

```
1 // J. L. Humar, "Dynamics of Structures", 第502-504頁。
2 // 以未定係數法求特別解yp(t)，無需再使用複數特徵值和特徵向量，結果 ➤
   一定是【實數值】。
3
4 // *** 修正已知條件如下 : ***
5 //  $M * y_p(t)'' + C * y_p(t)' + K * y_p(t) = f(t)$ 
6 //  $y_p(t) = B0 * U(t)$  且  $U(t)$  的週期是2秒，為已知條件。
7 // 可求得 $f(t) = Bf * U(t)$ 。
8
9 //  $B0 = \{ \{5, 0, -1, 0\}, \{0, 0, 1, 1\} \}$ 
10 //  $U(t) = \{ \{\cos(0.1*t)\}, \{\sin(0.1*t)\}, \{t\} \{1\} \}$ 
11
12 //  $y_p(t) = B0 * U(t) = \{ \{5, 0, -1, 0\}, \{0, 0, 1, 1\} \} * U(t)$ 
13 //  $y_p'(t) = B1 * U(t) = \{ \{0, -0.5, 0, -1\}, \{0, 0, 0, 1\} \} * U(t)$ 
14 //  $y_p''(t) = B2 * U(t) = \{ \{-0.05, 0, 0, 0\}, \{0, 0, 0, 0\} \} * U(t)$ 
15 //  $f(t) = Bf * U(t) = \{ \{ 14.9, -0.2, 4, -1.45\}, \{-5, 0.025, 2, \quad ➤$ 
    $1.25\} \} * U(t)$ 
16
17 using System;
18 using Matrix_0;
19
20 namespace ConsoleApp6P
21 {
22     internal class Program
23     {
24         static void Main(string[] args)
25         {
26
27 double[,] M = { {2, 0}, {0, 1} };
28 double[,] C = { {0.4, -0.05}, {-0.05, 0.2} };
29 double[,] K = { {3, -1}, {-1, 1} };
30
31 double[,] B0 = { {5, 0, -1, 0}, {0, 0, 1, 1} };
32 double[,] B1 = { {0, -0.5, 0, -1}, {0, 0, 0, 1} };
33 double[,] B2 = { {-0.05, 0, 0, 0}, {0, 0, 0, 0} };
34 ReMatrix Bf = (ReMatrix)M * B2 + (ReMatrix)C * B1 + (ReMatrix)K * ➤
   B0;
35
36 // 印出 Bf 矩陣和外力  $f(t) = Bf * U(t)$ 
37 // Console.WriteLine("\nBf : \n{0}", new PR(Bf));
38 // Console.WriteLine("f(t) = Bf * Ut(t)\n");
39
40 double step = 0.5;
41 int iRow = (int)(50 / step + 1);
42 int iCol = 2 + 1;
```

```
43
44 ReMatrix Ft = new ReMatrix(iRow, iCol);
45 ReMatrix Disp = new ReMatrix(iRow, iCol);
46 ReMatrix Vel = new ReMatrix(iRow, iCol);
47 ReMatrix Acc = new ReMatrix(iRow, iCol);
48
49 for (int i = 0; i != iRow; i++)
50 {
51     double t = step * i;
52     // 週期 T = 2秒, 即除數是 2 。
53     Remainder rem = new Remainder(t, 2);
54     double tr = rem.Value;
55
56     double p0 = Math.Cos(0.1 * tr);
57     double p1 = Math.Sin(0.1 * tr);
58     double p2 = tr;
59     double p3 = 1;
60     double[,] Ut = {{p0}, {p1}, {p2}, {p3}};
61
62     // 設  $y(t) = B0 * Ut(t)$  為已知, 求  $f(t) = Bf * Ut$ 
63     ReMatrix ft = Bf * Ut;
64
65     Ft.Matrix[i, 0] = t;
66     Ft.Matrix[i, 1] = ft.Matrix[0, 0];
67     Ft.Matrix[i, 2] = ft.Matrix[1, 0];
68
69     double[,] Y = (ReMatrix)B0 * Ut;
70     double[,] Ydot = (ReMatrix)B1 * Ut;
71     double[,] Yddot = (ReMatrix)B2 * Ut;
72
73     Acc.Matrix[i, 0] = t;
74     Acc.Matrix[i, 1] = Yddot[0, 0];
75     Acc.Matrix[i, 2] = Yddot[1, 0];
76
77     Vel.Matrix[i, 0] = t;
78     Vel.Matrix[i, 1] = Ydot[0, 0];
79     Vel.Matrix[i, 2] = Ydot[1, 0];
80
81     Disp.Matrix[i, 0] = t;
82     Disp.Matrix[i, 1] = Y[0, 0];
83     Disp.Matrix[i, 2] = Y[1, 0];
84 }
85
86 // 特別解(Particular Solution)的部分, 不包含齊次解(Homogeneous)的部分。 ➤
```

```

87
88 // 列印Ft之外力(Exciting Action)。
89 Console.Write("          ***** 外力Ft *****\n\n");
90 Console.Write("          時間(秒)          第0點          第1點\n      ↗
      \n");
91 Console.Write(new PR(Ft));
92
93 // 列印時間與外力等序列
94 Console.Write("\n時間序列\n{0}\n", new PR4(Ft, 0));
95 Console.Write("第0點外力序列\n{0}\n", new PR4(Ft, 1));
96 Console.Write("第1點外力序列\n{0}\n", new PR4(Ft, 2));
97
98 // 列印空間節點之響應值(變位, 速度, 和加速)。
99 Console.Write("\n{0,5}***位移反應量***{0,5}\n{0,8}時間(秒)" +
100     "{0,8}第0點位移{0,8}第1點位移\n\n{1}", "", new PR(Disp));
101 Console.Write("\n{0,5}***速度反應量***{0,5}\n{0,8}時間(秒)" +
102     "{0,8}第0點速度{0,8}第1點速度\n\n{1}", "", new PR(Vel));
103 Console.Write("\n***{0,5}加速度反應量{0,5}***\n{0,8}時間(秒)" +
104     "{0,8}第0點加速度{0,7}第1點加速度\n\n{1}", "", new PR(Acc));
105
106 // 列印時間、節點變位、速度、和加速度等序列。
107 Console.Write("\n時間序列\n{0}\n", new PR4(Disp, 0));
108 Console.Write("\n第0點變位序列\n{0}\n", new PR4(Disp, 1));
109 Console.Write("\n第1點變位序列\n{0}\n", new PR4(Disp, 2));
110 Console.Write("\n第0點速度序列\n{0}\n", new PR4(Vel, 1));
111 Console.Write("\n第1點速度序列\n{0}\n", new PR4(Vel, 2));
112 Console.Write("\n第0點加速度序列\n{0}\n", new PR4(Acc, 1));
113 Console.Write("\n第1點加速度序列\n{0}\n", new PR4(Acc, 2));
114 Console.Write("\n\n");
115
116     }
117 }
118 }
119
120 /* 執行後之結果如下 :
121     ***** 外力Ft *****
122     時間(秒)          第0點          第1點
123     0.00000          13.45000         -3.75000
124     0.50000          11.42138         -2.74250
125     1.00000           9.35560         -1.72252
126     1.50000           7.25280         -0.69012
127     2.00000           5.11326          0.35463
128     2.50000          11.42138         -2.74250
129     3.00000           9.35560         -1.72252
130     3.50000           7.25280         -0.69012

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131	4.00000	13.45000	-3.75000
132	4.50000	11.42138	-2.74250
133	5.00000	9.35560	-1.72252
134	5.50000	7.25280	-0.69012
135	6.00000	13.45000	-3.75000
136	6.50000	11.42138	-2.74250
137	7.00000	9.35560	-1.72252
138	7.50000	7.25280	-0.69012
139	8.00000	13.45000	-3.75000
140	8.50000	11.42138	-2.74250
141	9.00000	9.35560	-1.72252
142	9.50000	7.25280	-0.69012
143	10.00000	13.45000	-3.75000
144	10.50000	11.42138	-2.74250
145	11.00000	9.35560	-1.72252
146	11.50000	7.25280	-0.69012
147	12.00000	13.45000	-3.75000
148	12.50000	11.42138	-2.74250
149	13.00000	9.35560	-1.72252
150	13.50000	7.25280	-0.69012
151	14.00000	13.45000	-3.75000
152	14.50000	11.42138	-2.74250
153	15.00000	9.35560	-1.72252
154	15.50000	7.25280	-0.69012
155	16.00000	13.45000	-3.75000
156	16.50000	11.42138	-2.74250
157	17.00000	9.35560	-1.72252
158	17.50000	7.25280	-0.69012
159	18.00000	13.45000	-3.75000
160	18.50000	11.42138	-2.74250
161	19.00000	9.35560	-1.72252
162	19.50000	7.25280	-0.69012
163	20.00000	13.45000	-3.75000
164	20.50000	11.42138	-2.74250
165	21.00000	9.35560	-1.72252
166	21.50000	7.25280	-0.69012
167	22.00000	13.45000	-3.75000
168	22.50000	11.42138	-2.74250
169	23.00000	9.35560	-1.72252
170	23.50000	7.25280	-0.69012
171	24.00000	13.45000	-3.75000
172	24.50000	11.42138	-2.74250
173	25.00000	9.35560	-1.72252
174	25.50000	7.25280	-0.69012
175	26.00000	13.45000	-3.75000

176	26.50000	11.42138	-2.74250
177	27.00000	9.35560	-1.72252
178	27.50000	7.25280	-0.69012
179	28.00000	13.45000	-3.75000
180	28.50000	11.42138	-2.74250
181	29.00000	9.35560	-1.72252
182	29.50000	7.25280	-0.69012
183	30.00000	13.45000	-3.75000
184	30.50000	11.42138	-2.74250
185	31.00000	9.35560	-1.72252
186	31.50000	7.25280	-0.69012
187	32.00000	13.45000	-3.75000
188	32.50000	11.42138	-2.74250
189	33.00000	9.35560	-1.72252
190	33.50000	7.25280	-0.69012
191	34.00000	13.45000	-3.75000
192	34.50000	11.42138	-2.74250
193	35.00000	9.35560	-1.72252
194	35.50000	7.25280	-0.69012
195	36.00000	13.45000	-3.75000
196	36.50000	11.42138	-2.74250
197	37.00000	9.35560	-1.72252
198	37.50000	7.25280	-0.69012
199	38.00000	13.45000	-3.75000
200	38.50000	11.42138	-2.74250
201	39.00000	9.35560	-1.72252
202	39.50000	7.25280	-0.69012
203	40.00000	13.45000	-3.75000
204	40.50000	11.42138	-2.74250
205	41.00000	9.35560	-1.72252
206	41.50000	7.25280	-0.69012
207	42.00000	13.45000	-3.75000
208	42.50000	11.42138	-2.74250
209	43.00000	9.35560	-1.72252
210	43.50000	7.25280	-0.69012
211	44.00000	13.45000	-3.75000
212	44.50000	11.42138	-2.74250
213	45.00000	9.35560	-1.72252
214	45.50000	7.25280	-0.69012
215	46.00000	13.45000	-3.75000
216	46.50000	11.42138	-2.74250
217	47.00000	9.35560	-1.72252
218	47.50000	7.25280	-0.69012
219	48.00000	13.45000	-3.75000
220	48.50000	11.42138	-2.74250

221	49.00000	9.35560	-1.72252		
222	49.50000	7.25280	-0.69012		
223	50.00000	13.45000	-3.75000		
224					
225	時間序列				
226	0.0000,	0.5000,	1.0000,	1.5000,	2.0000,
227	2.5000,	3.0000,	3.5000,	4.0000,	4.5000,
228	5.0000,	5.5000,	6.0000,	6.5000,	7.0000,
229	7.5000,	8.0000,	8.5000,	9.0000,	9.5000,
230	10.0000,	10.5000,	11.0000,	11.5000,	12.0000,
231	12.5000,	13.0000,	13.5000,	14.0000,	14.5000,
232	15.0000,	15.5000,	16.0000,	16.5000,	17.0000,
233	17.5000,	18.0000,	18.5000,	19.0000,	19.5000,
234	20.0000,	20.5000,	21.0000,	21.5000,	22.0000,
235	22.5000,	23.0000,	23.5000,	24.0000,	24.5000,
236	25.0000,	25.5000,	26.0000,	26.5000,	27.0000,
237	27.5000,	28.0000,	28.5000,	29.0000,	29.5000,
238	30.0000,	30.5000,	31.0000,	31.5000,	32.0000,
239	32.5000,	33.0000,	33.5000,	34.0000,	34.5000,
240	35.0000,	35.5000,	36.0000,	36.5000,	37.0000,
241	37.5000,	38.0000,	38.5000,	39.0000,	39.5000,
242	40.0000,	40.5000,	41.0000,	41.5000,	42.0000,
243	42.5000,	43.0000,	43.5000,	44.0000,	44.5000,
244	45.0000,	45.5000,	46.0000,	46.5000,	47.0000,
245	47.5000,	48.0000,	48.5000,	49.0000,	49.5000,
246	50.0000,				
247					
248	第0點外力序列				
249	13.4500,	11.4214,	9.3556,	7.2528,	5.1133,
250	11.4214,	9.3556,	7.2528,	13.4500,	11.4214,
251	9.3556,	7.2528,	13.4500,	11.4214,	9.3556,
252	7.2528,	13.4500,	11.4214,	9.3556,	7.2528,
253	13.4500,	11.4214,	9.3556,	7.2528,	13.4500,
254	11.4214,	9.3556,	7.2528,	13.4500,	11.4214,
255	9.3556,	7.2528,	13.4500,	11.4214,	9.3556,
256	7.2528,	13.4500,	11.4214,	9.3556,	7.2528,
257	13.4500,	11.4214,	9.3556,	7.2528,	13.4500,
258	11.4214,	9.3556,	7.2528,	13.4500,	11.4214,
259	9.3556,	7.2528,	13.4500,	11.4214,	9.3556,
260	7.2528,	13.4500,	11.4214,	9.3556,	7.2528,
261	13.4500,	11.4214,	9.3556,	7.2528,	13.4500,
262	11.4214,	9.3556,	7.2528,	13.4500,	11.4214,
263	9.3556,	7.2528,	13.4500,	11.4214,	9.3556,
264	7.2528,	13.4500,	11.4214,	9.3556,	7.2528,
265	13.4500,	11.4214,	9.3556,	7.2528,	13.4500,

```

266 11.4214, 9.3556, 7.2528, 13.4500, 11.4214,
267 9.3556, 7.2528, 13.4500, 11.4214, 9.3556,
268 7.2528, 13.4500, 11.4214, 9.3556, 7.2528,
269 13.4500,

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270
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271 第1點外力序列
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272 -3.7500, -2.7425, -1.7225, -0.6901, 0.3546,
273 -2.7425, -1.7225, -0.6901, -3.7500, -2.7425,
274 -1.7225, -0.6901, -3.7500, -2.7425, -1.7225,
275 -0.6901, -3.7500, -2.7425, -1.7225, -0.6901,
276 -3.7500, -2.7425, -1.7225, -0.6901, -3.7500,
277 -2.7425, -1.7225, -0.6901, -3.7500, -2.7425,
278 -1.7225, -0.6901, -3.7500, -2.7425, -1.7225,
279 -0.6901, -3.7500, -2.7425, -1.7225, -0.6901,
280 -3.7500, -2.7425, -1.7225, -0.6901, -3.7500,
281 -2.7425, -1.7225, -0.6901, -3.7500, -2.7425,
282 -1.7225, -0.6901, -3.7500, -2.7425, -1.7225,
283 -0.6901, -3.7500, -2.7425, -1.7225, -0.6901,
284 -3.7500, -2.7425, -1.7225, -0.6901, -3.7500,
285 -2.7425, -1.7225, -0.6901, -3.7500, -2.7425,
286 -1.7225, -0.6901, -3.7500, -2.7425, -1.7225,
287 -0.6901, -3.7500, -2.7425, -1.7225, -0.6901,
288 -3.7500, -2.7425, -1.7225, -0.6901, -3.7500,
289 -2.7425, -1.7225, -0.6901, -3.7500, -2.7425,
290 -1.7225, -0.6901, -3.7500, -2.7425, -1.7225,
291 -0.6901, -3.7500, -2.7425, -1.7225, -0.6901,
292 -3.7500,

```

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293
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```
294 ***位移反應量***
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時間(秒)	第0點位移	第1點位移
0.00000	5.00000	1.00000
0.50000	4.49375	1.50000
1.00000	3.97502	2.00000
1.50000	3.44386	2.50000
2.00000	2.90033	3.00000
2.50000	4.49375	1.50000
3.00000	3.97502	2.00000
3.50000	3.44386	2.50000
4.00000	5.00000	1.00000
4.50000	4.49375	1.50000
5.00000	3.97502	2.00000
5.50000	3.44386	2.50000
6.00000	5.00000	1.00000
6.50000	4.49375	1.50000
7.00000	3.97502	2.00000

311	7.50000	3.44386	2.50000
312	8.00000	5.00000	1.00000
313	8.50000	4.49375	1.50000
314	9.00000	3.97502	2.00000
315	9.50000	3.44386	2.50000
316	10.00000	5.00000	1.00000
317	10.50000	4.49375	1.50000
318	11.00000	3.97502	2.00000
319	11.50000	3.44386	2.50000
320	12.00000	5.00000	1.00000
321	12.50000	4.49375	1.50000
322	13.00000	3.97502	2.00000
323	13.50000	3.44386	2.50000
324	14.00000	5.00000	1.00000
325	14.50000	4.49375	1.50000
326	15.00000	3.97502	2.00000
327	15.50000	3.44386	2.50000
328	16.00000	5.00000	1.00000
329	16.50000	4.49375	1.50000
330	17.00000	3.97502	2.00000
331	17.50000	3.44386	2.50000
332	18.00000	5.00000	1.00000
333	18.50000	4.49375	1.50000
334	19.00000	3.97502	2.00000
335	19.50000	3.44386	2.50000
336	20.00000	5.00000	1.00000
337	20.50000	4.49375	1.50000
338	21.00000	3.97502	2.00000
339	21.50000	3.44386	2.50000
340	22.00000	5.00000	1.00000
341	22.50000	4.49375	1.50000
342	23.00000	3.97502	2.00000
343	23.50000	3.44386	2.50000
344	24.00000	5.00000	1.00000
345	24.50000	4.49375	1.50000
346	25.00000	3.97502	2.00000
347	25.50000	3.44386	2.50000
348	26.00000	5.00000	1.00000
349	26.50000	4.49375	1.50000
350	27.00000	3.97502	2.00000
351	27.50000	3.44386	2.50000
352	28.00000	5.00000	1.00000
353	28.50000	4.49375	1.50000
354	29.00000	3.97502	2.00000
355	29.50000	3.44386	2.50000

356	30.00000	5.00000	1.00000
357	30.50000	4.49375	1.50000
358	31.00000	3.97502	2.00000
359	31.50000	3.44386	2.50000
360	32.00000	5.00000	1.00000
361	32.50000	4.49375	1.50000
362	33.00000	3.97502	2.00000
363	33.50000	3.44386	2.50000
364	34.00000	5.00000	1.00000
365	34.50000	4.49375	1.50000
366	35.00000	3.97502	2.00000
367	35.50000	3.44386	2.50000
368	36.00000	5.00000	1.00000
369	36.50000	4.49375	1.50000
370	37.00000	3.97502	2.00000
371	37.50000	3.44386	2.50000
372	38.00000	5.00000	1.00000
373	38.50000	4.49375	1.50000
374	39.00000	3.97502	2.00000
375	39.50000	3.44386	2.50000
376	40.00000	5.00000	1.00000
377	40.50000	4.49375	1.50000
378	41.00000	3.97502	2.00000
379	41.50000	3.44386	2.50000
380	42.00000	5.00000	1.00000
381	42.50000	4.49375	1.50000
382	43.00000	3.97502	2.00000
383	43.50000	3.44386	2.50000
384	44.00000	5.00000	1.00000
385	44.50000	4.49375	1.50000
386	45.00000	3.97502	2.00000
387	45.50000	3.44386	2.50000
388	46.00000	5.00000	1.00000
389	46.50000	4.49375	1.50000
390	47.00000	3.97502	2.00000
391	47.50000	3.44386	2.50000
392	48.00000	5.00000	1.00000
393	48.50000	4.49375	1.50000
394	49.00000	3.97502	2.00000
395	49.50000	3.44386	2.50000
396	50.00000	5.00000	1.00000
397			
398	***速度反應量***		
399	時間(秒)	第0點速度	第1點速度
400	0.00000	-1.00000	1.00000

401	0.50000	-1.02499	1.00000
402	1.00000	-1.04992	1.00000
403	1.50000	-1.07472	1.00000
404	2.00000	-1.09933	1.00000
405	2.50000	-1.02499	1.00000
406	3.00000	-1.04992	1.00000
407	3.50000	-1.07472	1.00000
408	4.00000	-1.00000	1.00000
409	4.50000	-1.02499	1.00000
410	5.00000	-1.04992	1.00000
411	5.50000	-1.07472	1.00000
412	6.00000	-1.00000	1.00000
413	6.50000	-1.02499	1.00000
414	7.00000	-1.04992	1.00000
415	7.50000	-1.07472	1.00000
416	8.00000	-1.00000	1.00000
417	8.50000	-1.02499	1.00000
418	9.00000	-1.04992	1.00000
419	9.50000	-1.07472	1.00000
420	10.00000	-1.00000	1.00000
421	10.50000	-1.02499	1.00000
422	11.00000	-1.04992	1.00000
423	11.50000	-1.07472	1.00000
424	12.00000	-1.00000	1.00000
425	12.50000	-1.02499	1.00000
426	13.00000	-1.04992	1.00000
427	13.50000	-1.07472	1.00000
428	14.00000	-1.00000	1.00000
429	14.50000	-1.02499	1.00000
430	15.00000	-1.04992	1.00000
431	15.50000	-1.07472	1.00000
432	16.00000	-1.00000	1.00000
433	16.50000	-1.02499	1.00000
434	17.00000	-1.04992	1.00000
435	17.50000	-1.07472	1.00000
436	18.00000	-1.00000	1.00000
437	18.50000	-1.02499	1.00000
438	19.00000	-1.04992	1.00000
439	19.50000	-1.07472	1.00000
440	20.00000	-1.00000	1.00000
441	20.50000	-1.02499	1.00000
442	21.00000	-1.04992	1.00000
443	21.50000	-1.07472	1.00000
444	22.00000	-1.00000	1.00000
445	22.50000	-1.02499	1.00000

446	23.00000	-1.04992	1.00000
447	23.50000	-1.07472	1.00000
448	24.00000	-1.00000	1.00000
449	24.50000	-1.02499	1.00000
450	25.00000	-1.04992	1.00000
451	25.50000	-1.07472	1.00000
452	26.00000	-1.00000	1.00000
453	26.50000	-1.02499	1.00000
454	27.00000	-1.04992	1.00000
455	27.50000	-1.07472	1.00000
456	28.00000	-1.00000	1.00000
457	28.50000	-1.02499	1.00000
458	29.00000	-1.04992	1.00000
459	29.50000	-1.07472	1.00000
460	30.00000	-1.00000	1.00000
461	30.50000	-1.02499	1.00000
462	31.00000	-1.04992	1.00000
463	31.50000	-1.07472	1.00000
464	32.00000	-1.00000	1.00000
465	32.50000	-1.02499	1.00000
466	33.00000	-1.04992	1.00000
467	33.50000	-1.07472	1.00000
468	34.00000	-1.00000	1.00000
469	34.50000	-1.02499	1.00000
470	35.00000	-1.04992	1.00000
471	35.50000	-1.07472	1.00000
472	36.00000	-1.00000	1.00000
473	36.50000	-1.02499	1.00000
474	37.00000	-1.04992	1.00000
475	37.50000	-1.07472	1.00000
476	38.00000	-1.00000	1.00000
477	38.50000	-1.02499	1.00000
478	39.00000	-1.04992	1.00000
479	39.50000	-1.07472	1.00000
480	40.00000	-1.00000	1.00000
481	40.50000	-1.02499	1.00000
482	41.00000	-1.04992	1.00000
483	41.50000	-1.07472	1.00000
484	42.00000	-1.00000	1.00000
485	42.50000	-1.02499	1.00000
486	43.00000	-1.04992	1.00000
487	43.50000	-1.07472	1.00000
488	44.00000	-1.00000	1.00000
489	44.50000	-1.02499	1.00000
490	45.00000	-1.04992	1.00000

491	45.50000	-1.07472	1.00000
492	46.00000	-1.00000	1.00000
493	46.50000	-1.02499	1.00000
494	47.00000	-1.04992	1.00000
495	47.50000	-1.07472	1.00000
496	48.00000	-1.00000	1.00000
497	48.50000	-1.02499	1.00000
498	49.00000	-1.04992	1.00000
499	49.50000	-1.07472	1.00000
500	50.00000	-1.00000	1.00000
501			
502	*** 加速度反應量	***	
503	時間(秒)	第0點加速度	第1點加速度
504	0.00000	-0.05000	0.00000
505	0.50000	-0.04994	0.00000
506	1.00000	-0.04975	0.00000
507	1.50000	-0.04944	0.00000
508	2.00000	-0.04900	0.00000
509	2.50000	-0.04994	0.00000
510	3.00000	-0.04975	0.00000
511	3.50000	-0.04944	0.00000
512	4.00000	-0.05000	0.00000
513	4.50000	-0.04994	0.00000
514	5.00000	-0.04975	0.00000
515	5.50000	-0.04944	0.00000
516	6.00000	-0.05000	0.00000
517	6.50000	-0.04994	0.00000
518	7.00000	-0.04975	0.00000
519	7.50000	-0.04944	0.00000
520	8.00000	-0.05000	0.00000
521	8.50000	-0.04994	0.00000
522	9.00000	-0.04975	0.00000
523	9.50000	-0.04944	0.00000
524	10.00000	-0.05000	0.00000
525	10.50000	-0.04994	0.00000
526	11.00000	-0.04975	0.00000
527	11.50000	-0.04944	0.00000
528	12.00000	-0.05000	0.00000
529	12.50000	-0.04994	0.00000
530	13.00000	-0.04975	0.00000
531	13.50000	-0.04944	0.00000
532	14.00000	-0.05000	0.00000
533	14.50000	-0.04994	0.00000
534	15.00000	-0.04975	0.00000
535	15.50000	-0.04944	0.00000

536	16.00000	-0.05000	0.00000
537	16.50000	-0.04994	0.00000
538	17.00000	-0.04975	0.00000
539	17.50000	-0.04944	0.00000
540	18.00000	-0.05000	0.00000
541	18.50000	-0.04994	0.00000
542	19.00000	-0.04975	0.00000
543	19.50000	-0.04944	0.00000
544	20.00000	-0.05000	0.00000
545	20.50000	-0.04994	0.00000
546	21.00000	-0.04975	0.00000
547	21.50000	-0.04944	0.00000
548	22.00000	-0.05000	0.00000
549	22.50000	-0.04994	0.00000
550	23.00000	-0.04975	0.00000
551	23.50000	-0.04944	0.00000
552	24.00000	-0.05000	0.00000
553	24.50000	-0.04994	0.00000
554	25.00000	-0.04975	0.00000
555	25.50000	-0.04944	0.00000
556	26.00000	-0.05000	0.00000
557	26.50000	-0.04994	0.00000
558	27.00000	-0.04975	0.00000
559	27.50000	-0.04944	0.00000
560	28.00000	-0.05000	0.00000
561	28.50000	-0.04994	0.00000
562	29.00000	-0.04975	0.00000
563	29.50000	-0.04944	0.00000
564	30.00000	-0.05000	0.00000
565	30.50000	-0.04994	0.00000
566	31.00000	-0.04975	0.00000
567	31.50000	-0.04944	0.00000
568	32.00000	-0.05000	0.00000
569	32.50000	-0.04994	0.00000
570	33.00000	-0.04975	0.00000
571	33.50000	-0.04944	0.00000
572	34.00000	-0.05000	0.00000
573	34.50000	-0.04994	0.00000
574	35.00000	-0.04975	0.00000
575	35.50000	-0.04944	0.00000
576	36.00000	-0.05000	0.00000
577	36.50000	-0.04994	0.00000
578	37.00000	-0.04975	0.00000
579	37.50000	-0.04944	0.00000
580	38.00000	-0.05000	0.00000

581	38.50000	-0.04994	0.00000		
582	39.00000	-0.04975	0.00000		
583	39.50000	-0.04944	0.00000		
584	40.00000	-0.05000	0.00000		
585	40.50000	-0.04994	0.00000		
586	41.00000	-0.04975	0.00000		
587	41.50000	-0.04944	0.00000		
588	42.00000	-0.05000	0.00000		
589	42.50000	-0.04994	0.00000		
590	43.00000	-0.04975	0.00000		
591	43.50000	-0.04944	0.00000		
592	44.00000	-0.05000	0.00000		
593	44.50000	-0.04994	0.00000		
594	45.00000	-0.04975	0.00000		
595	45.50000	-0.04944	0.00000		
596	46.00000	-0.05000	0.00000		
597	46.50000	-0.04994	0.00000		
598	47.00000	-0.04975	0.00000		
599	47.50000	-0.04944	0.00000		
600	48.00000	-0.05000	0.00000		
601	48.50000	-0.04994	0.00000		
602	49.00000	-0.04975	0.00000		
603	49.50000	-0.04944	0.00000		
604	50.00000	-0.05000	0.00000		
605					
606	時間序列				
607	0.0000,	0.5000,	1.0000,	1.5000,	2.0000,
608	2.5000,	3.0000,	3.5000,	4.0000,	4.5000,
609	5.0000,	5.5000,	6.0000,	6.5000,	7.0000,
610	7.5000,	8.0000,	8.5000,	9.0000,	9.5000,
611	10.0000,	10.5000,	11.0000,	11.5000,	12.0000,
612	12.5000,	13.0000,	13.5000,	14.0000,	14.5000,
613	15.0000,	15.5000,	16.0000,	16.5000,	17.0000,
614	17.5000,	18.0000,	18.5000,	19.0000,	19.5000,
615	20.0000,	20.5000,	21.0000,	21.5000,	22.0000,
616	22.5000,	23.0000,	23.5000,	24.0000,	24.5000,
617	25.0000,	25.5000,	26.0000,	26.5000,	27.0000,
618	27.5000,	28.0000,	28.5000,	29.0000,	29.5000,
619	30.0000,	30.5000,	31.0000,	31.5000,	32.0000,
620	32.5000,	33.0000,	33.5000,	34.0000,	34.5000,
621	35.0000,	35.5000,	36.0000,	36.5000,	37.0000,
622	37.5000,	38.0000,	38.5000,	39.0000,	39.5000,
623	40.0000,	40.5000,	41.0000,	41.5000,	42.0000,
624	42.5000,	43.0000,	43.5000,	44.0000,	44.5000,
625	45.0000,	45.5000,	46.0000,	46.5000,	47.0000,

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626 47.5000, 48.0000, 48.5000, 49.0000, 49.5000,
627 50.0000,
628
629 第0點變位序列
630 5.0000, 4.4938, 3.9750, 3.4439, 2.9003,
631 4.4938, 3.9750, 3.4439, 5.0000, 4.4938,
632 3.9750, 3.4439, 5.0000, 4.4938, 3.9750,
633 3.4439, 5.0000, 4.4938, 3.9750, 3.4439,
634 5.0000, 4.4938, 3.9750, 3.4439, 5.0000,
635 4.4938, 3.9750, 3.4439, 5.0000, 4.4938,
636 3.9750, 3.4439, 5.0000, 4.4938, 3.9750,
637 3.4439, 5.0000, 4.4938, 3.9750, 3.4439,
638 5.0000, 4.4938, 3.9750, 3.4439, 5.0000,
639 4.4938, 3.9750, 3.4439, 5.0000, 4.4938,
640 3.9750, 3.4439, 5.0000, 4.4938, 3.9750,
641 3.4439, 5.0000, 4.4938, 3.9750, 3.4439,
642 5.0000, 4.4938, 3.9750, 3.4439, 5.0000,
643 4.4938, 3.9750, 3.4439, 5.0000, 4.4938,
644 3.9750, 3.4439, 5.0000, 4.4938, 3.9750,
645 3.4439, 5.0000, 4.4938, 3.9750, 3.4439,
646 5.0000, 4.4938, 3.9750, 3.4439, 5.0000,
647 4.4938, 3.9750, 3.4439, 5.0000, 4.4938,
648 3.9750, 3.4439, 5.0000, 4.4938, 3.9750,
649 3.4439, 5.0000, 4.4938, 3.9750, 3.4439,
650 5.0000,
651
652 第1點變位序列
653 1.0000, 1.5000, 2.0000, 2.5000, 3.0000,
654 1.5000, 2.0000, 2.5000, 1.0000, 1.5000,
655 2.0000, 2.5000, 1.0000, 1.5000, 2.0000,
656 2.5000, 1.0000, 1.5000, 2.0000, 2.5000,
657 1.0000, 1.5000, 2.0000, 2.5000, 1.0000,
658 1.5000, 2.0000, 2.5000, 1.0000, 1.5000,
659 2.0000, 2.5000, 1.0000, 1.5000, 2.0000,
660 2.5000, 1.0000, 1.5000, 2.0000, 2.5000,
661 1.0000, 1.5000, 2.0000, 2.5000, 1.0000,
662 1.5000, 2.0000, 2.5000, 1.0000, 1.5000,
663 2.0000, 2.5000, 1.0000, 1.5000, 2.0000,
664 2.5000, 1.0000, 1.5000, 2.0000, 2.5000,
665 1.0000, 1.5000, 2.0000, 2.5000, 1.0000,
666 1.5000, 2.0000, 2.5000, 1.0000, 1.5000,
667 2.0000, 2.5000, 1.0000, 1.5000, 2.0000,
668 2.5000, 1.0000, 1.5000, 2.0000, 2.5000,
669 1.0000, 1.5000, 2.0000, 2.5000, 1.0000,
670 1.5000, 2.0000, 2.5000, 1.0000, 1.5000,
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671 2.0000, 2.5000, 1.0000, 1.5000, 2.0000,
672 2.5000, 1.0000, 1.5000, 2.0000, 2.5000,
673 1.0000,
674
675 第0點速度序列
676 -1.0000, -1.0250, -1.0499, -1.0747, -1.0993,
677 -1.0250, -1.0499, -1.0747, -1.0000, -1.0250,
678 -1.0499, -1.0747, -1.0000, -1.0250, -1.0499,
679 -1.0747, -1.0000, -1.0250, -1.0499, -1.0747,
680 -1.0000, -1.0250, -1.0499, -1.0747, -1.0000,
681 -1.0250, -1.0499, -1.0747, -1.0000, -1.0250,
682 -1.0499, -1.0747, -1.0000, -1.0250, -1.0499,
683 -1.0747, -1.0000, -1.0250, -1.0499, -1.0747,
684 -1.0000, -1.0250, -1.0499, -1.0747, -1.0000,
685 -1.0250, -1.0499, -1.0747, -1.0000, -1.0250,
686 -1.0499, -1.0747, -1.0000, -1.0250, -1.0499,
687 -1.0747, -1.0000, -1.0250, -1.0499, -1.0747,
688 -1.0000, -1.0250, -1.0499, -1.0747, -1.0000,
689 -1.0250, -1.0499, -1.0747, -1.0000, -1.0250,
690 -1.0499, -1.0747, -1.0000, -1.0250, -1.0499,
691 -1.0747, -1.0000, -1.0250, -1.0499, -1.0747,
692 -1.0000, -1.0250, -1.0499, -1.0747, -1.0000,
693 -1.0250, -1.0499, -1.0747, -1.0000, -1.0250,
694 -1.0499, -1.0747, -1.0000, -1.0250, -1.0499,
695 -1.0747, -1.0000, -1.0250, -1.0499, -1.0747,
696 -1.0000,
697
698 第1點速度序列
699 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
700 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
701 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
702 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
703 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
704 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
705 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
706 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
707 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
708 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
709 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
710 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
711 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
712 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
713 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
714 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
715 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
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716 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
717 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
718 1.0000, 1.0000, 1.0000, 1.0000, 1.0000,
719 1.0000,
720
721 第0點加速度序列
722 -0.0500, -0.0499, -0.0498, -0.0494, -0.0490,
723 -0.0499, -0.0498, -0.0494, -0.0500, -0.0499,
724 -0.0498, -0.0494, -0.0500, -0.0499, -0.0498,
725 -0.0494, -0.0500, -0.0499, -0.0498, -0.0494,
726 -0.0500, -0.0499, -0.0498, -0.0494, -0.0500,
727 -0.0499, -0.0498, -0.0494, -0.0500, -0.0499,
728 -0.0498, -0.0494, -0.0500, -0.0499, -0.0498,
729 -0.0494, -0.0500, -0.0499, -0.0498, -0.0494,
730 -0.0500, -0.0499, -0.0498, -0.0494, -0.0500,
731 -0.0499, -0.0498, -0.0494, -0.0500, -0.0499,
732 -0.0498, -0.0494, -0.0500, -0.0499, -0.0498,
733 -0.0494, -0.0500, -0.0499, -0.0498, -0.0494,
734 -0.0500, -0.0499, -0.0498, -0.0494, -0.0500,
735 -0.0499, -0.0498, -0.0494, -0.0500, -0.0499,
736 -0.0498, -0.0494, -0.0500, -0.0499, -0.0498,
737 -0.0494, -0.0500, -0.0499, -0.0498, -0.0494,
738 -0.0500, -0.0499, -0.0498, -0.0494, -0.0500,
739 -0.0499, -0.0498, -0.0494, -0.0500, -0.0499,
740 -0.0498, -0.0494, -0.0500, -0.0499, -0.0498,
741 -0.0494, -0.0500, -0.0499, -0.0498, -0.0494,
742 -0.0500,
743
744 第1點加速度序列
745 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
746 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
747 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
748 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
749 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
750 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
751 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
752 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
753 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
754 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
755 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
756 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
757 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
758 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
759 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
760 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
```

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761     0.0000,    0.0000,    0.0000,    0.0000,    0.0000,  
762     0.0000,    0.0000,    0.0000,    0.0000,    0.0000,  
763     0.0000,    0.0000,    0.0000,    0.0000,    0.0000,  
764     0.0000,    0.0000,    0.0000,    0.0000,    0.0000,  
765     0.0000,  
766  
767 請按任意鍵繼續 . . .  
768 */
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