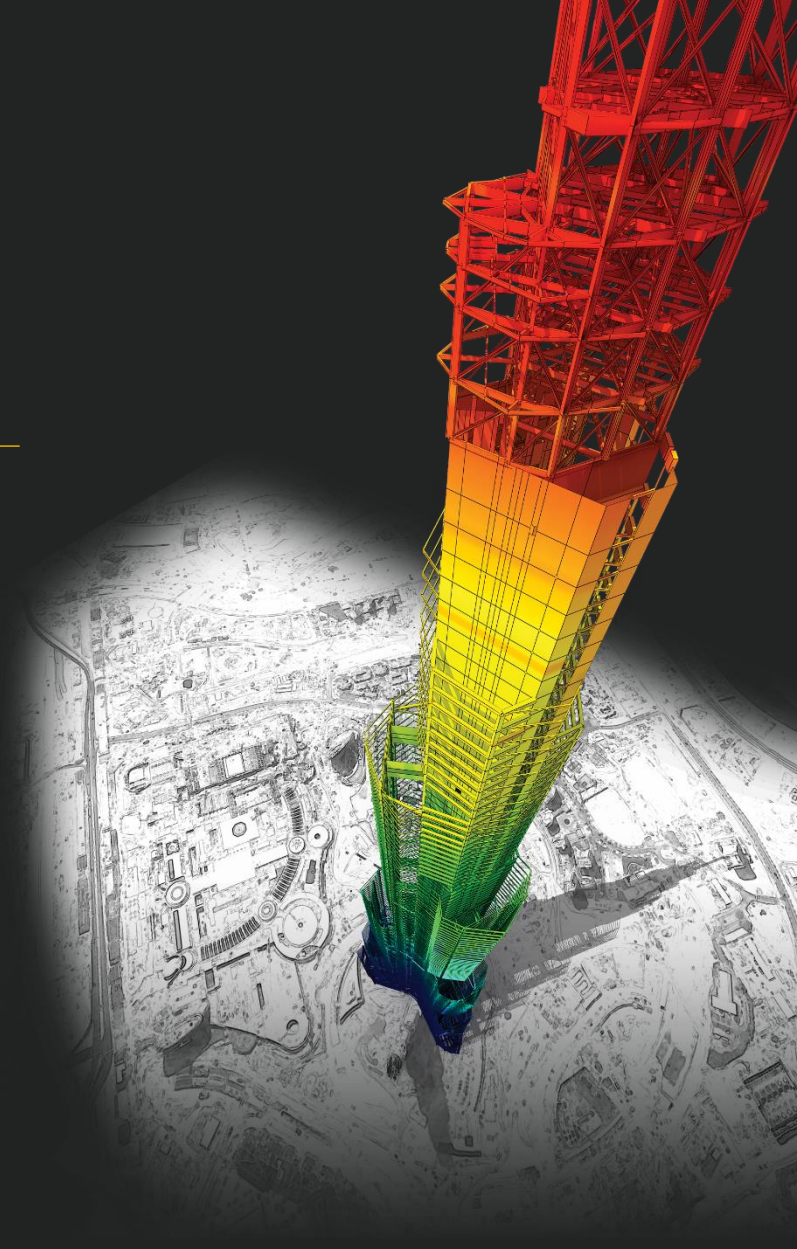
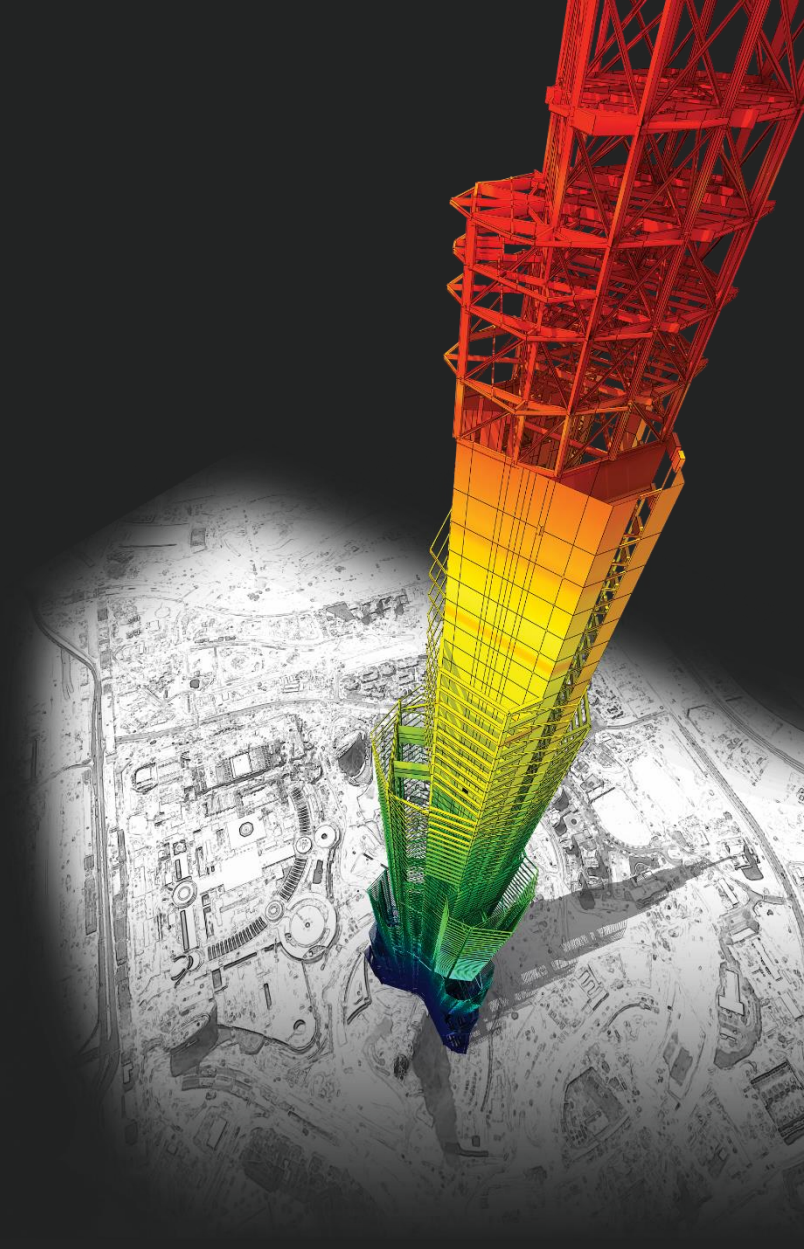
Response Spectrum Scale Factor



問題



問題

請教在 Gen – RC 建築樓房應用範例 (分析和設計) YT 影片中，
Response Spectrum Load Case 之 RX 之 Scale Factor 用 1.198 及 RY 用 1.178，是如何計算出來的?

■ **Load > Dynamic Loads > RS Load Cases**

- 選 Load Case = RX > Scale Factor : **1.198** ; Operations > Modify
- 選 Load Case = RY > Scale Factor : **1.178** ; Operations > Modify

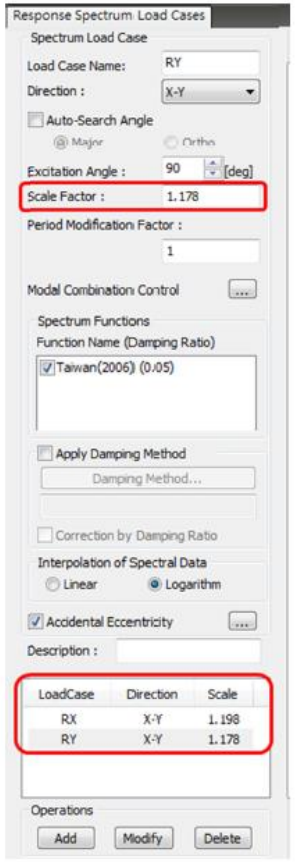
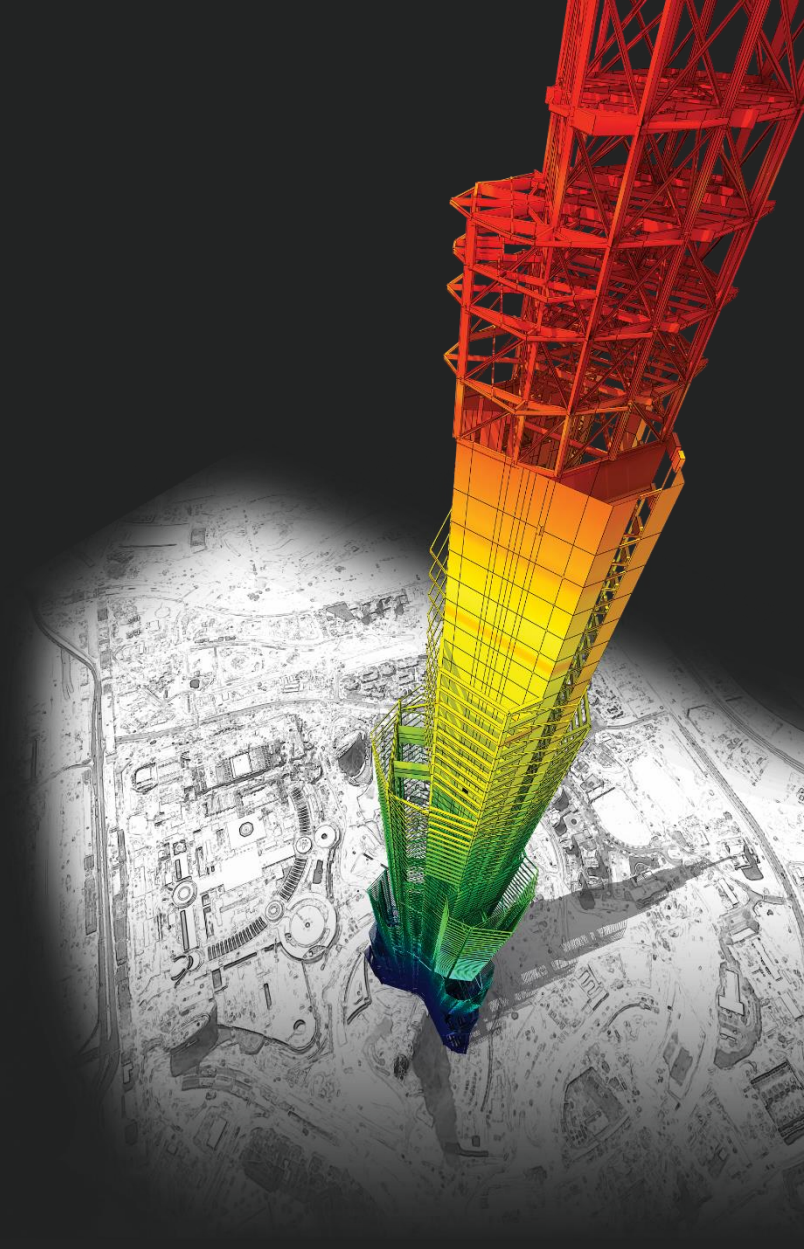


圖 57. 輸入總橫力調整係數

回答

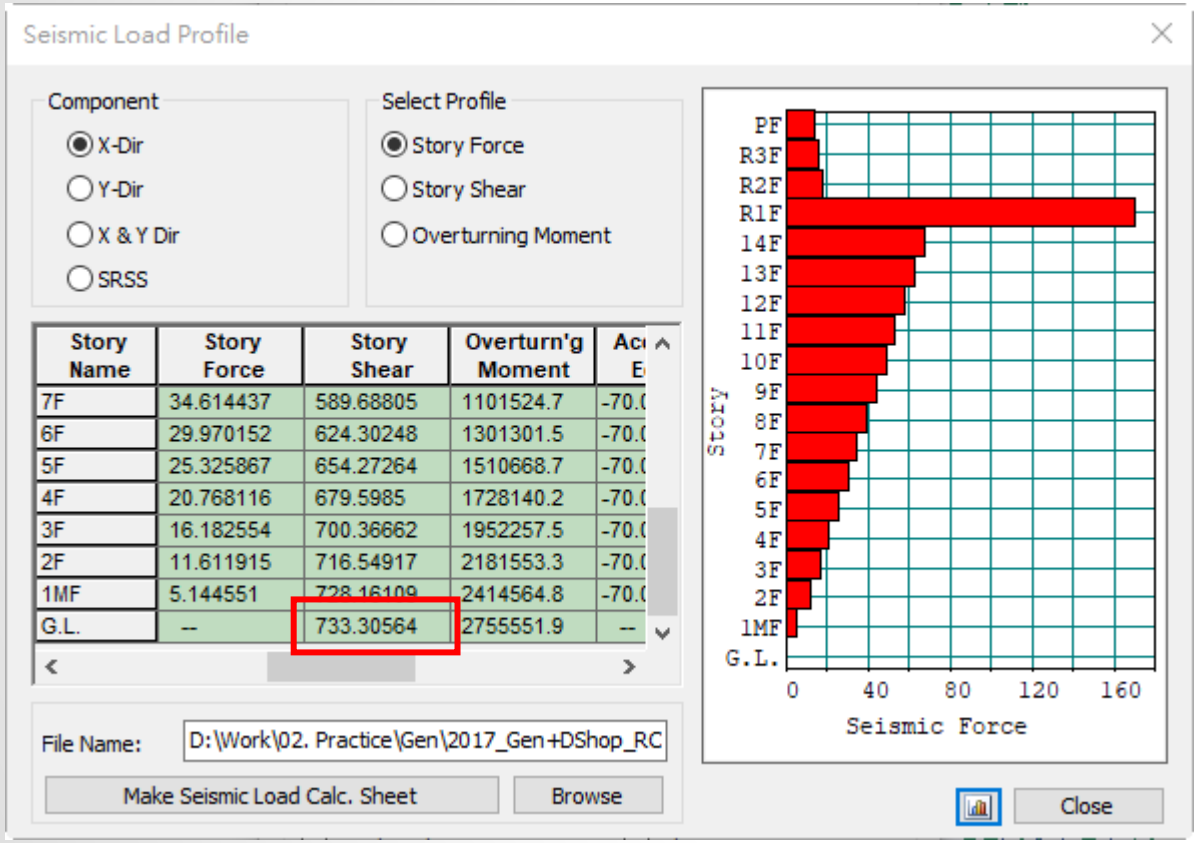


回答

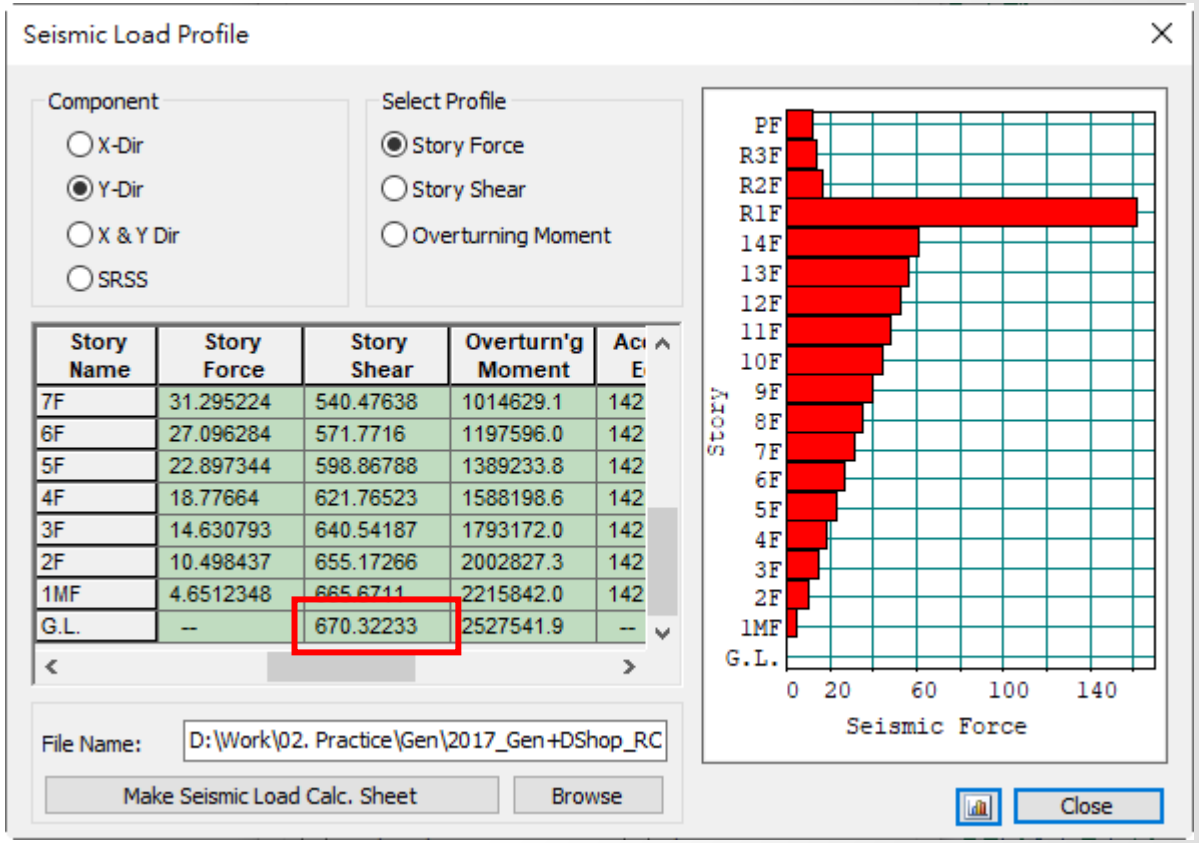
RS Scale Factor = Static Seismic Load 的 Base Shear / RS Seismic Load (Scale Factor = 1) 的 Base Shear。

所以：

1. 看 Static Seismic Load 的 Base Shear。 (在 Load > Static Load > Seismic Load)



Base Shear EX = 733 tonf



Base Shear EY = 670 tonf

回答

2. 在 RS Seismic Load Case > Scale Factor，輸入 1。然後分析您的結構。
在 Result > Result Tables > Story > Story Shear (Response Spectrum Analysis) > 選 RX 與 RY。

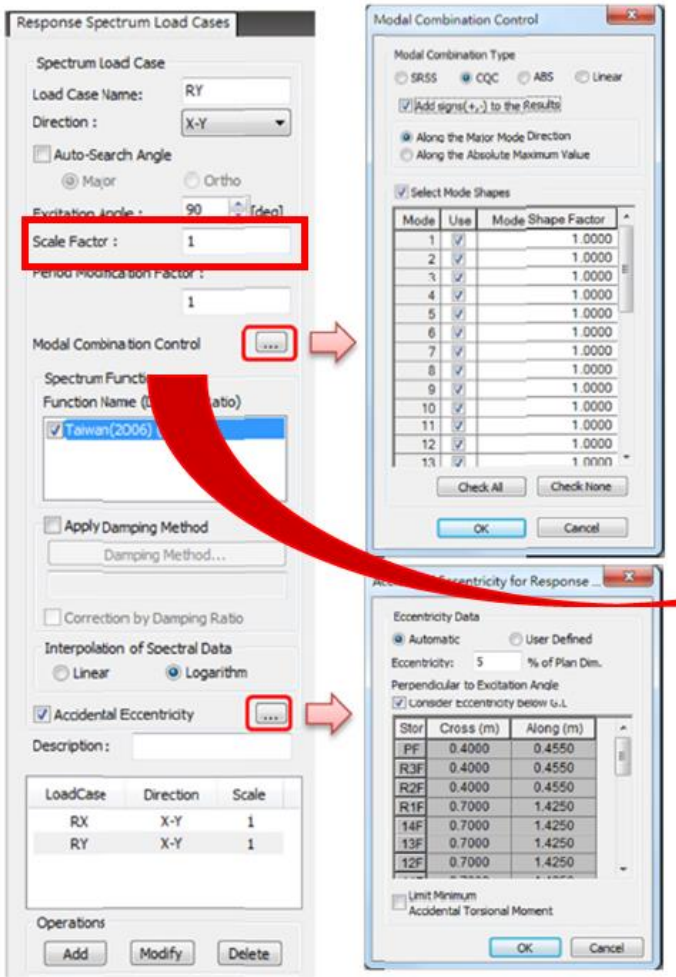


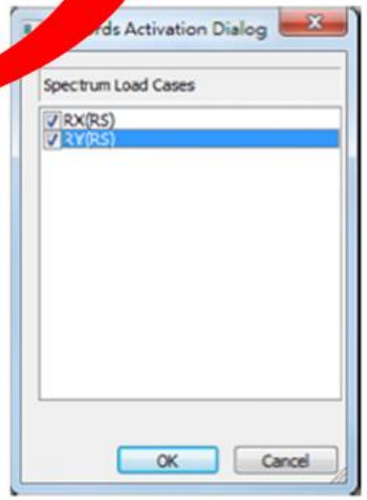
圖 48. 動力反應譜載重狀況設定

- 切換到 “ **Story Shear Force Coefficient** “ 表單查看 1F Shear Force 數值。

Shear Force @ 1F

RX(RS) : 612 tonf

RY(RS) : 569 tonf



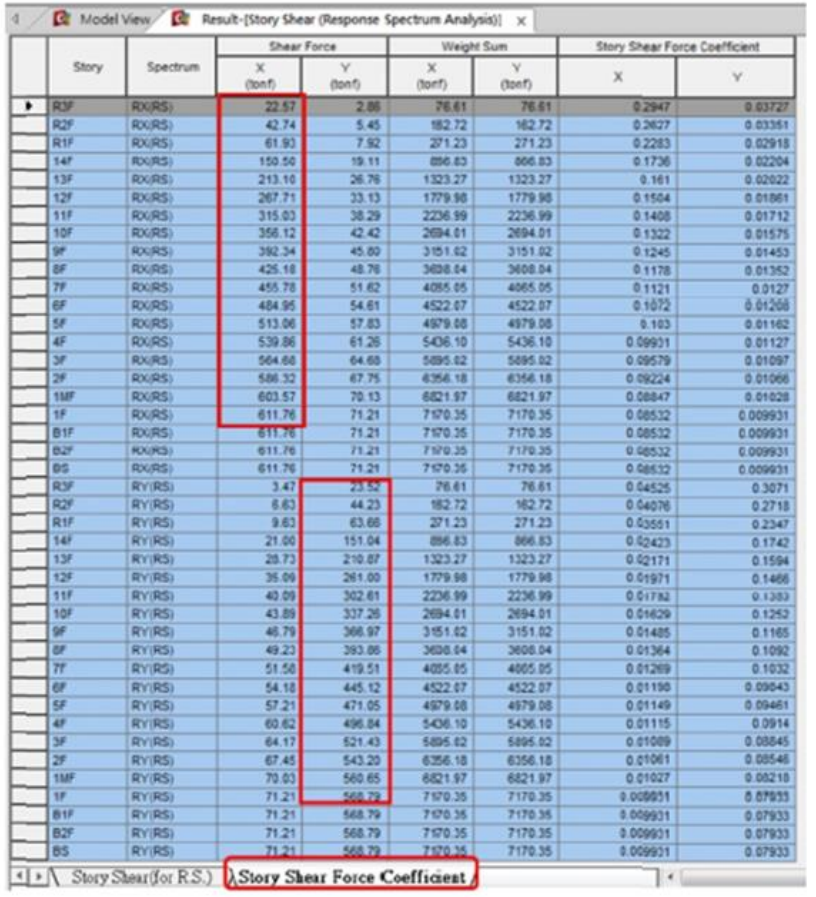


圖 56. 動力反應譜分析層剪力結果

回答

3. 計算 RS Seismic Load 的 Scale Factor。

$$Scale\ Factor = \frac{Static\ Seismic\ Load\ 的\ Base\ Shear}{RS\ Seismic\ Load\ (Scale\ Factor = 1)\ 的\ \text{Base Shear}}$$

$$Scale\ Factor\ X = \frac{733}{612} = 1.198$$

$$Scale\ Factor\ X = \frac{670}{569} = 1.178$$

■ **Load > Dynamic Loads > RS Load Cases**

- 選 Load Case = RX > Scale Factor : **1.198** ; Operations > Modify
- 選 Load Case = RY > Scale Factor : **1.178** ; Operations > Modify

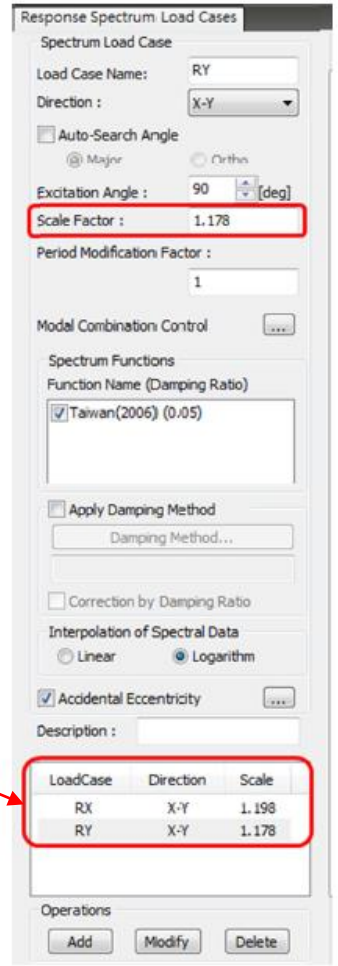
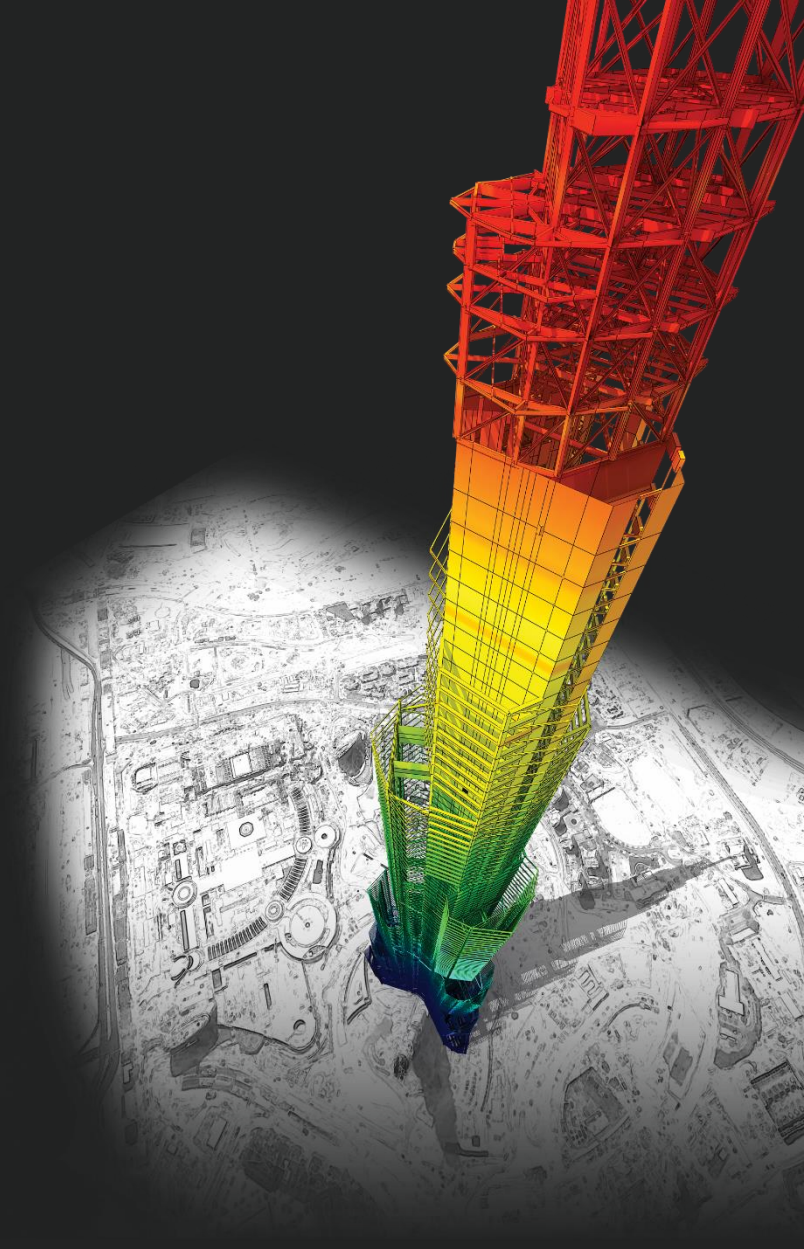


圖 57. 輸入總橫力調整係數

Thank You