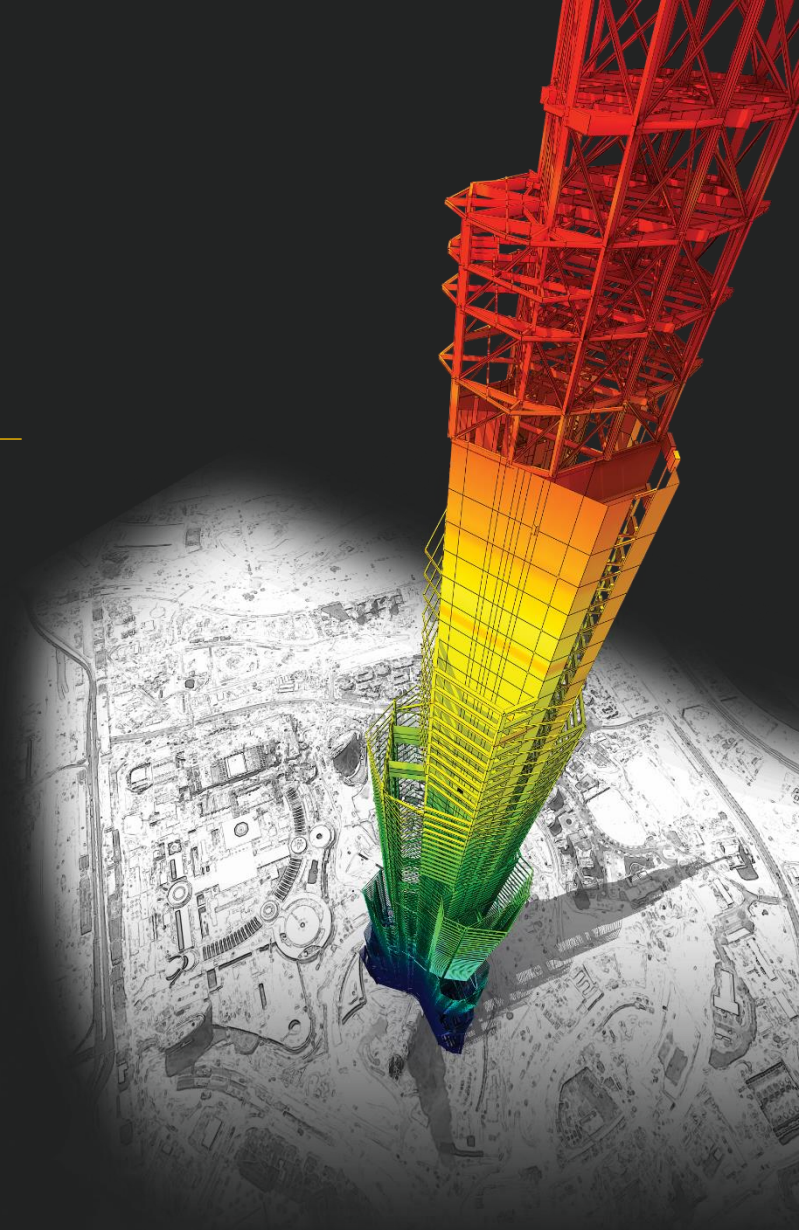


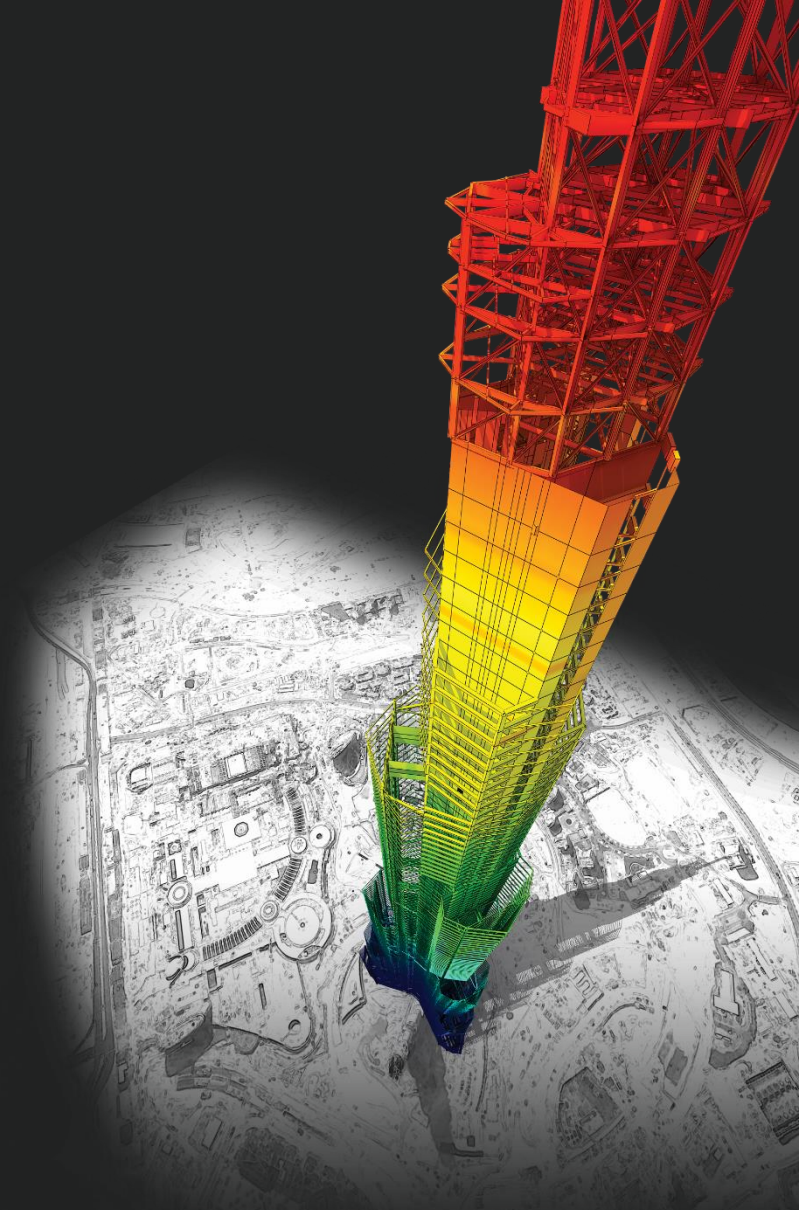
結構週期很大



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問題



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1. THERE ARE ONLY 5 FREQUENCIES IN THE RANGE OF INTEREST
2. THE PERIOD 0.12730E+02 IS GREATER THAN THE HIGHEST INPUT PERIOD 0.30000E+01 HENCE SPECTRUM VALUES ARE USED AT HIGHEST PERIOD 0.30000E+01
.....等 WARNING

可以麻煩幫我看一下是否有建模或設定不洽當嗎?

```
ENTRY RESPONSE SPECTRUM ANALYSIS (SIM)
  MAXIMUM MODAL DISPLACEMENTS.

WARNING : THE PERIOD 0.12730E+02 IS GREATER THAN THE HIGHEST INPUT PERIOD 0.30000E+01
          HENCE SPECTRUM VALUES ARE USED AT HIGHEST PERIOD 0.30000E+01

WARNING : THE PERIOD 0.42246E+01 IS GREATER THAN THE HIGHEST INPUT PERIOD 0.30000E+01
          HENCE SPECTRUM VALUES ARE USED AT HIGHEST PERIOD 0.30000E+01

WARNING : THE PERIOD 0.42245E+01 IS GREATER THAN THE HIGHEST INPUT PERIOD 0.30000E+01
          HENCE SPECTRUM VALUES ARE USED AT HIGHEST PERIOD 0.30000E+01

WARNING : THE PERIOD 0.42245E+01 IS GREATER THAN THE HIGHEST INPUT PERIOD 0.30000E+01
          HENCE SPECTRUM VALUES ARE USED AT HIGHEST PERIOD 0.30000E+01

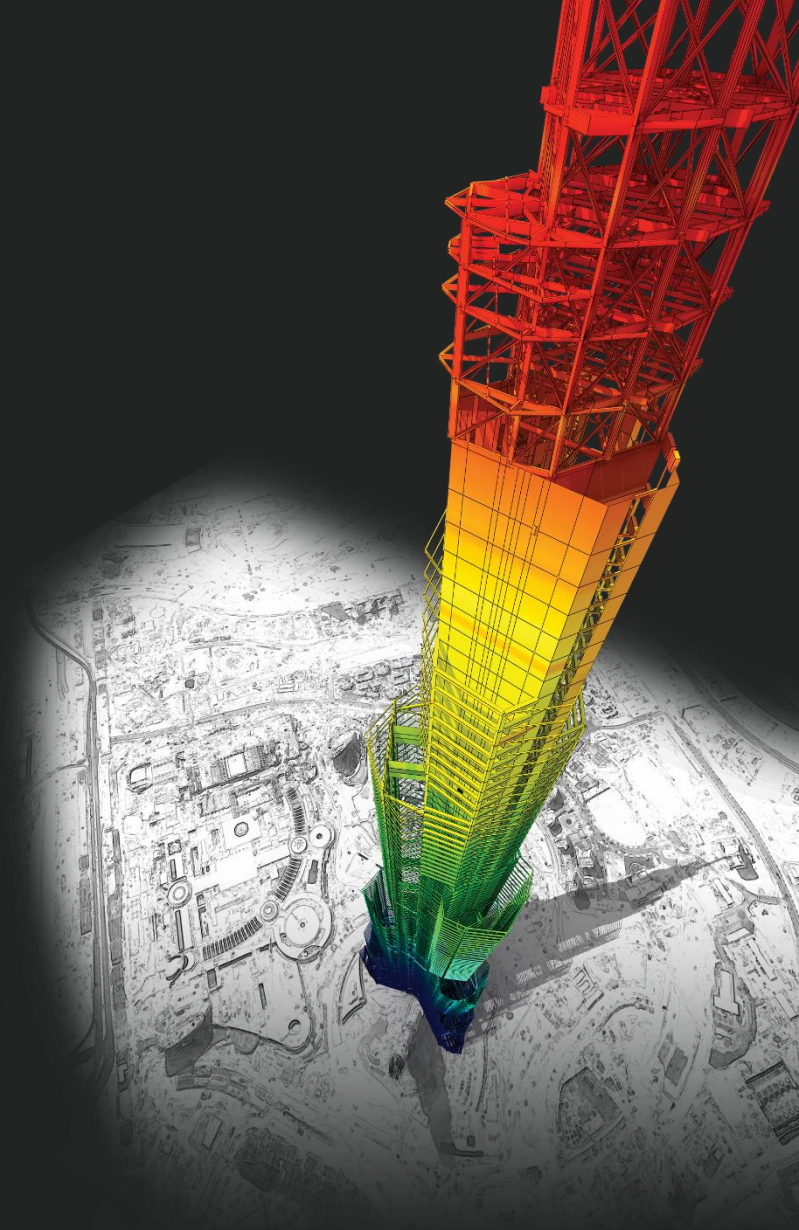
WARNING : THE PERIOD 0.12730E+02 IS GREATER THAN THE HIGHEST INPUT PERIOD 0.30000E+01
          HENCE SPECTRUM VALUES ARE USED AT HIGHEST PERIOD 0.30000E+01

WARNING : THE PERIOD 0.42246E+01 IS GREATER THAN THE HIGHEST INPUT PERIOD 0.30000E+01
          HENCE SPECTRUM VALUES ARE USED AT HIGHEST PERIOD 0.30000E+01

WARNING : THE PERIOD 0.42245E+01 IS GREATER THAN THE HIGHEST INPUT PERIOD 0.30000E+01
          HENCE SPECTRUM VALUES ARE USED AT HIGHEST PERIOD 0.30000E+01

WARNING : THE PERIOD 0.42245E+01 IS GREATER THAN THE HIGHEST INPUT PERIOD 0.30000E+01
          HENCE SPECTRUM VALUES ARE USED AT HIGHEST PERIOD 0.30000E+01
```

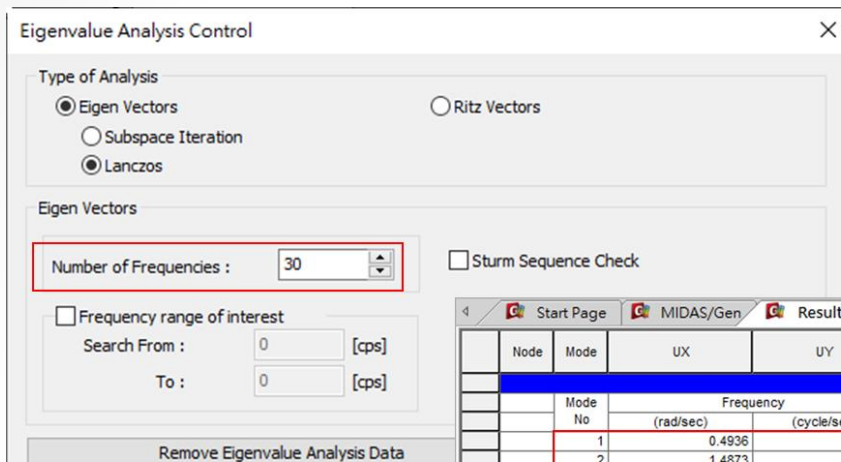
回答



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A1: 這個問題因為在 Analysis > Eigenvalue > 在 Number of Frequency 您輸入 30。但是您的結構只有 5 個 Mode。



Eigenvalue Analysis Control

Type of Analysis

Eigen Vectors Ritz Vectors

Subspace Iteration

Lanczos

Eigen Vectors

Number of Frequencies : 30

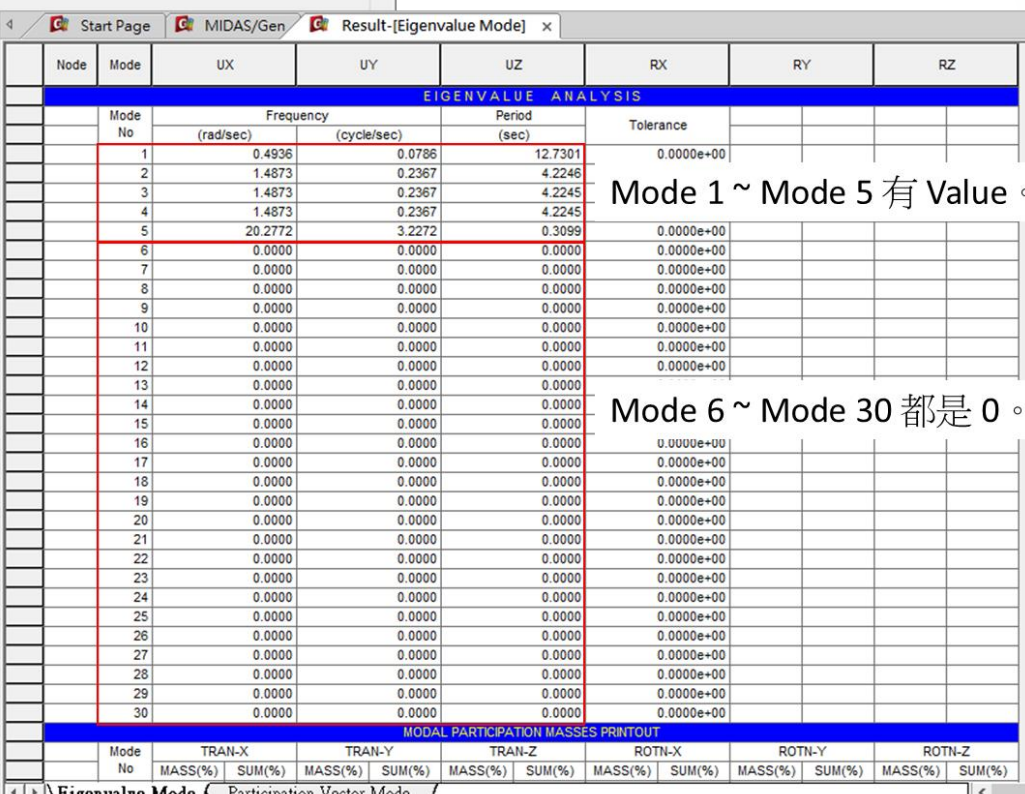
Sturm Sequence Check

Frequency range of interest

Search From : 0 [cps]

To : 0 [cps]

Remove Eigenvalue Analysis Data

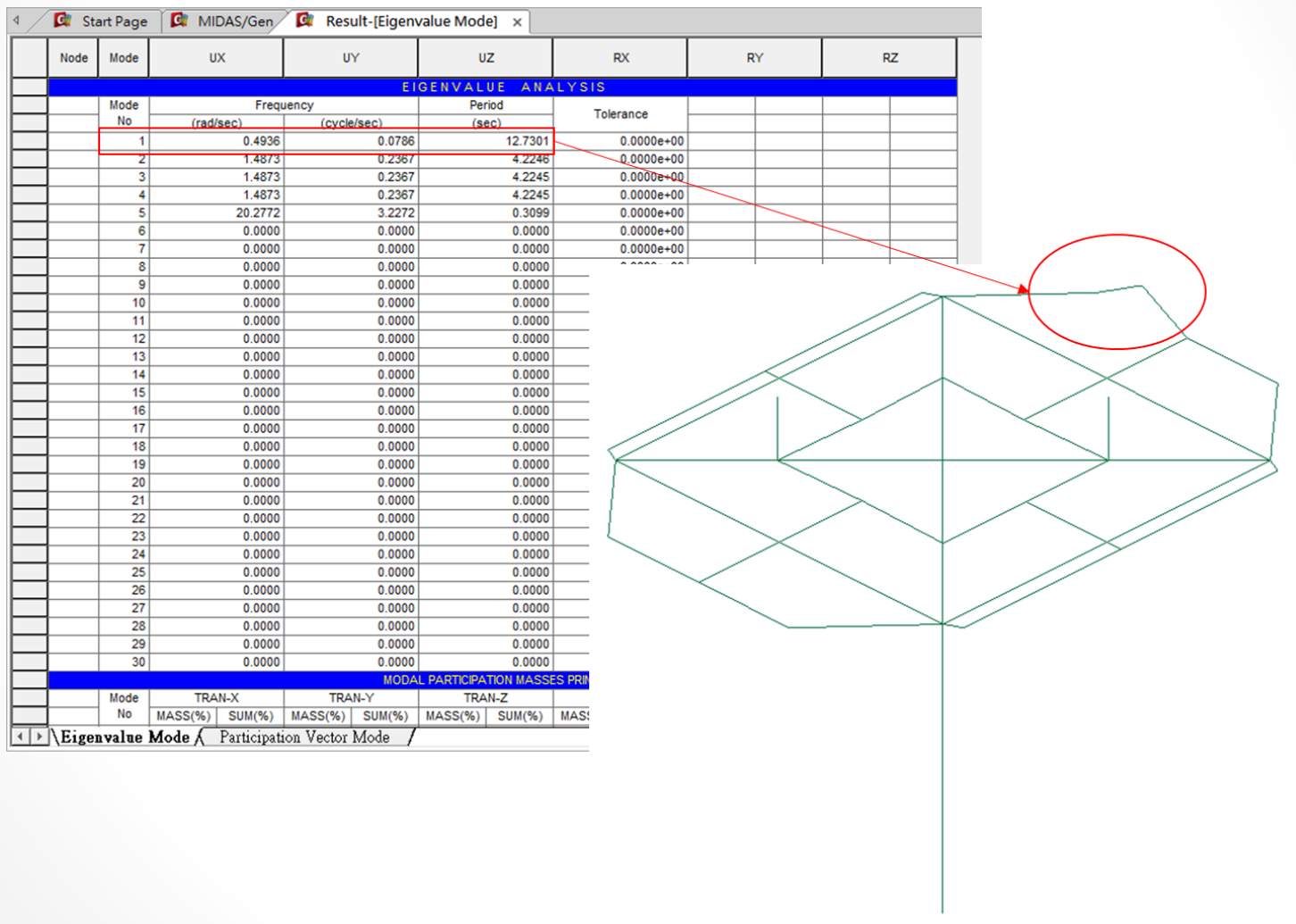


Node	Mode	UX	UY	UZ	RX	RY	RZ						
EIGENVALUE ANALYSIS													
	Mode No	Frequency (rad/sec)	Frequency (cycle/sec)	Period (sec)	Tolerance								
	1	0.4936	0.0786	12.7301	0.0000e+00								
	2	1.4873	0.2367	4.2246									
	3	1.4873	0.2367	4.2245									
	4	1.4873	0.2367	4.2245									
	5	20.2772	3.2272	0.3099	0.0000e+00								
	6	0.0000	0.0000	0.0000	0.0000e+00								
	7	0.0000	0.0000	0.0000	0.0000e+00								
	8	0.0000	0.0000	0.0000	0.0000e+00								
	9	0.0000	0.0000	0.0000	0.0000e+00								
	10	0.0000	0.0000	0.0000	0.0000e+00								
	11	0.0000	0.0000	0.0000	0.0000e+00								
	12	0.0000	0.0000	0.0000	0.0000e+00								
	13	0.0000	0.0000	0.0000									
	14	0.0000	0.0000	0.0000									
	15	0.0000	0.0000	0.0000									
	16	0.0000	0.0000	0.0000	0.0000e+00								
	17	0.0000	0.0000	0.0000	0.0000e+00								
	18	0.0000	0.0000	0.0000	0.0000e+00								
	19	0.0000	0.0000	0.0000	0.0000e+00								
	20	0.0000	0.0000	0.0000	0.0000e+00								
	21	0.0000	0.0000	0.0000	0.0000e+00								
	22	0.0000	0.0000	0.0000	0.0000e+00								
	23	0.0000	0.0000	0.0000	0.0000e+00								
	24	0.0000	0.0000	0.0000	0.0000e+00								
	25	0.0000	0.0000	0.0000	0.0000e+00								
	26	0.0000	0.0000	0.0000	0.0000e+00								
	27	0.0000	0.0000	0.0000	0.0000e+00								
	28	0.0000	0.0000	0.0000	0.0000e+00								
	29	0.0000	0.0000	0.0000	0.0000e+00								
	30	0.0000	0.0000	0.0000	0.0000e+00								
MODAL PARTICIPATION MASSES PRINTOUT													
	Mode No	TRAN-X MASS(%)	TRAN-X SUM(%)	TRAN-Y MASS(%)	TRAN-Y SUM(%)	TRAN-Z MASS(%)	TRAN-Z SUM(%)	ROTN-X MASS(%)	ROTN-X SUM(%)	ROTN-Y MASS(%)	ROTN-Y SUM(%)	ROTN-Z MASS(%)	ROTN-Z SUM(%)

Mode 1 ~ Mode 5 有 Value。

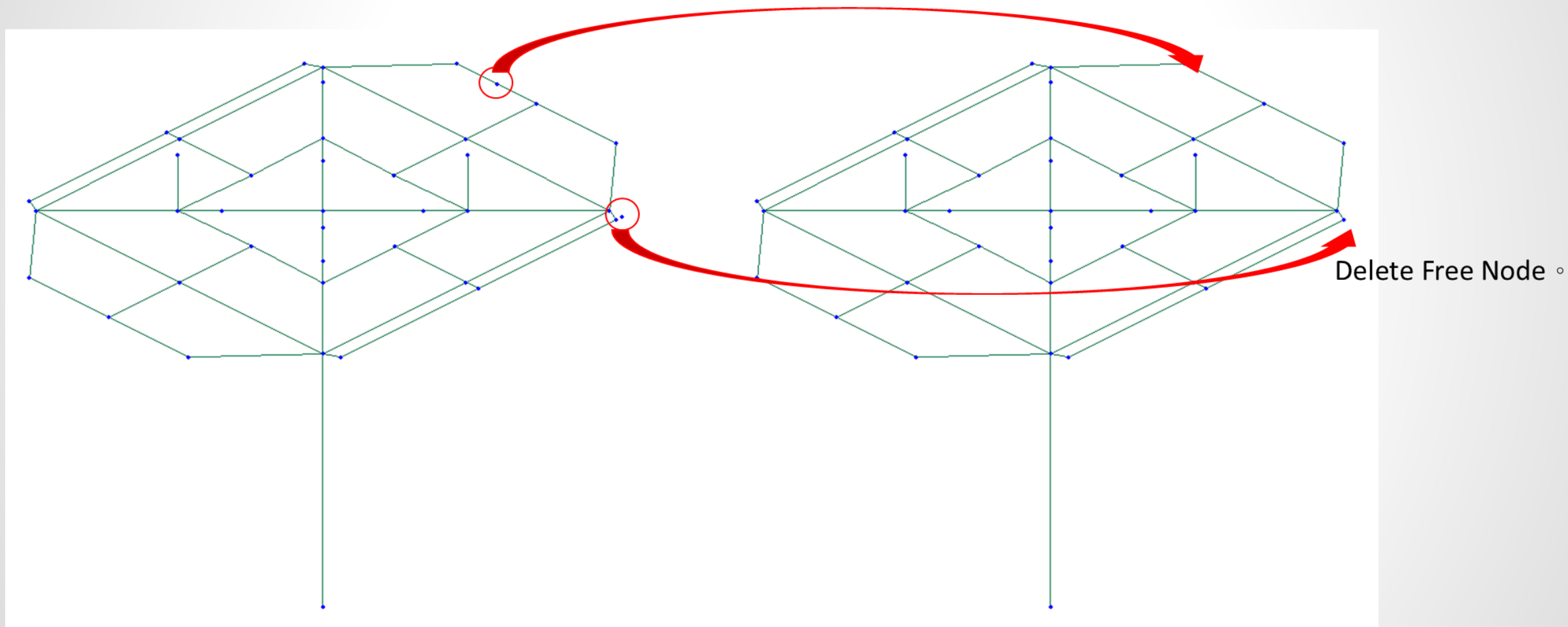
Mode 6 ~ Mode 30 都是 0。

A2: 因為結構週期很大 (大概 12.7 秒)。所以應該您的結構有問題。
看第一個 mode，有一個 Element 有問題。



您可以 merge 那個 Element。然後我也看有一個 Free Node。所以您可以 Delete 那個 free node。

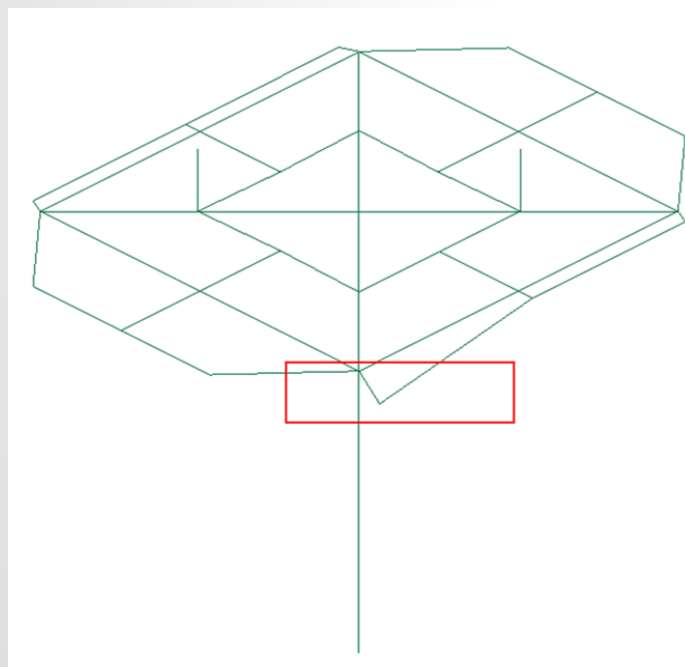
在 Node/Element > Element > Merge。



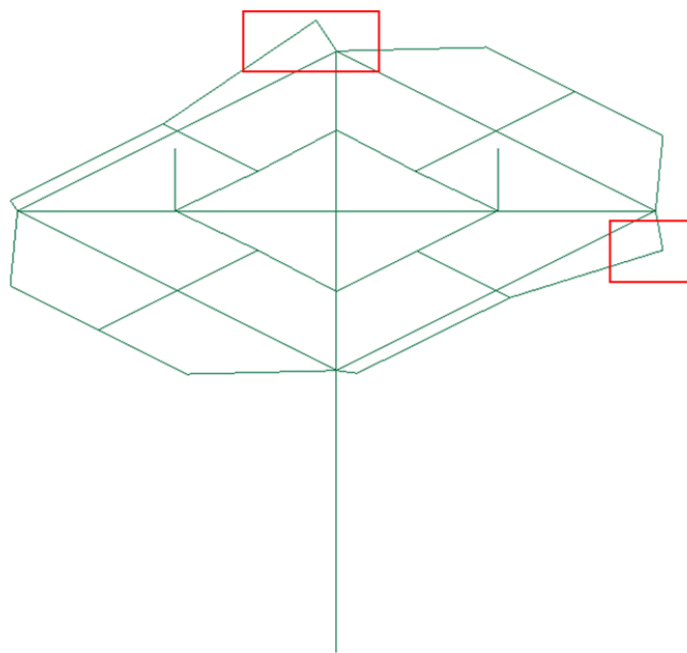
您可以看結構週期是大概 4.2 秒。然後我看有 Local Mode 的問題。所以您應該查看您的結構。

Node	Mode	UX	UY	UZ	RX	RY	RZ
EIGENVALUE ANALYSIS							
Mode No	Frequency (rad/sec)	Frequency (cycle/sec)	Period (sec)	Tolerance			
1	0.4936	0.0786	12.7301	0.0000e+00			
2	1.4873	0.2367	4.2246	0.0000e+00			
3	1.4873	0.2367	4.2245	0.0000e+00			
4	1.4873	0.2367	4.2245	0.0000e+00			
5	20.2772	3.2272	0.3099	0.0000e+00			
6	0.0000	0.0000	0.0000	0.0000e+00			

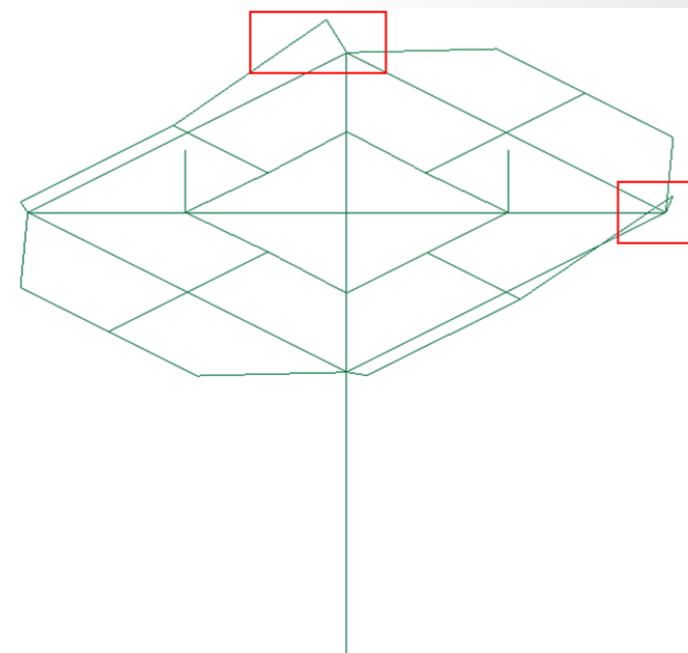
Node	Mode	UX	UY	UZ	RX	RY	RZ
EIGENVALUE ANALYSIS							
Mode No	Frequency (rad/sec)	Frequency (cycle/sec)	Period (sec)	Tolerance			
1	1.4873	0.2367	4.2246	0.0000e+00			
2	1.4873	0.2367	4.2245	0.0000e+00			
3	1.4873	0.2367	4.2245	0.0000e+00			
4	20.2766	3.2271	0.3099	0.0000e+00			
5	61.0587	9.7178	0.1029	0.0000e+00			
6	0.0000	0.0000	0.0000	0.0000e+00			



Mode 1

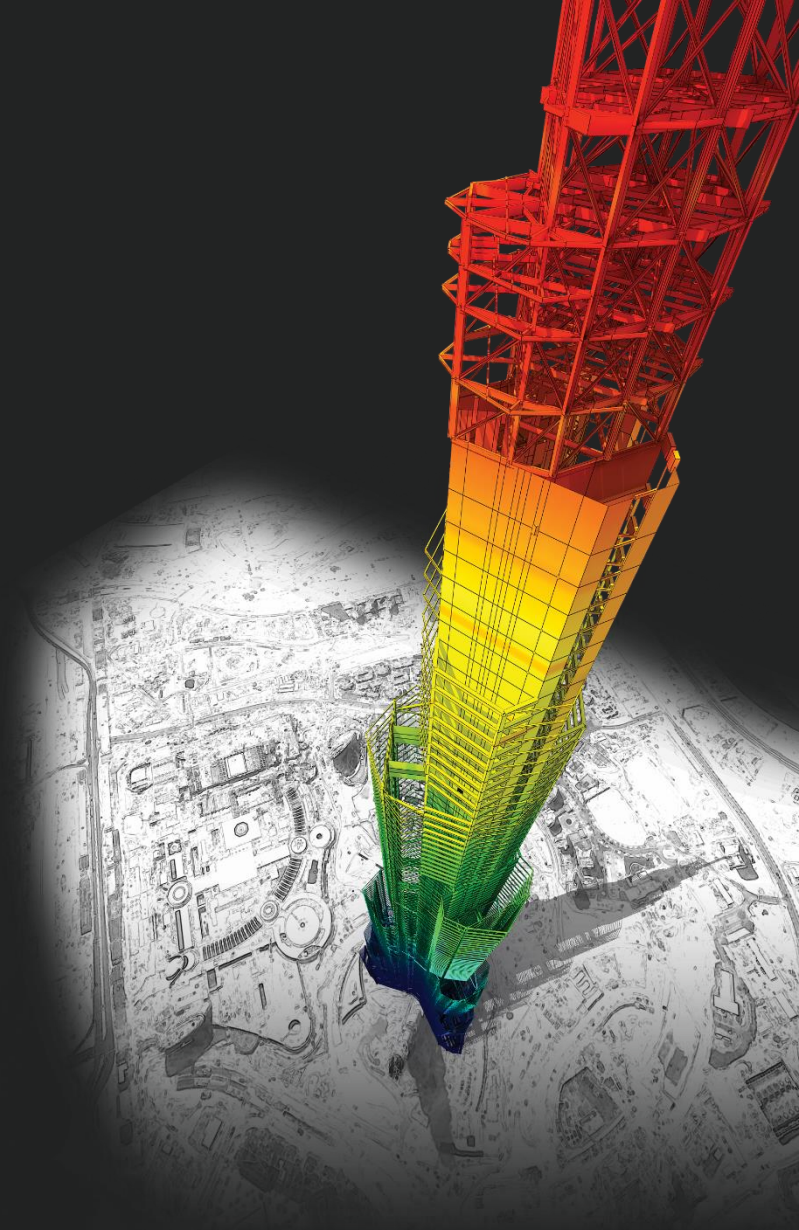


Mode 2



Mode 3

Thank You



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