.5000,       28.0000,       28.5000,       29.0000,       29.5000,
   30.0000,       30.5000,       31.0000,       31.5000,       32.0000,
   32.5000,       33.0000,       33.5000,       34.0000,       34.5000,
   35.0000,       35.5000,       36.0000,       36.5000,       37.0000,
   37.5000,       38.0000,       38.5000,       39.0000,       39.5000,
   40.0000,
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418  第0點變位序列 :
419      0.5000,       0.7132,      -0.0153,      -0.4529,      -0.6447,
420     -0.2808,       0.4679,       0.6263,       0.4090,      -0.3833,
421     -0.5142,      -0.6459,       0.3157,       0.5023,       0.6681,
422     -0.1377,      -0.4143,      -0.7728,      -0.0286,       0.4381,
423      0.6671,       0.2652,      -0.3586,      -0.6702,      -0.4494,
424      0.3640,       0.5090,       0.6350,      -0.2214,      -0.4998,
425     -0.7260,       0.1447,       0.3638,       0.7754,       0.0918,
426     -0.3899,      -0.7347,      -0.2341,       0.2823,       0.6636,
427      0.4985,      -0.3037,      -0.5541,      -0.6056,       0.1588,
428      0.4523,       0.7853,      -0.1072,      -0.3640,      -0.7624,
429     -0.1187,       0.2961,       0.8031,       0.2443,      -0.2514,
430     -0.6502,      -0.5022,       0.1942,       0.6027,       0.6126,
431     -0.1358,      -0.4066,      -0.7924,       0.0202,       0.3671,
432      0.7859,       0.1064,      -0.2074,      -0.8196,      -0.2978,
433      0.2167,       0.6795,       0.4622,      -0.0884,      -0.6042,
434     -0.6537,       0.1008,       0.4109,       0.7524,       0.0626,
435     -0.3258,

437  第1點變位序列 :
438      0.4000,       0.2904,       0.1923,      -0.3990,      -0.4709,
439     -0.0371,       0.1912,       0.4280,       0.2671,      -0.1542,
440     -0.5709,      -0.1171,      -0.0318,       0.4426,       0.3660,
441      0.0450,      -0.5081,      -0.2420,      -0.1705,       0.2850,
442      0.5026,       0.1510,      -0.2961,      -0.3720,      -0.2345,
443      0.0306,       0.5908,       0.2200,      -0.0540,      -0.3975,
444     -0.3020,      -0.1876,       0.5286,       0.3216,       0.1046,
445     -0.2545,      -0.4071,      -0.3014,       0.3108,       0.4383,
446      0.1692,      -0.0013,      -0.4821,      -0.3535,       0.0471,
447      0.4700,       0.2155,       0.2279,      -0.4231,      -0.4225,
448     -0.1371,       0.3402,       0.2955,       0.3458,      -0.2065,
449     -0.5138,      -0.2105,       0.0889,       0.3625,       0.3790,
450      0.0710,      -0.5400,      -0.2421,      -0.1527,       0.3145,
451      0.4113,       0.2755,      -0.4159,      -0.2998,      -0.2806,
452      0.1109,       0.4701,       0.3554,      -0.1620,      -0.3589,
453     -0.3032,      -0.1670,       0.4845,       0.3695,       0.0975,
454     -0.3235,

456  第2點變位序列 :
457      0.3000,       0.1697,      -0.0236,      -0.1344,      -0.1417,
458     -0.1483,       0.1328,       0.3053,      -0.0516,       0.0318,
459     -0.2366,      -0.1350,      -0.0213,       0.3519,      -0.0260,
460      0.1260,      -0.1985,      -0.2048,      -0.0704,       0.2511,
461      0.0832,       0.1149,      -0.0352,      -0.3248,      -0.0457,
462      0.0763,       0.1875,       0.0813,       0.1343,      -0.3762,
463     -0.0536,      -0.0411,       0.1725,       0.1200,       0.2018,
464     -0.2827,      -0.1459,      -0.0449,       0.0236,       0.2221,
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465        0.1762,       -0.0976,       -0.2536,       -0.0027,       -0.1518,
466        0.2781,        0.1600,        0.0470,       -0.2585,       -0.0183,
467       -0.2328,        0.1966,        0.2247,        0.0735,       -0.1244,
468       -0.1072,       -0.2048,        0.0091,        0.3232,        0.0311,
469        0.0567,       -0.1730,       -0.1625,       -0.1561,        0.3382,
470        0.0286,        0.1550,       -0.1130,       -0.1940,       -0.2026,
471        0.2135,        0.1047,        0.1328,        0.0642,       -0.2757,
472       -0.1589,        0.0227,        0.1800,        0.0728,        0.2383,
473       -0.2958,

475   第0點速度序列 ：
476        0.0000,        0.9936,      -14.0466,       -3.4434,       -0.7554,
477       14.0833,        1.7825,        5.1868,      -11.9765,       -7.4298,
478       -2.5521,        8.9799,        7.2065,        4.8371,       -4.3758,
479      -13.2973,       -1.4440,        0.8761,       11.8298,        3.9912,
480        3.1117,      -15.4743,       -2.2648,       -4.2842,       10.5698,
481        6.6677,        5.8618,      -10.8751,       -6.8728,       -4.4098,
482        3.2909,       11.8879,        4.7619,       -2.4235,      -11.6452,
483       -2.9273,       -4.7913,       14.4003,        4.5833,        3.7943,
484      -11.2343,       -4.3745,       -8.3773,       10.3620,        8.1372,
485        4.6744,       -4.4888,       -8.8848,       -7.3052,        1.7376,
486       12.7505,        2.8682,        3.9855,      -11.7233,       -6.0810,
487       -5.4563,       13.0167,        3.2401,        8.3944,       -8.4419,
488       -8.3463,       -7.1980,        6.8240,        7.0180,        7.5092,
489        0.0146,      -12.4737,       -5.2397,       -1.9887,       10.1619,
490        5.3775,        7.9085,      -13.2076,       -4.5686,       -7.3301,
491        7.7951,        6.3180,       10.4310,       -7.5691,       -7.4502,
492       -6.9278,

494   第1點速度序列 ：
495        9.0000,       -9.0859,       -3.7733,       -3.0725,        0.6948,
496        2.9461,       11.8704,       -6.5568,       -3.5695,       -3.6069,
497       -3.1946,        3.1540,       10.8184,       -1.1585,       -4.9079,
498       -1.0901,       -8.4928,        3.6396,        8.1707,        3.7871,
499       -4.9653,        1.2922,      -11.4498,        1.5192,        6.9973,
500        5.1066,       -1.7445,        1.4985,      -10.3194,       -3.6125,
501        7.7244,        2.9155,        3.3395,        0.7980,       -6.9857,
502       -8.8207,        7.8296,        0.2608,        6.5975,        2.1305,
503       -4.7381,      -10.6494,        4.9278,       -0.3019,        5.7478,
504        6.5076,       -4.6723,       -8.5890,       -0.2044,        0.5849,
505        2.1526,       11.4801,       -4.6749,       -5.4299,       -4.0638,
506        0.0506,       -0.8052,       13.4315,       -2.0789,       -4.1499,
507       -3.9085,       -3.4689,       -1.3970,       11.2401,        2.9920,
508       -4.7686,       -0.5208,       -8.0895,       -1.2360,        7.3335,
509        7.3407,       -4.6096,        2.7523,      -10.1600,       -3.1561,
510        5.0045,        7.8604,       -1.6330,        3.6086,       -7.9831,
511       -7.6774,
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512
513  第2點速度序列 ：
514      0.0000,      -0.2446,       0.0438,      -8.8658,       7.6128,
515     -0.1917,       1.6112,       0.5759,       0.3358,      -8.7160,
516      4.6293,       1.5725,      -0.5550,       4.5382,      -1.7139,
517     -5.7617,      -0.0813,       4.1642,      -3.7689,       8.2183,
518     -2.7451,      -3.6334,      -2.5961,       4.1092,      -4.5888,
519      8.3145,      -0.2519,      -4.5576,      -1.1683,       0.6596,
520     -2.6533,       5.1195,       4.4756,      -6.9429,       1.9894,
521     -3.1913,      -1.0016,       2.0925,       7.5741,      -7.2441,
522      3.2125,      -3.8155,      -2.5834,       2.0203,       6.6819,
523     -4.0342,       1.4108,      -0.7895,      -6.8248,       4.0003,
524      3.4091,       0.2297,      -0.8180,       2.7333,     -10.0648,
525      4.5583,       1.5051,       1.7244,      -0.1999,       3.5121,
526     -9.4141,       1.6503,       2.7514,      -0.6786,       3.4224,
527      1.7230,      -5.8183,      -2.8899,       5.0984,      -4.2544,
528      6.7237,       0.6315,      -2.9704,      -5.1846,       5.0813,
529     -5.4312,       6.3934,       2.8153,      -3.2804,      -3.4405,
530      1.8262,
531
532  第0點加速度序列 ：
533    -60.0000,    -253.6570,     124.5878,      32.3306,     104.3288,
534    146.2270,    -166.0423,    -118.9288,     -85.1256,     137.4176,
535    -34.0456,     317.3125,    -208.4901,     -35.7968,    -181.2405,
536    109.6265,     -56.2475,     318.4399,     -85.1024,     -91.8903,
537    -98.7123,     -68.4748,      37.4798,     178.8669,     128.9545,
538   -200.0229,      49.0879,    -248.9860,     100.4211,      61.3761,
539    254.4100,    -199.3410,      98.8873,    -272.2999,       7.6569,
540     81.2436,     196.5824,     -40.3531,      17.1367,    -135.1522,
541   -197.5439,     181.4330,      43.1700,     151.2653,     -67.0208,
542     10.6276,    -341.9228,     201.0820,     -35.4374,     203.9544,
543    -11.0582,      26.4527,    -304.5755,      60.8936,      26.9760,
544     81.8417,     174.9842,     -63.1647,    -144.0977,    -140.1294,
545    124.0454,     -80.0728,     330.1912,    -103.7864,     -31.5486,
546   -224.7414,     101.4248,    -125.1201,     311.8553,      10.3339,
547    -63.4803,    -125.6572,     -64.0987,     -44.1611,     147.1557,
548    210.3398,    -160.6763,      44.1455,    -229.7858,      20.9681,
549      1.3513,
550
551  第1點加速度序列 ：
552    -40.0000,      72.5366,    -255.8109,     190.1648,     193.7673,
553   -186.4644,      63.9639,     -18.8962,    -198.1859,      57.2477,
554    290.1210,    -225.8694,     147.4130,     -48.7017,    -192.7625,
555     -8.2518,     285.1977,    -182.5262,     136.7949,      34.1875,
556   -269.7131,      16.7196,     183.7156,     -81.4694,      65.0048,
557    169.8740,    -355.3226,      55.0027,      83.6661,     -23.8665,
558     29.1072,     250.0482,    -350.7951,      20.2679,      72.6937,
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559       -76.7900,        77.8876,       232.0642,      -241.1744,       -82.8380,
560       137.2516,      -198.0028,       154.0247,       179.8038,      -114.4194,
561      -160.5784,       183.5876,      -278.8158,       155.2779,       187.3694,
562       -69.1862,      -132.5122,       146.4022,      -258.4562,        47.6553,
563       270.6479,      -112.0718,       -21.7664,        64.5899,      -184.9250,
564       -94.1411,       346.9710,      -156.4679,        66.5125,        39.9967,
565      -156.3763,      -164.0372,       325.7520,      -123.2426,        55.4840,
566       124.3288,      -208.5643,      -135.3647,       210.3549,       -31.4779,
567       -24.8222,       258.9031,      -273.0724,       -84.1350,        98.6527,
568        21.2641,
569
570   第2點加速度序列 :
571      -210.0000,       -80.3115,       150.8430,       -37.8736,       -69.9506,
572       200.2004,       -84.4403,      -201.1531,       237.6190,      -140.2892,
573        12.4053,       132.2312,        12.8407,      -262.2777,       258.5694,
574      -162.0557,        -7.1583,       162.0139,         3.3021,      -205.7218,
575       176.7992,       -81.6962,      -124.8101,       264.0067,       -72.0571,
576       -96.0692,        73.1705,        10.0675,      -233.8159,       325.8162,
577      -100.7592,       -50.8388,        58.3800,        12.9456,      -240.0001,
578       271.4366,       -25.3926,      -113.4190,       151.0293,       -70.2176,
579      -162.7393,       145.6055,        91.1565,      -208.0577,       255.9605,
580      -135.1730,      -110.7341,        66.2763,       133.9512,      -225.9894,
581       266.9209,       -90.7766,      -159.7280,        97.2483,        62.7377,
582      -147.3866,       180.8732,        39.7553,      -267.2602,       180.7845,
583       -42.4286,       -64.4649,        98.5444,       142.4843,      -318.6346,
584       203.9264,       -67.1417,       -80.0764,       111.0940,       135.5720,
585      -253.6145,       125.0208,        14.0774,      -193.4267,       198.1201,
586        56.4800,      -134.2588,        20.7699,       112.4594,      -298.9330,
587       249.5988,
588
589   請按任意鍵繼續 . . .
590   */
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