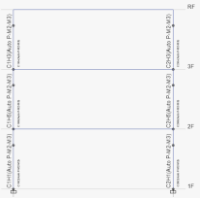
MULTI-CUT REBAR(10)

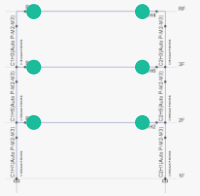
Advisor : Prof. K.C.Chang

Presenters : You-Ran Nai

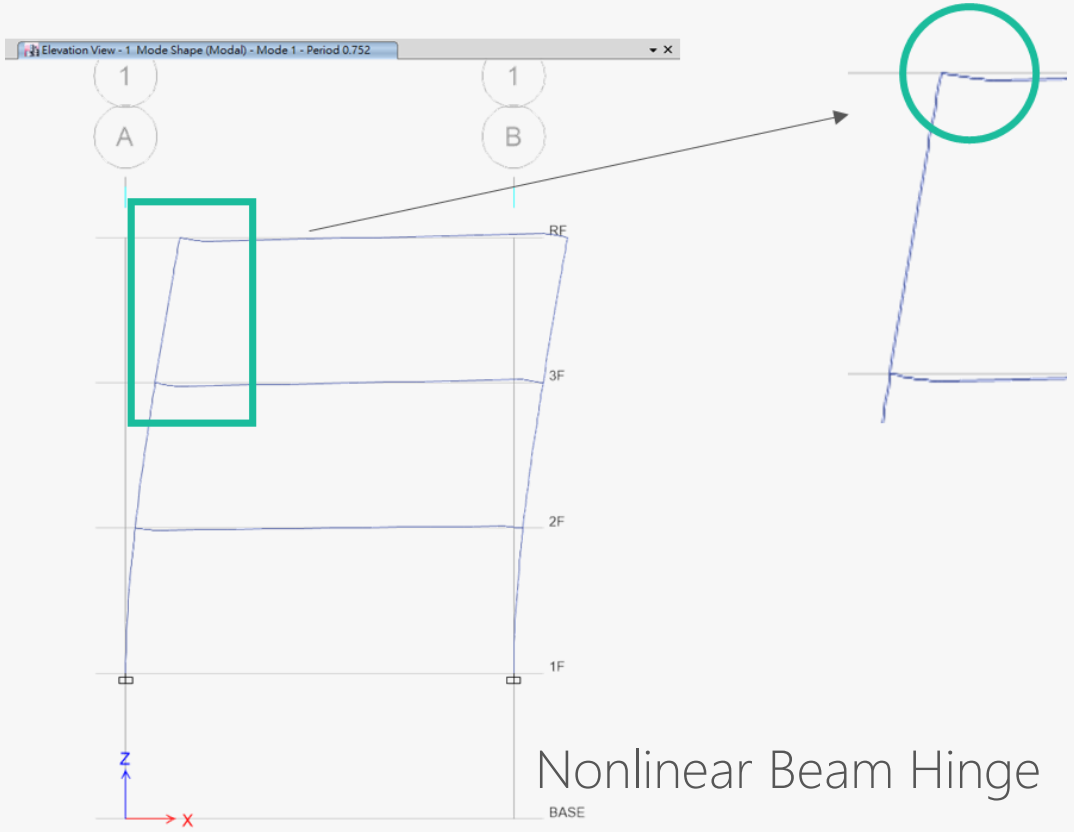
Nonlinear Hinge ETABS 2016



No Nonlinear Beam Hinge ⟶ T=0.345



Nonlinear Beam Hinge ⟶ T=0.752



Nonlinear Beam Hinge

Nonlinear Hinge

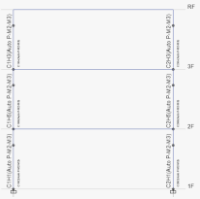
Static Nonlinear

Fast Nonlinear Analysis (FNA) Modal Time History Analysis

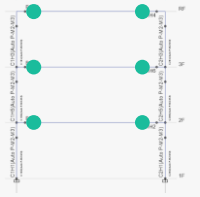
Nonlinear Direct Integration Time History

P-Delta ETABS 2016

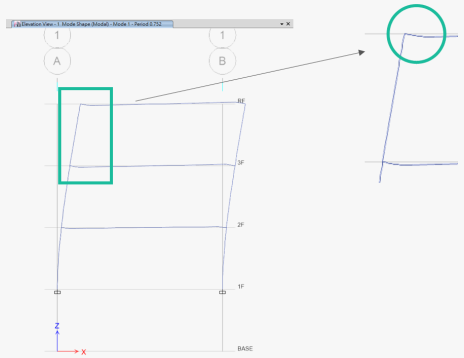
P-Delta



No Nonlinear Beam Hinge ⟶ T=0.345



Nonlinear Beam Hinge ⟶ T=0.752



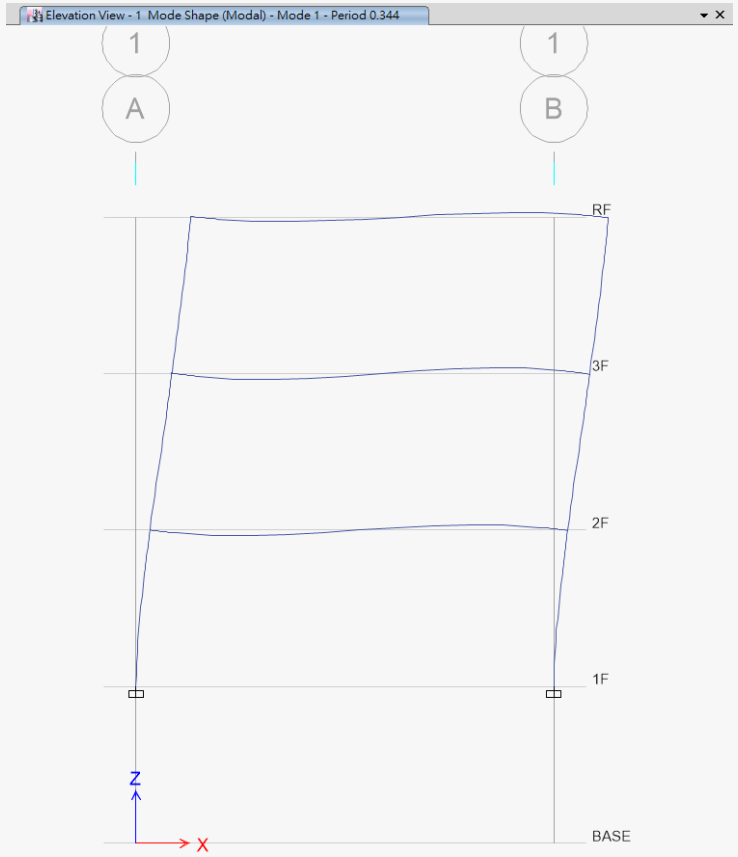
No P-Delta

No Nonlinear Beam Hinge ↘

T=0.344

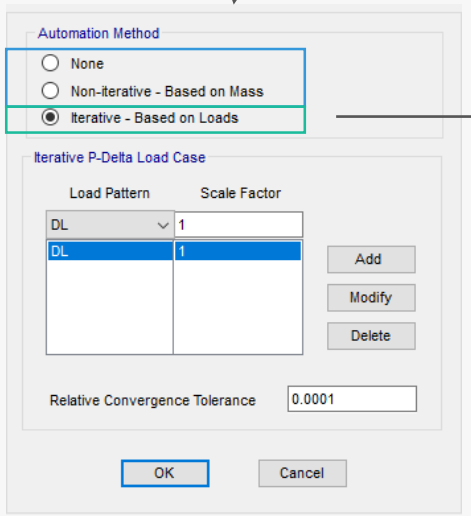
Nonlinear Beam Hinge ↗

P-Delta



1. **Non-iterative Based on Mass**, in which load is automatically computed from the mass at each level. Th providing for faster computation. P-Delta is considered by treating the structure as a simplified stick moc Local buckling is not captured as effectively.

   The benefit of this non-iterative method is that P-Delta may be considered in load cases which do not sp Iterative Based on Load Cases method.
2. **Iterative Based on Load Cases**, in which load is computed from a specified combination of static load which considers P-Delta on an element-by-element basis. Local buckling is captured more effectively. A fraction of a live load case.

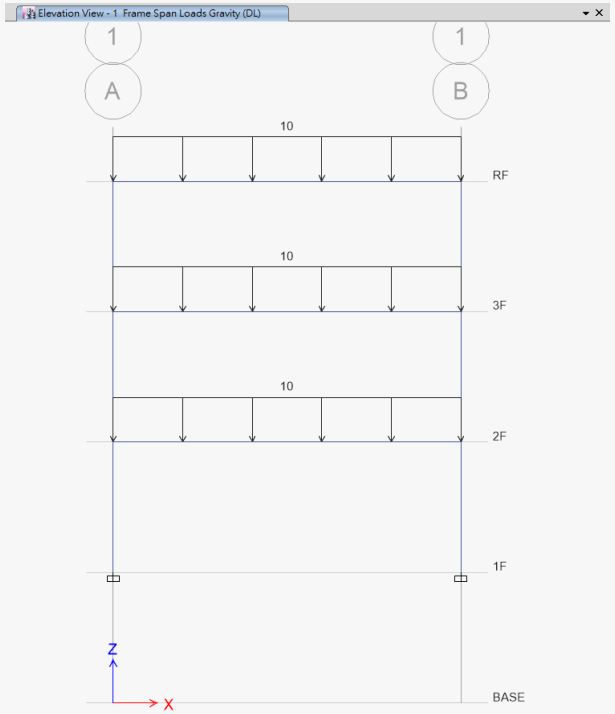


Local Buckling

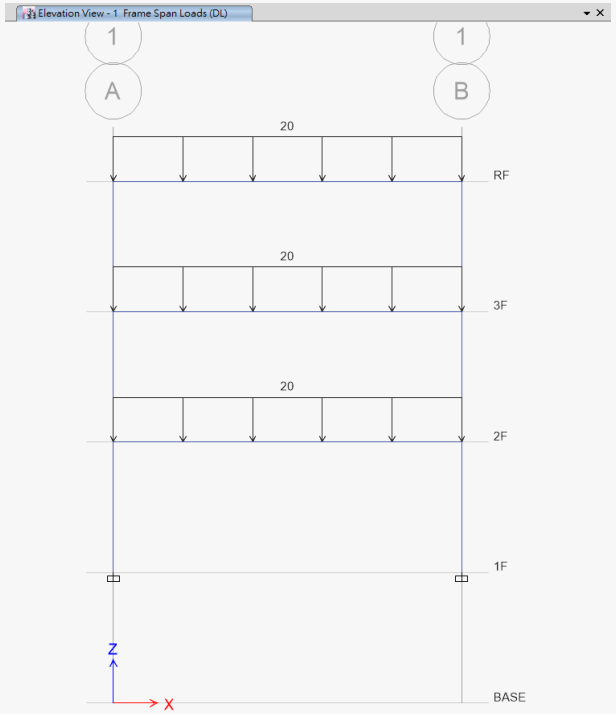
RC ➔ SS

P-Delta Steel Structure

10 ton/m ⟶ Same Period

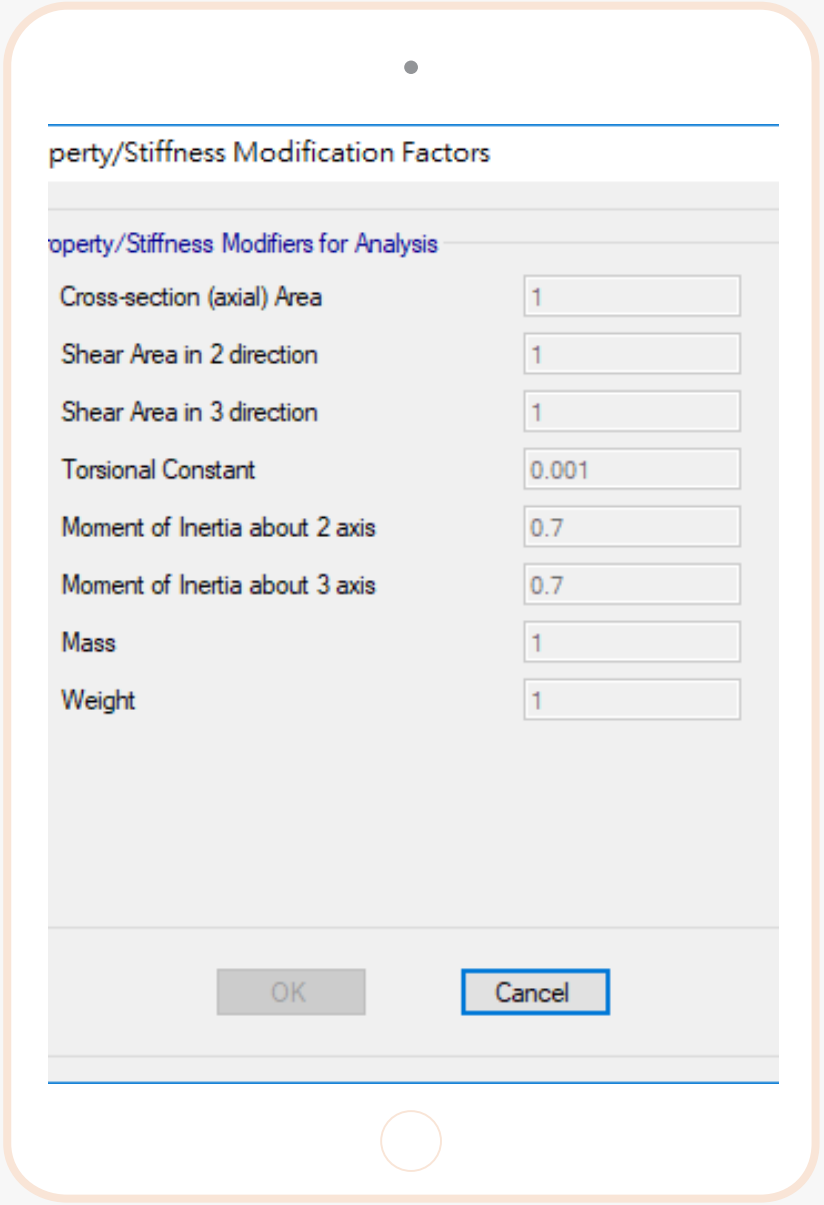


20 ton/m ⟶ Different Period

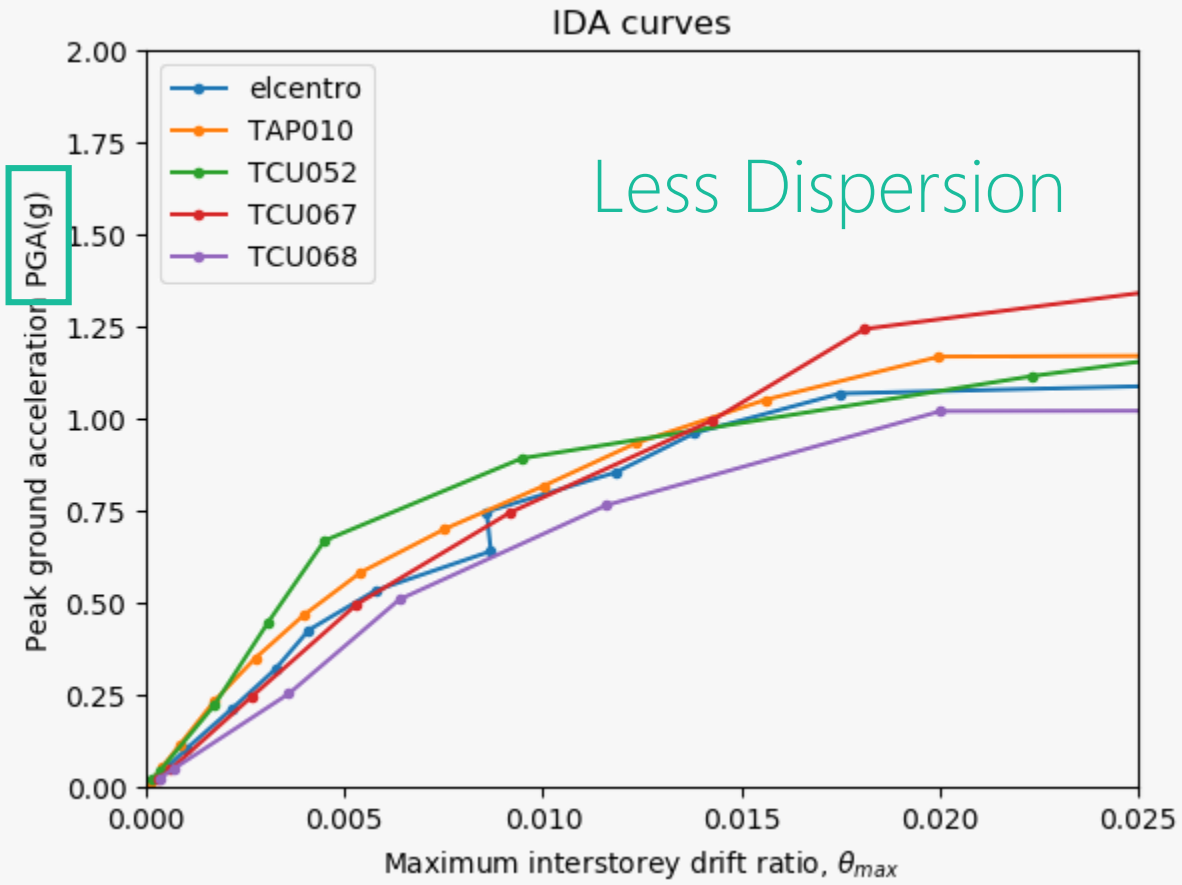


0.5, 0.7 Moment of Inertia

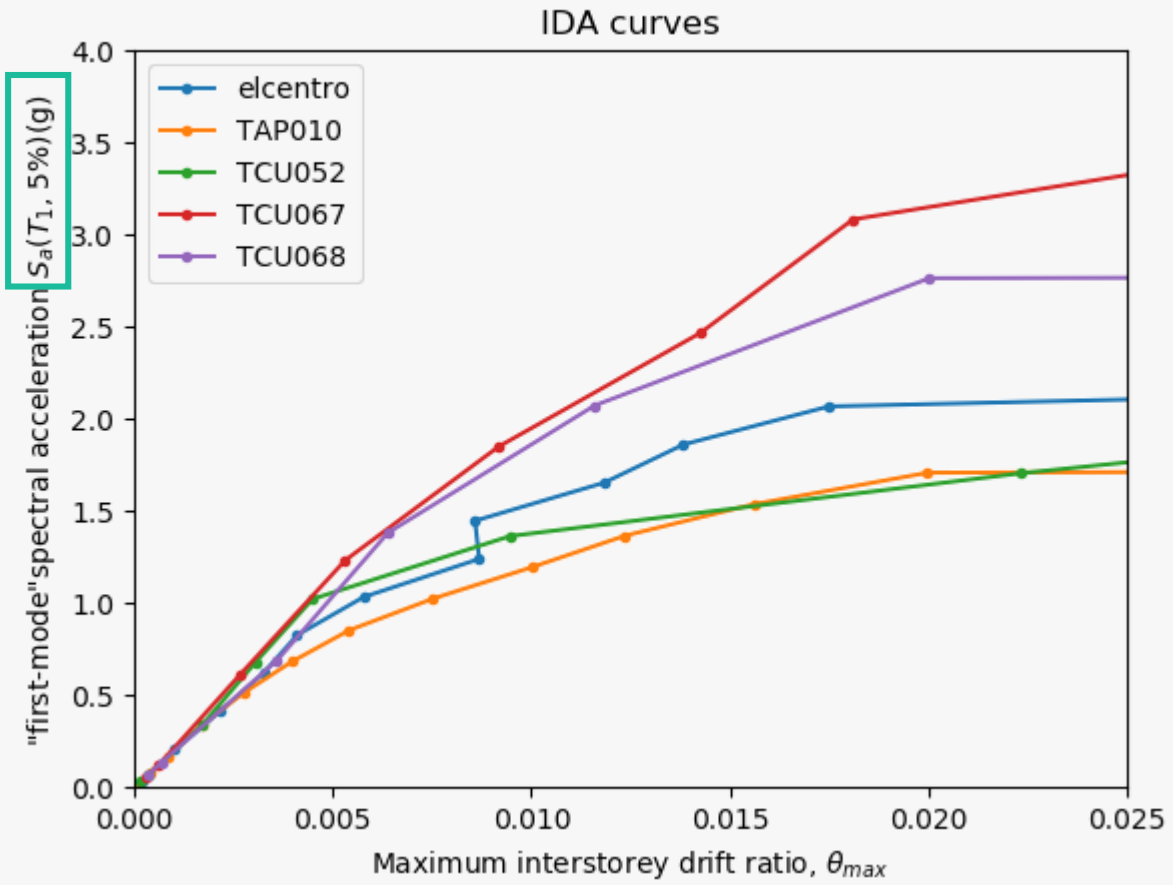
Same Problem



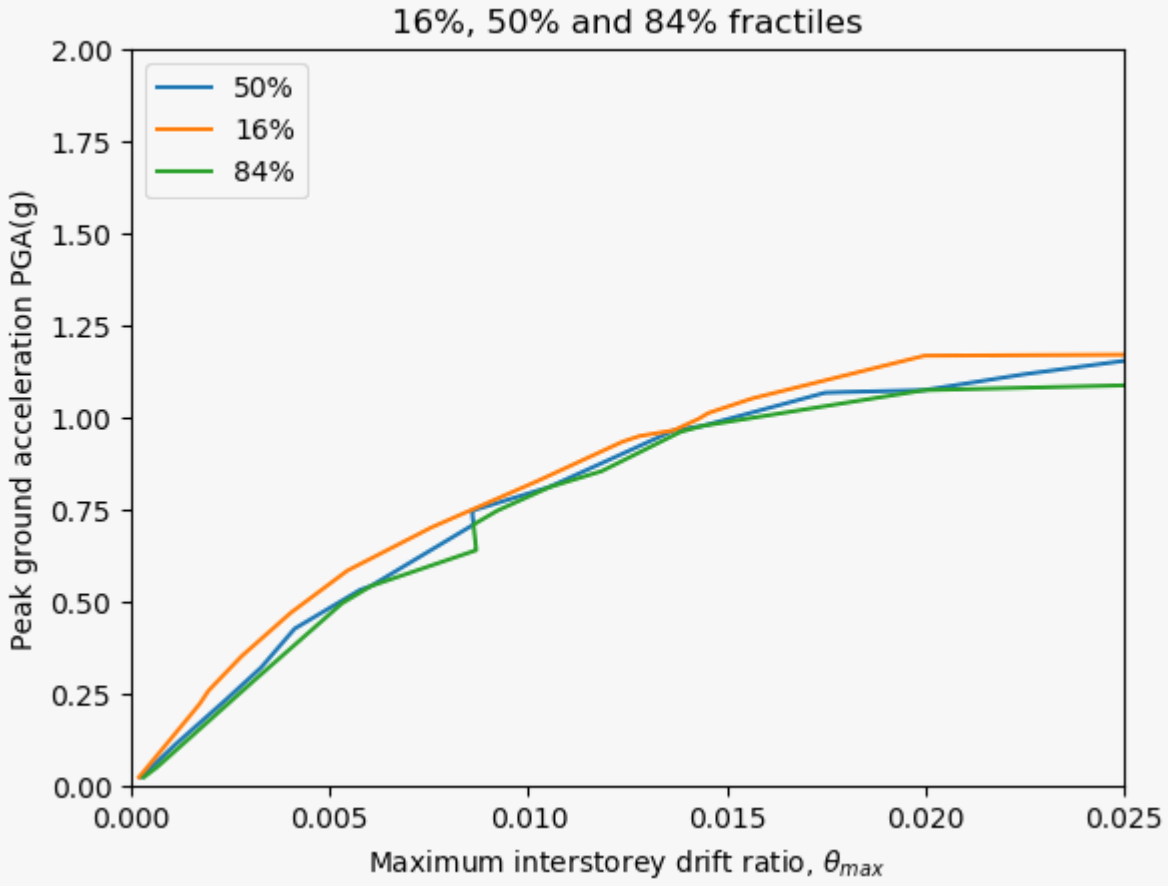
PGA versus Sa(T_1, 5%)



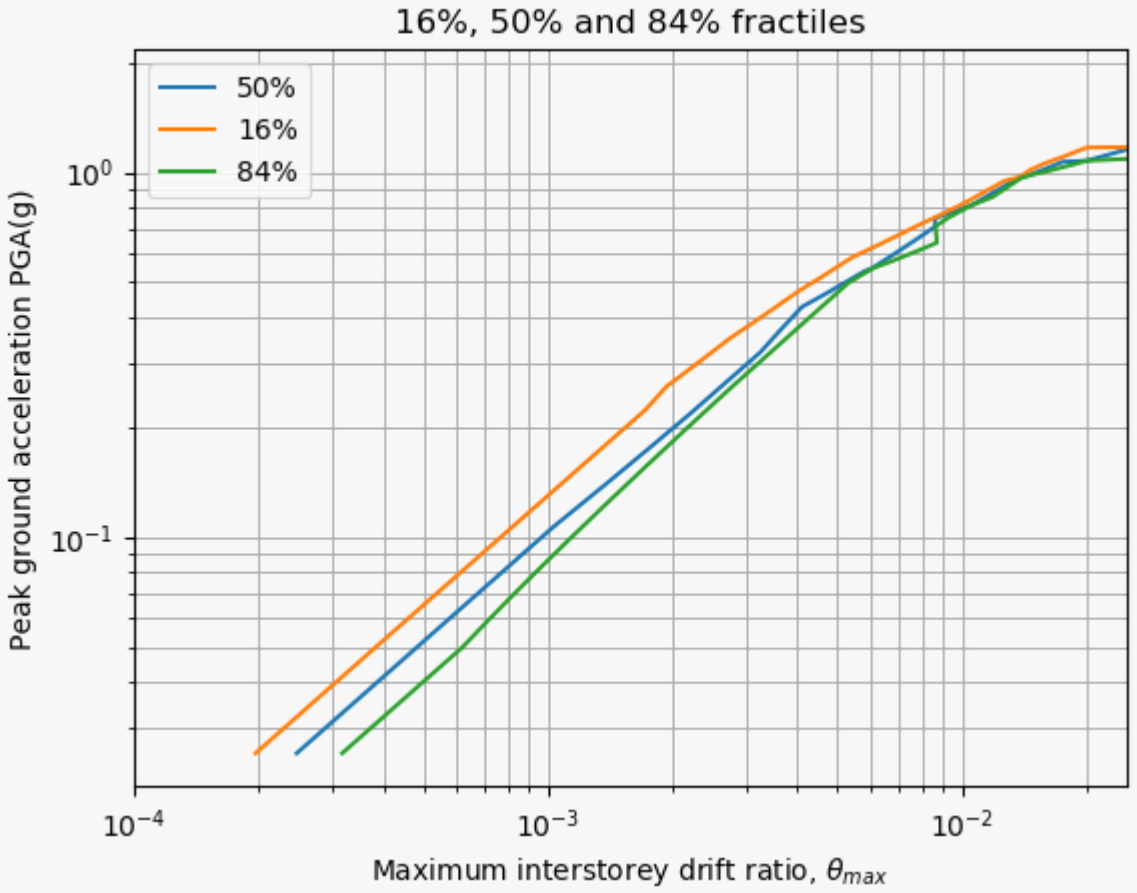
Less Dispersion



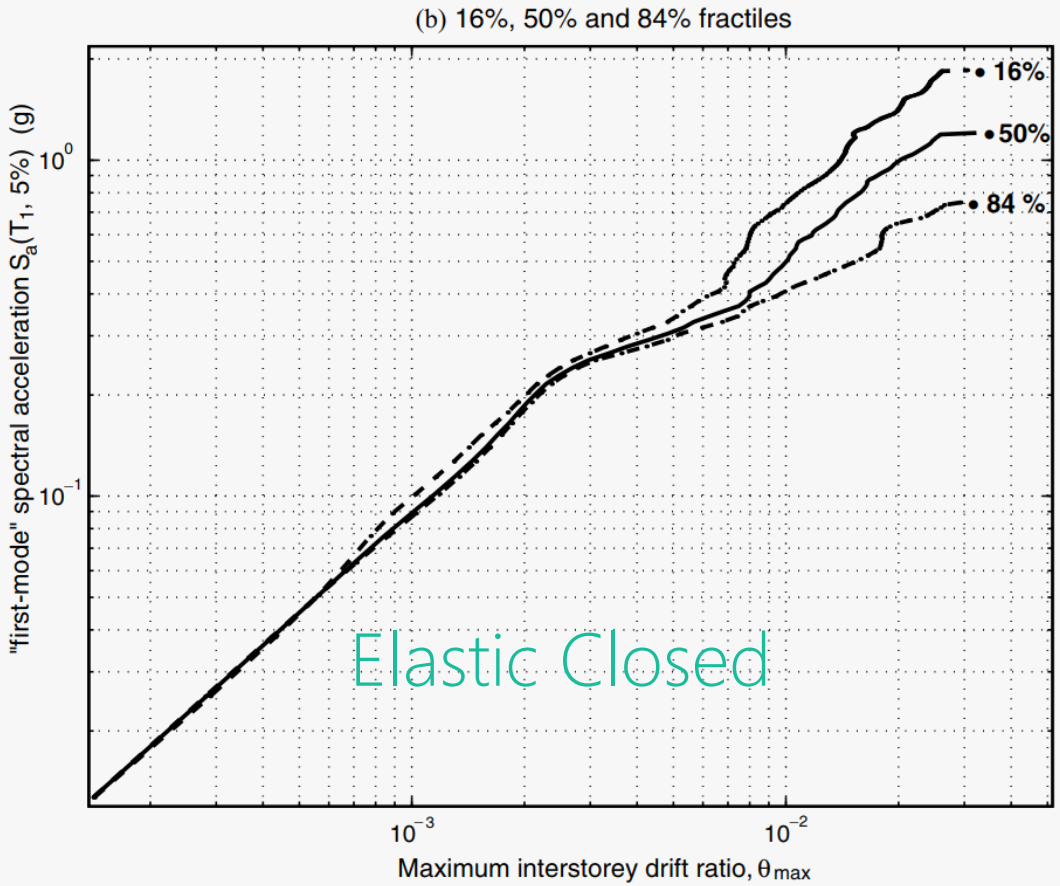
Linear


16%, 50% and 84% fractiles
50%
16%
84%
Peak ground acceleration PGA(g)
Maximum interstorey drift ratio, θ_{max}
0.00
0.25
0.50
0.75
1.00
1.25
1.50
1.75
2.00
0.000
0.005
0.010
0.015
0.020
0.025

Log

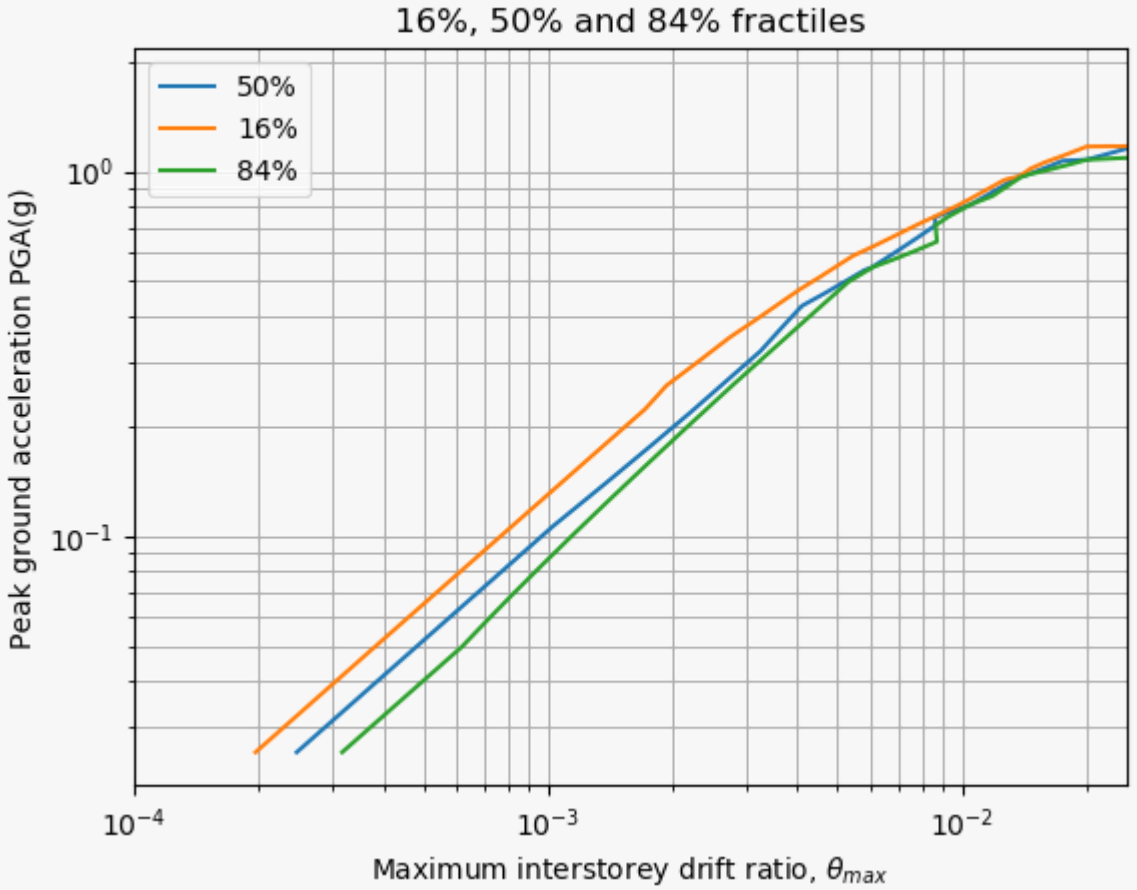

16%, 50% and 84% fractiles
50%
16%
84%
Peak ground acceleration PGA(g)
Maximum interstorey drift ratio, θ_{max}
10^{0}
10^{-1}
10^{-4}
10^{-3}
10^{-2}

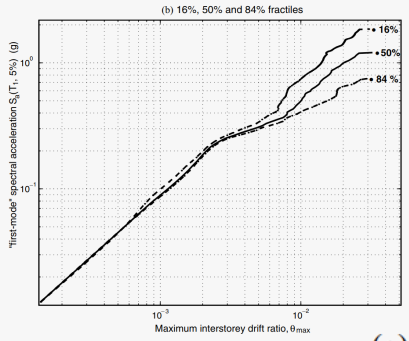
5-storey steel braced frame

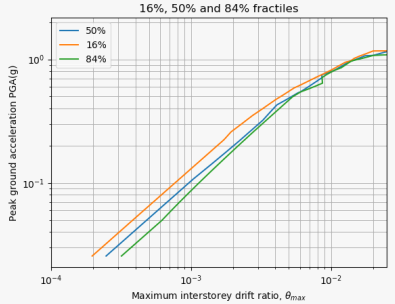


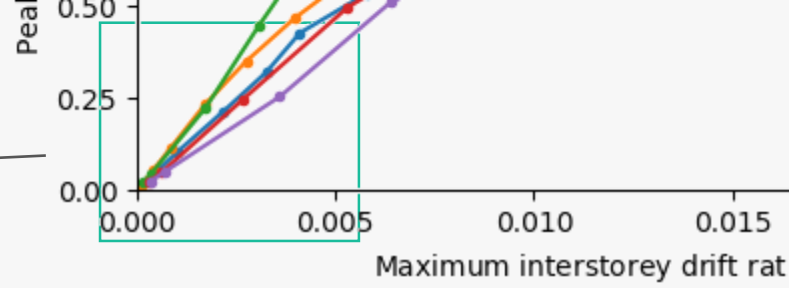
Elastic Closed

3-storey rc moment resist frame

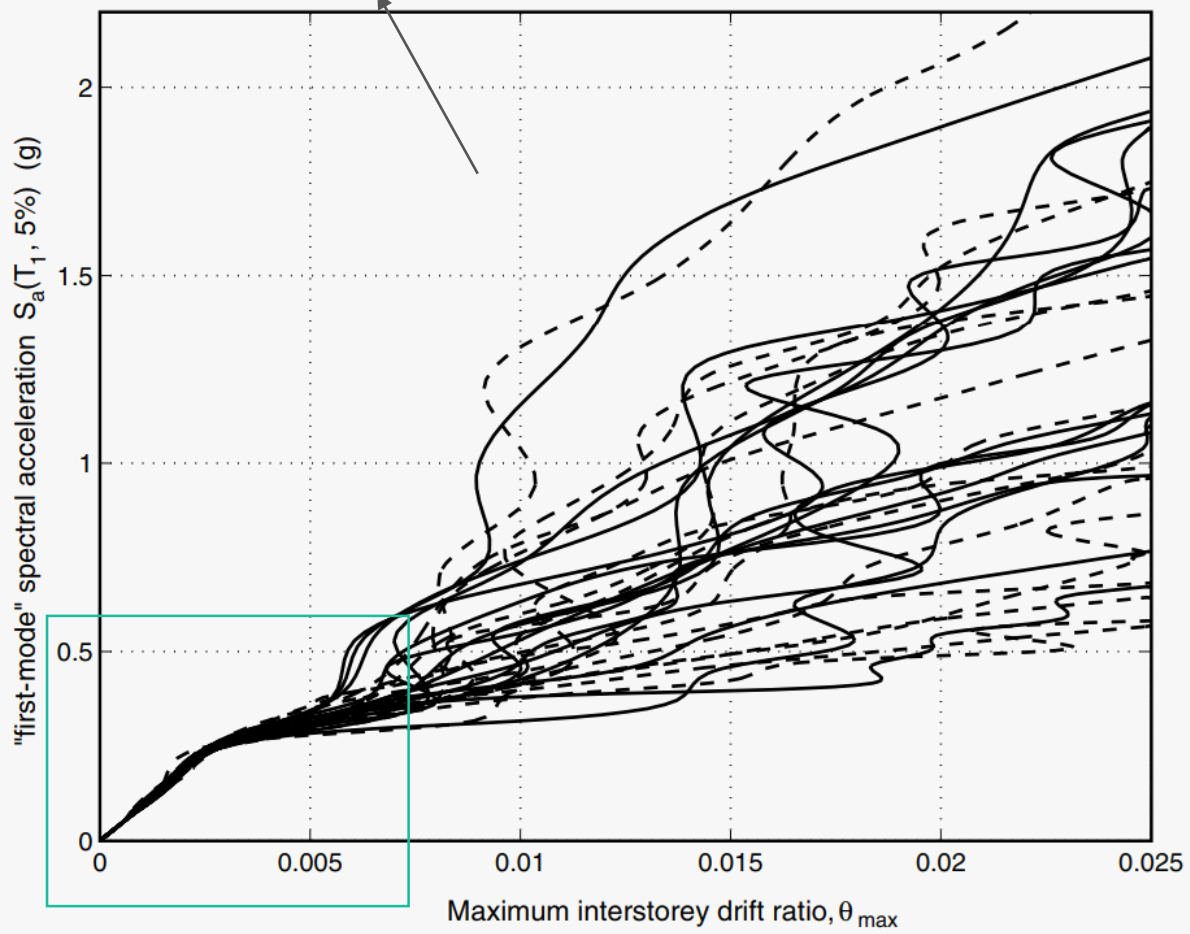




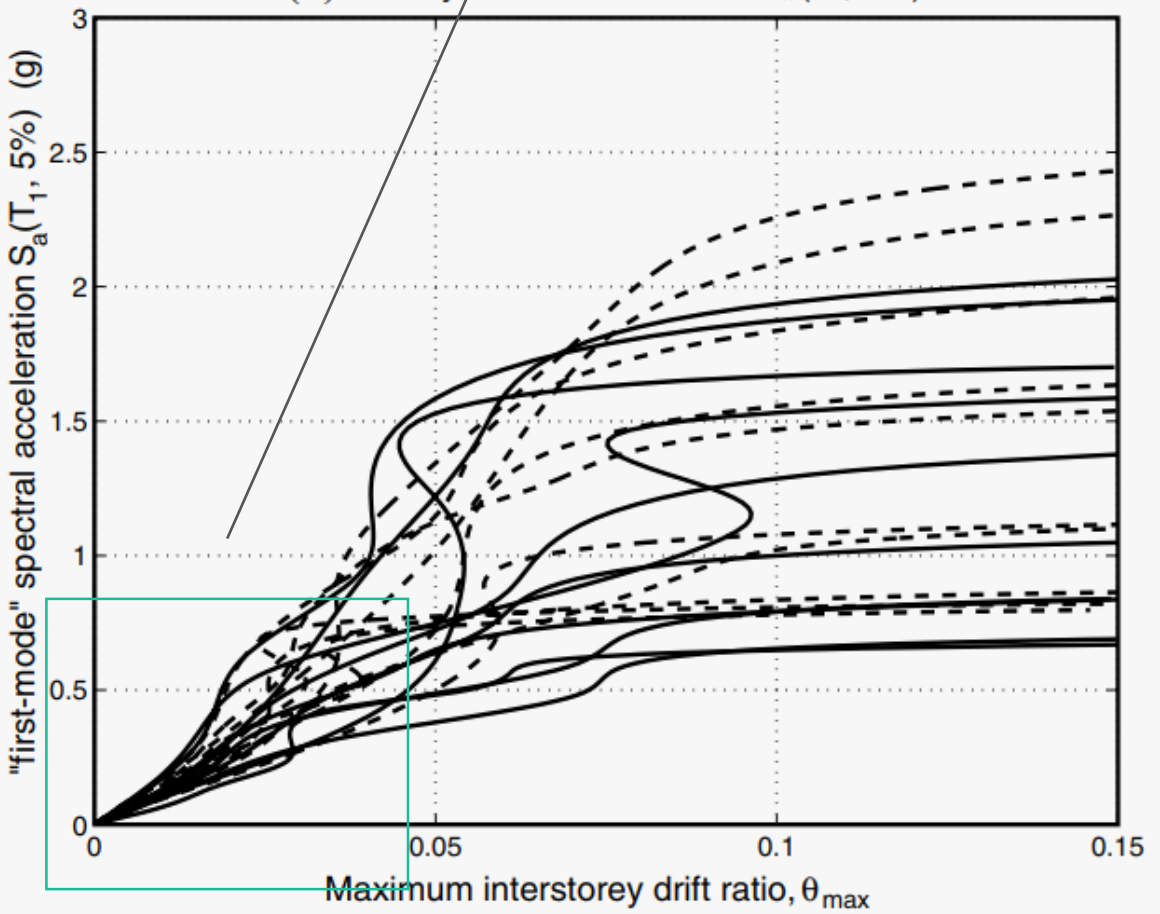




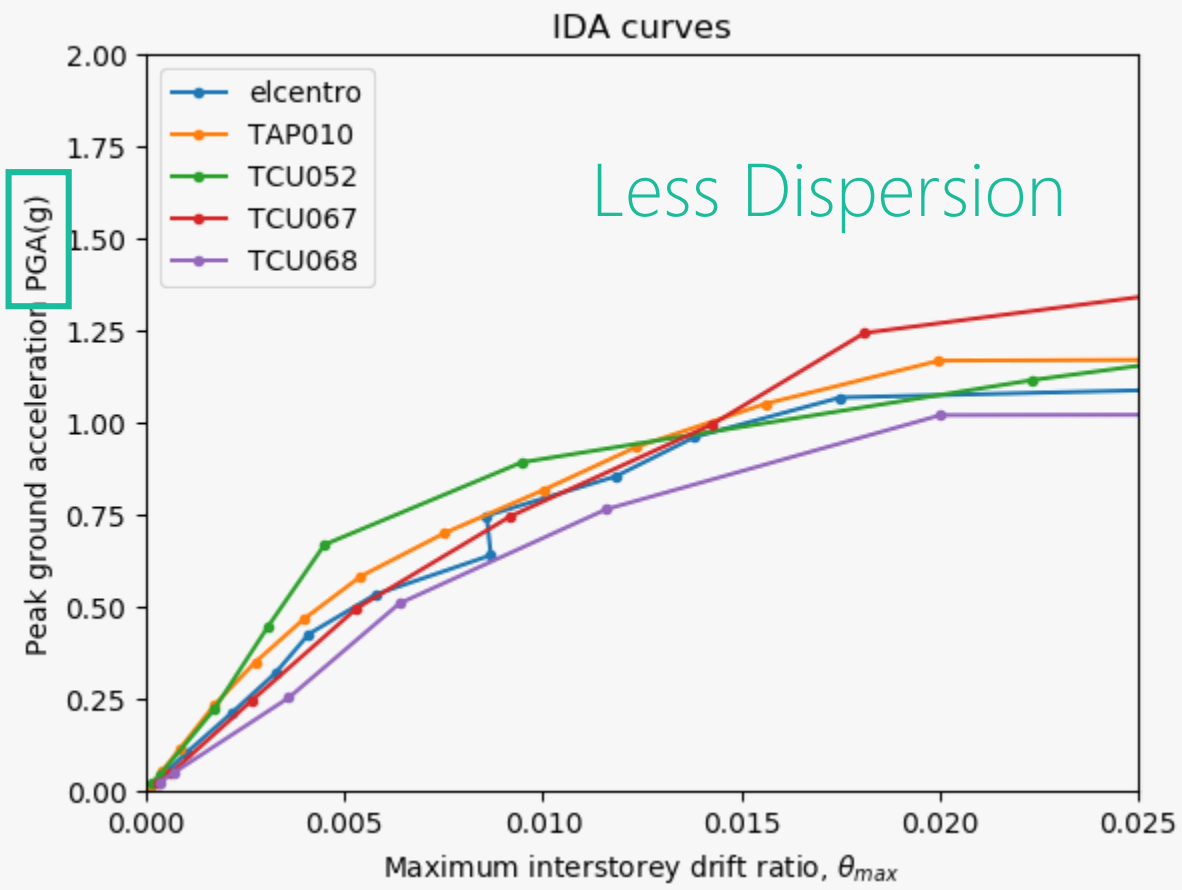
(a) Thirty IDA curves

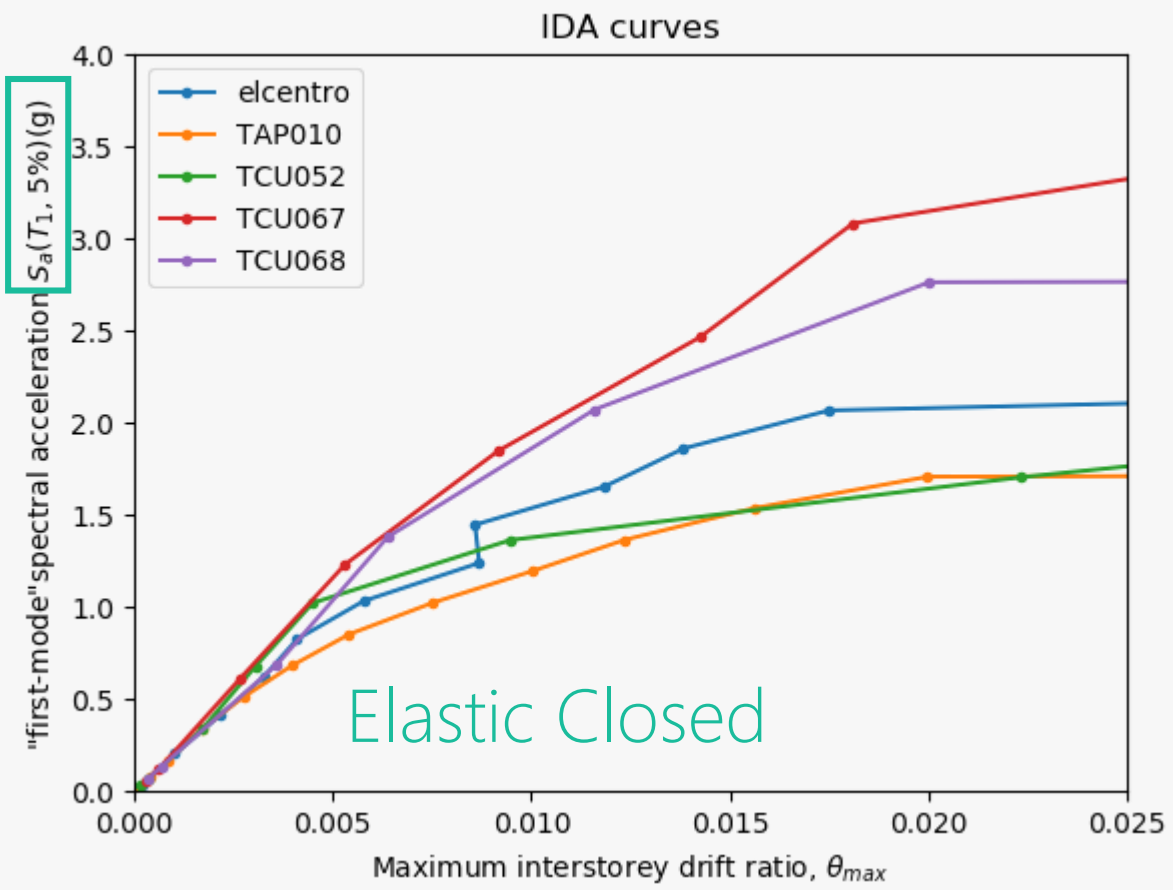


(b) Twenty IDA curves versus $S_a(T_1, 5\%)$

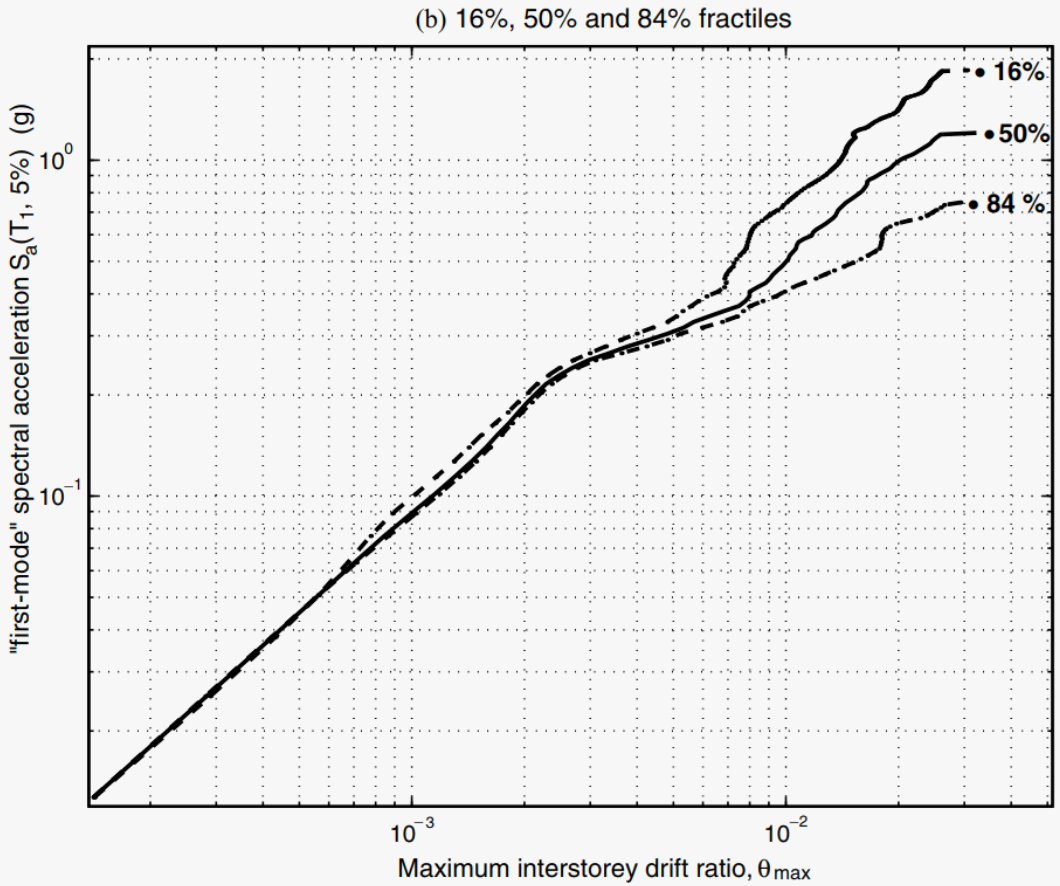


PGA versus Sa(T_1, 5%)

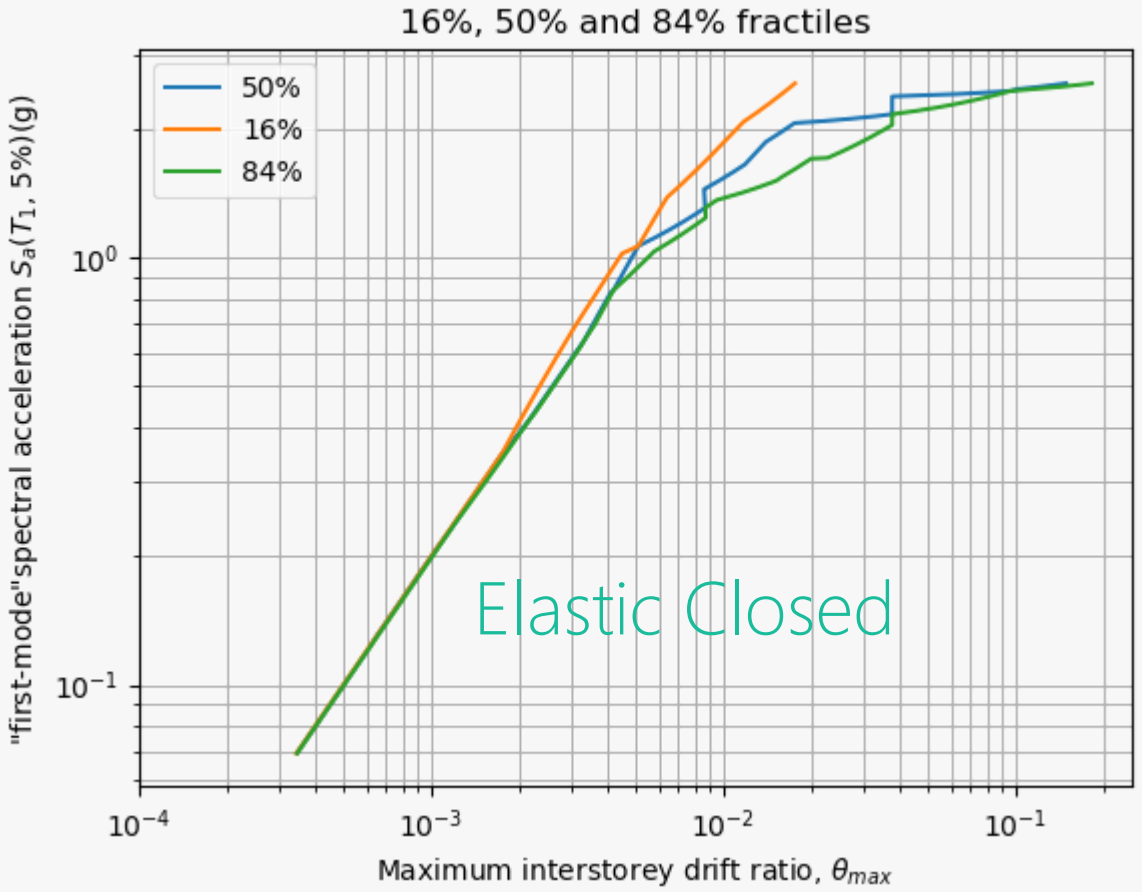


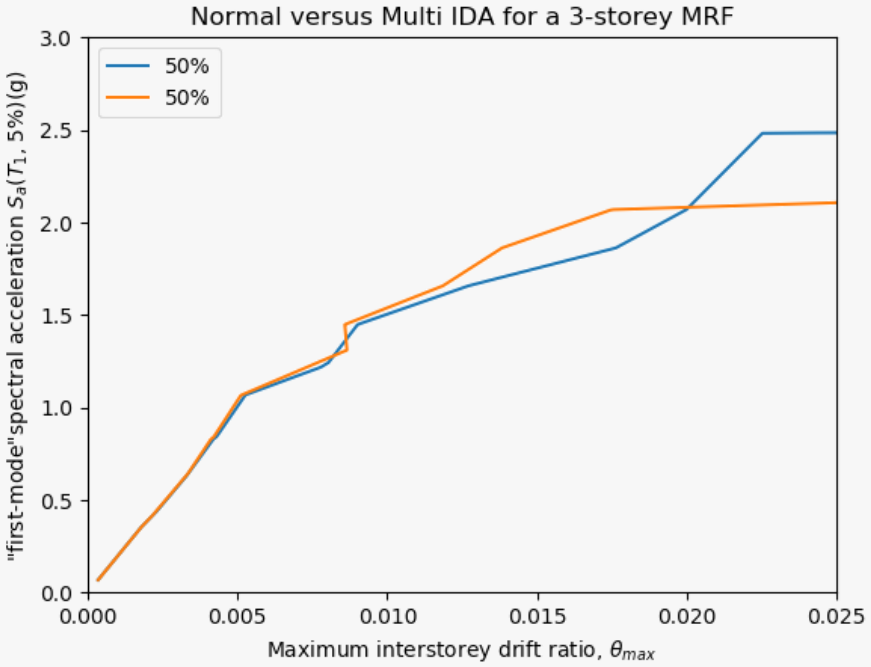


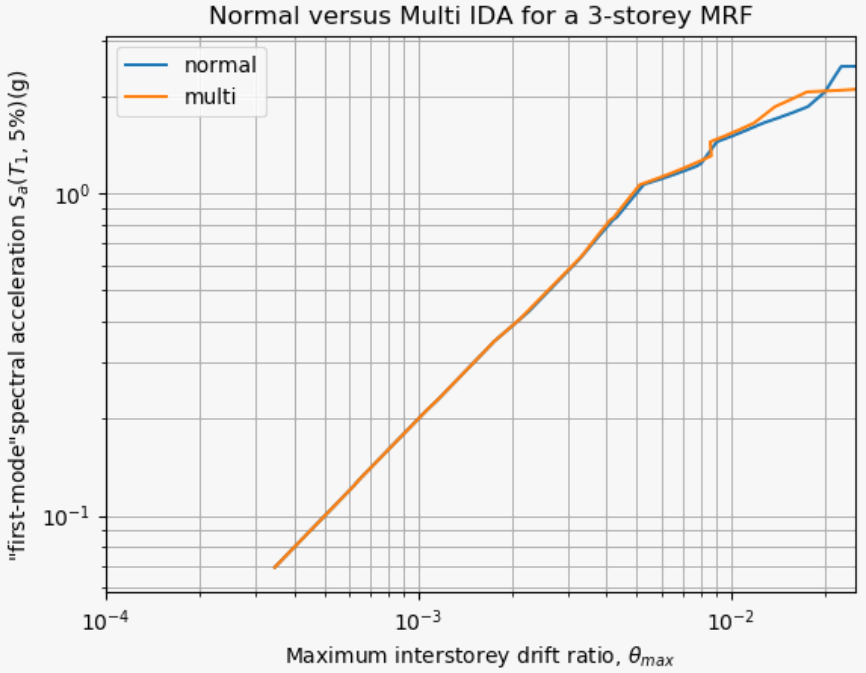
5-storey steel braced frame

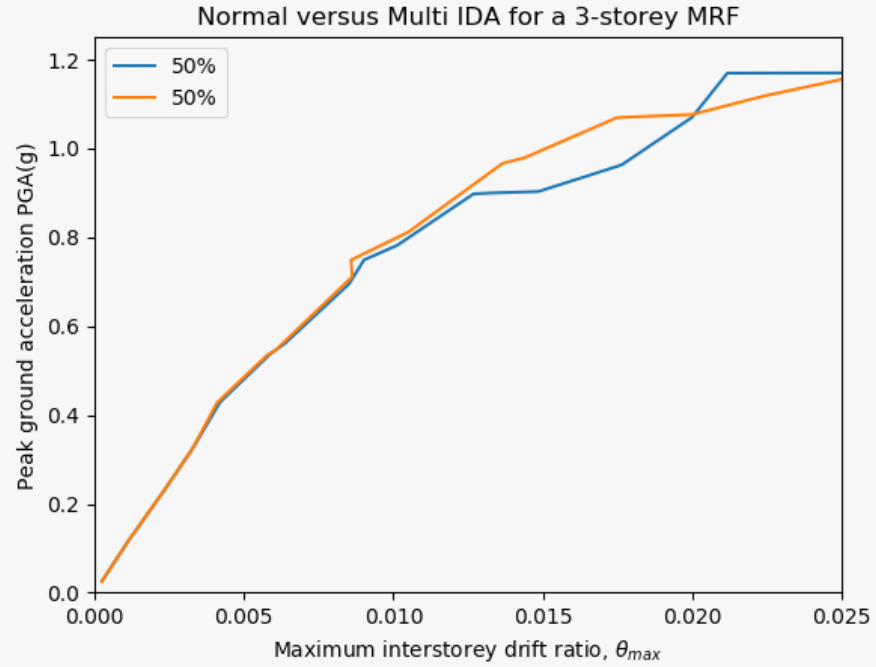


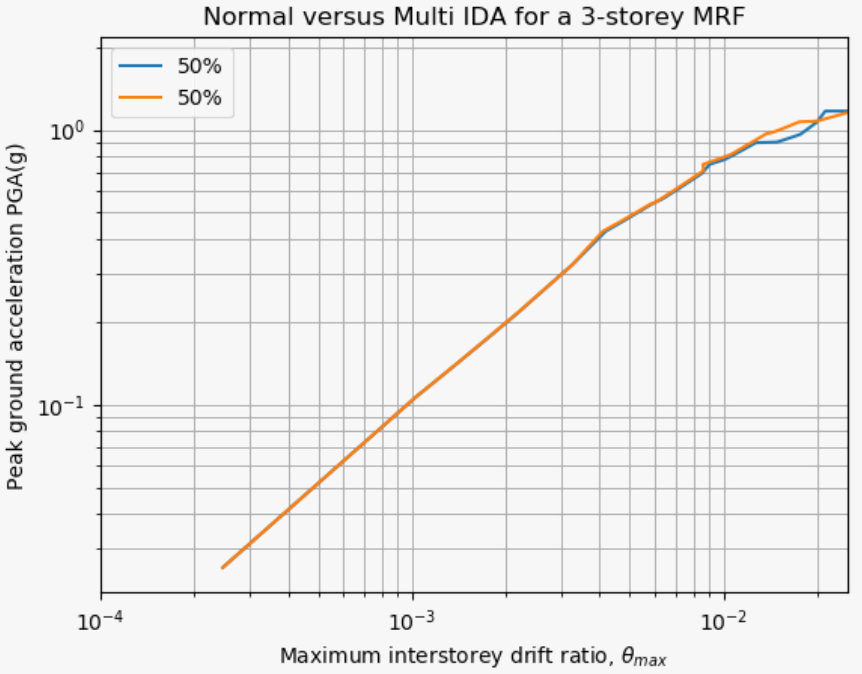
3-storey rc moment resist frame



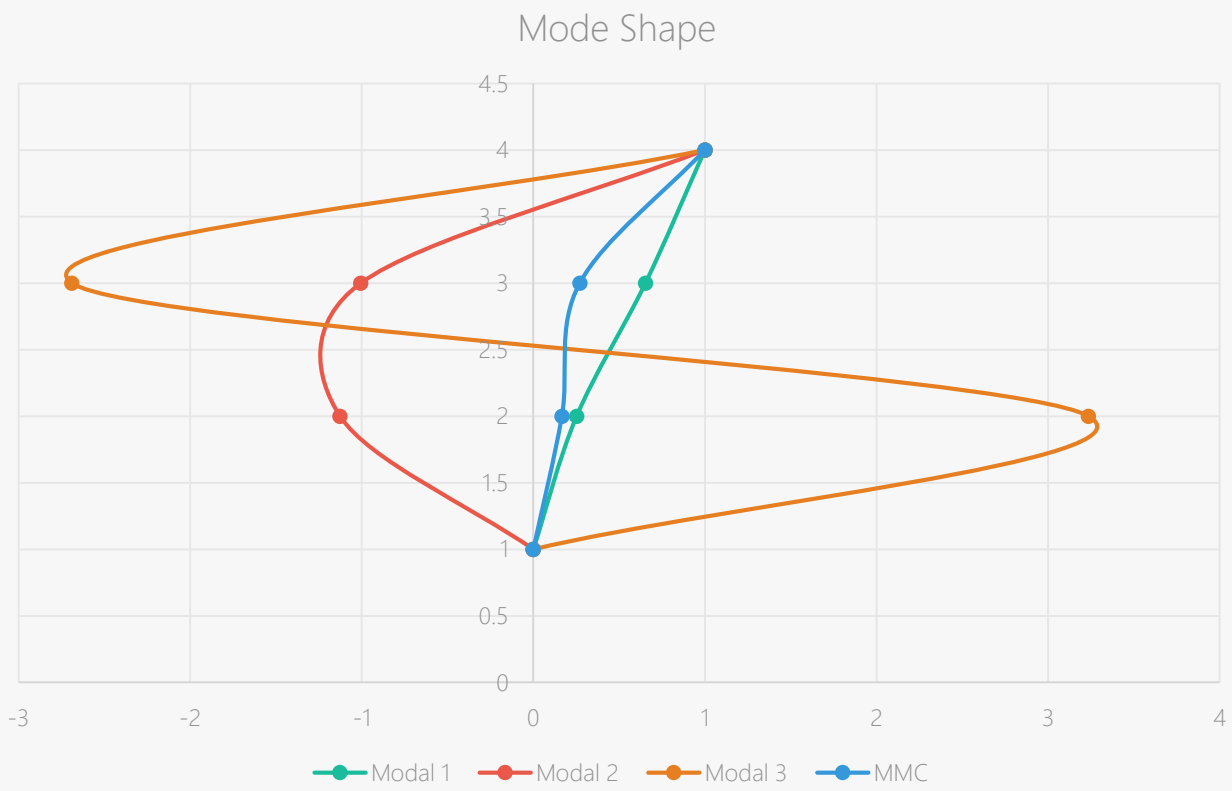

Normal versus Multi IDA for a 3-storey MRF
50%
50%
"first-mode"spectral acceleration $S_a(T_1, 5\%)$(g)
Maximum interstorey drift ratio, θ_{max}

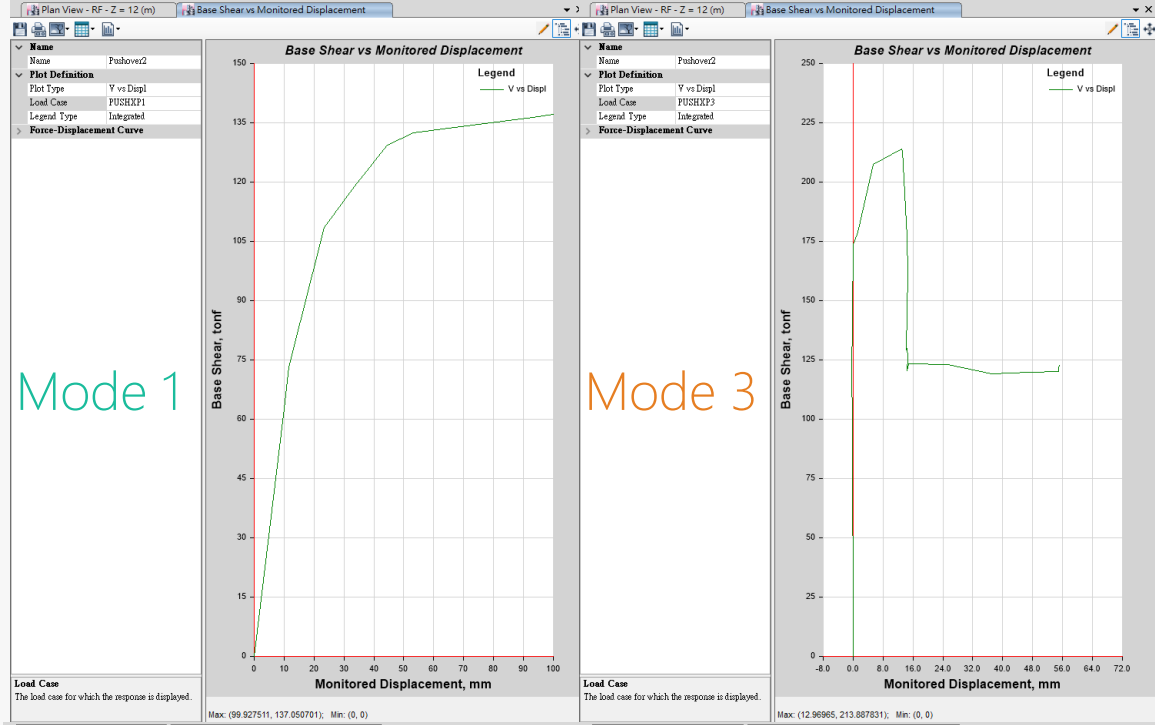

Normal versus Multi IDA for a 3-storey MRF
normal
multi
"first-mode"spectral acceleration $S_a(T_1, 5\%)$(g)
Maximum interstorey drift ratio, θ_{max}

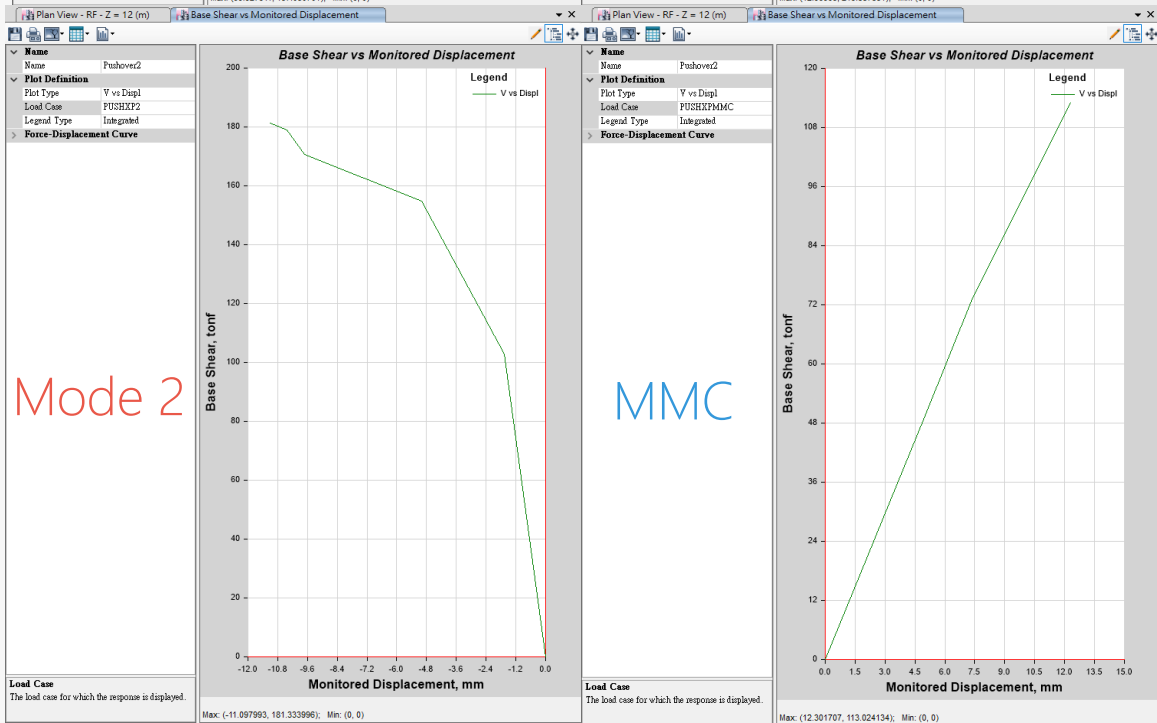

Normal versus Multi IDA for a 3-storey MRF
50%
50%
Peak ground acceleration PGA(g)
Maximum interstorey drift ratio, θ_{max}

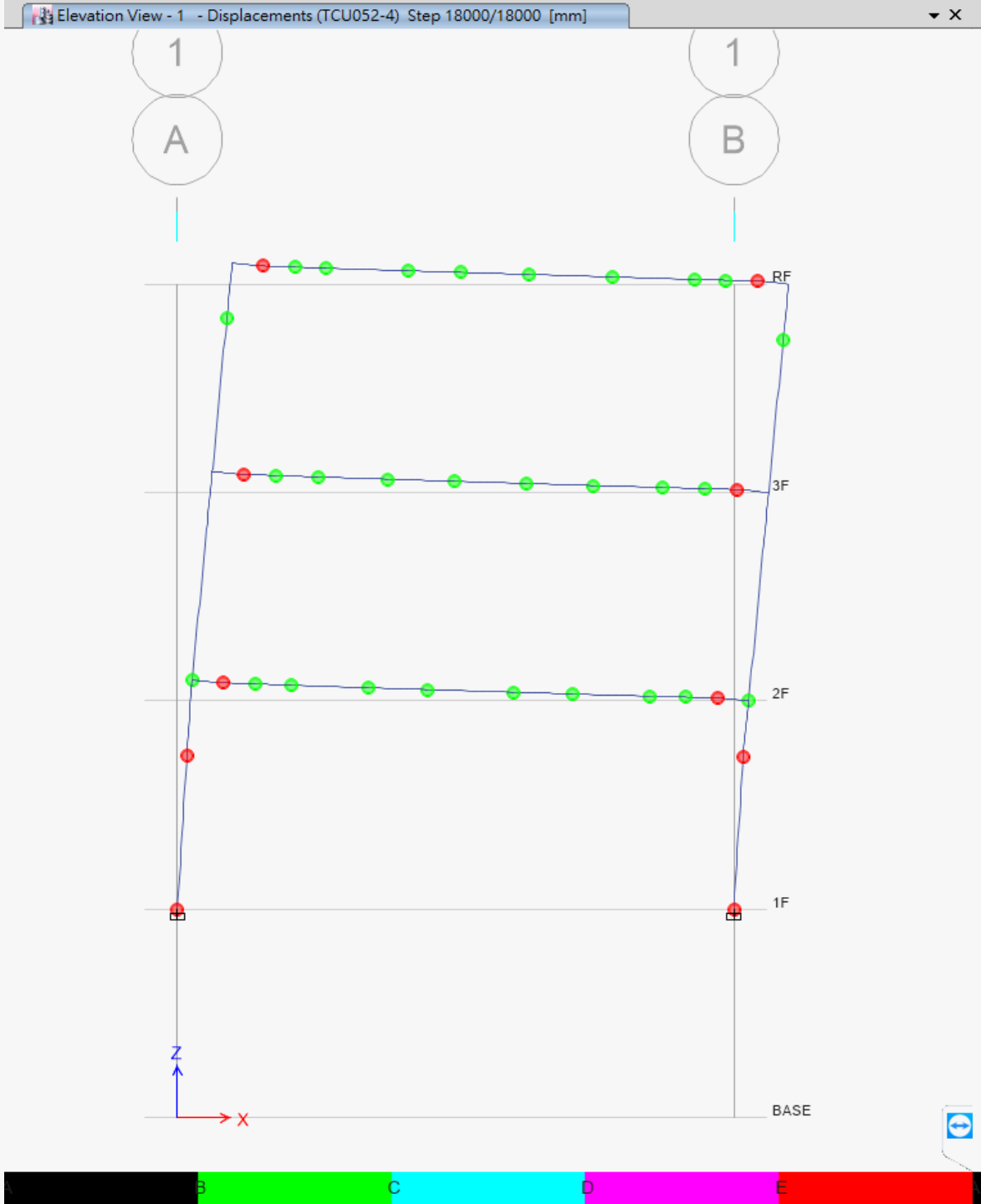

Normal versus Multi IDA for a 3-storey MRF
50%
50%
Peak ground acceleration PGA(g)
Maximum interstorey drift ratio, θ_{max}

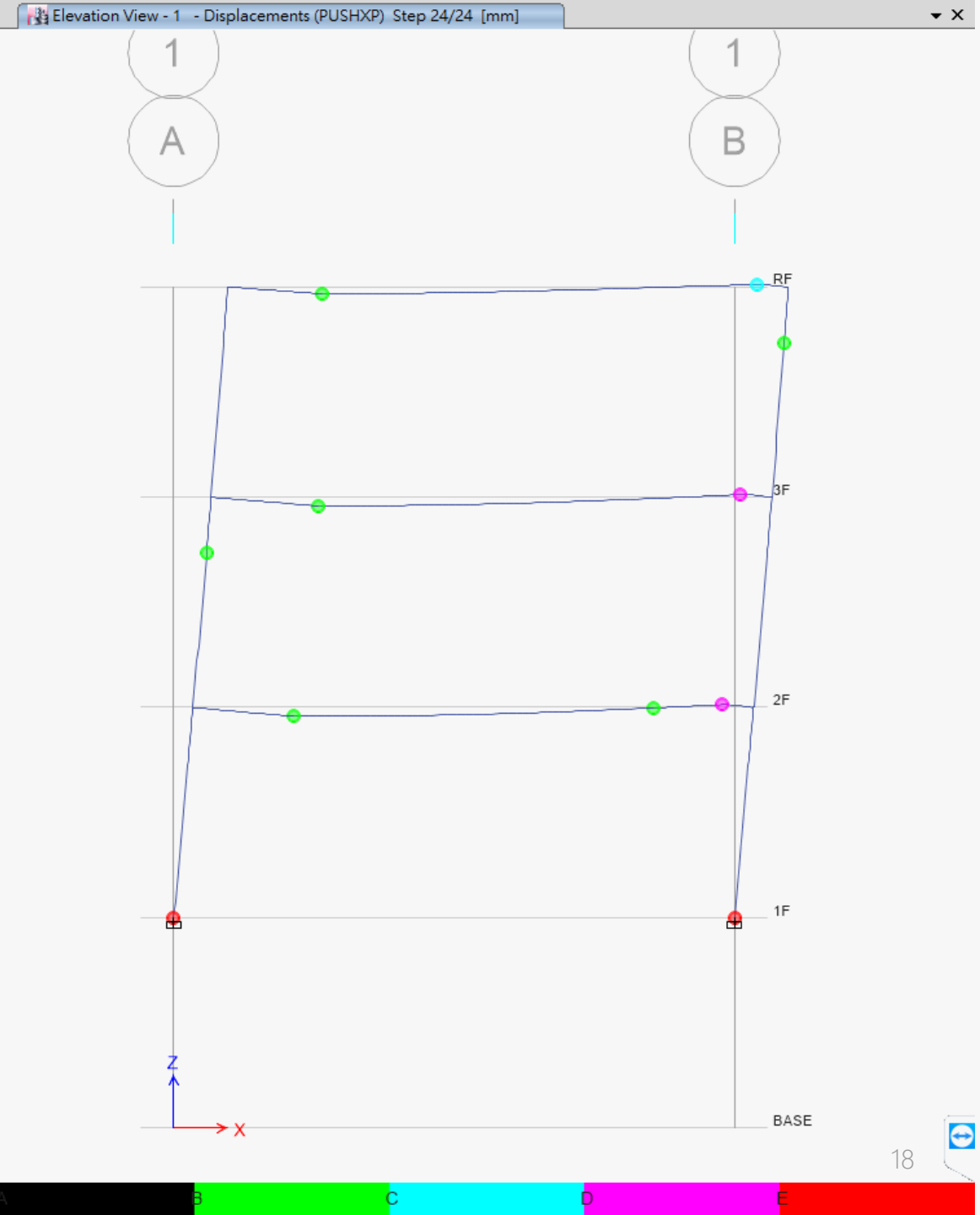
Pushover


Mode Shape
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
-3
-2
-1
0
1
2
3
4
Modal 1
Modal 2
Modal 3
MMC

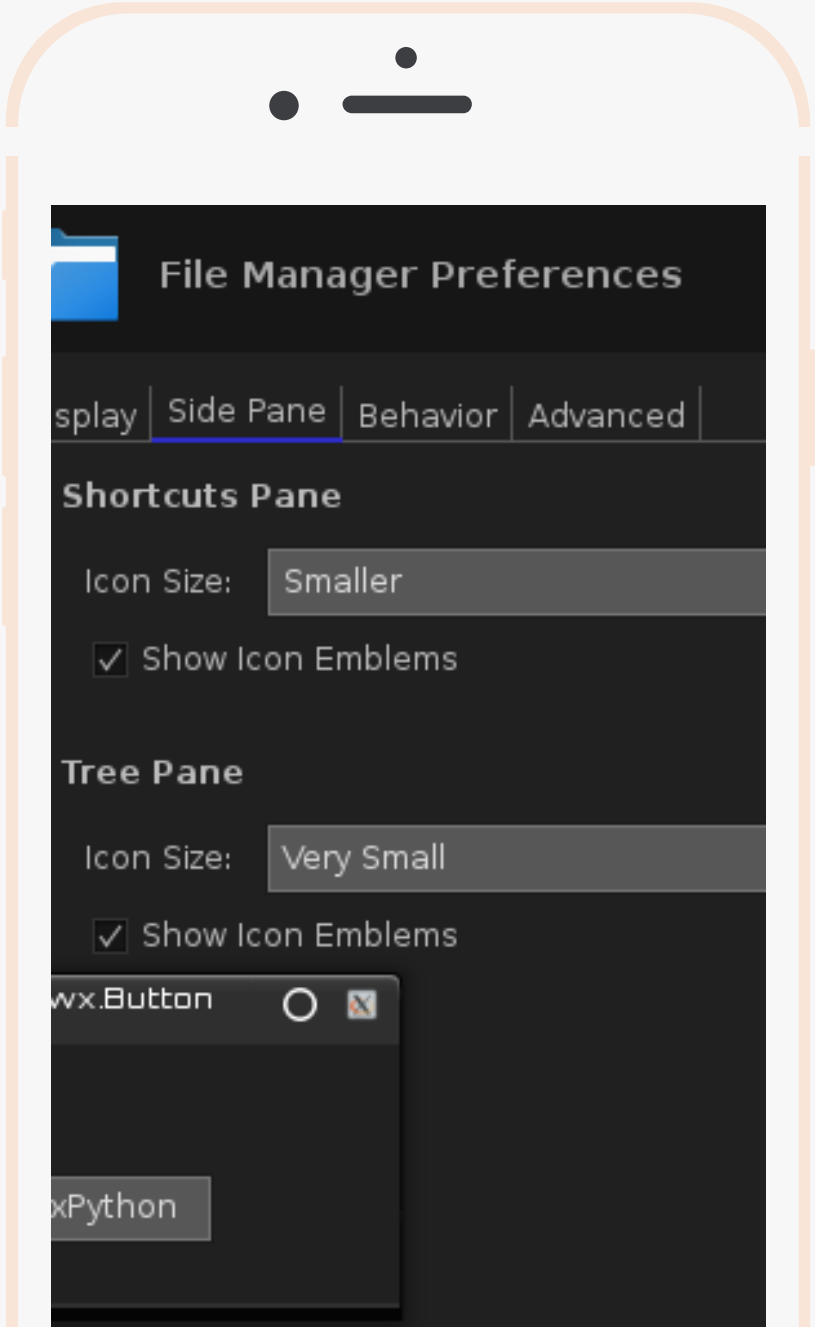

Mode 1
Base Shear vs Monitored Displacement
Legend
V vs Displ
Base Shear, tonf
Monitored Displacement, mm
Mode 3
Base Shear vs Monitored Displacement
Legend
V vs Displ
Base Shear, tonf
Monitored Displacement, mm

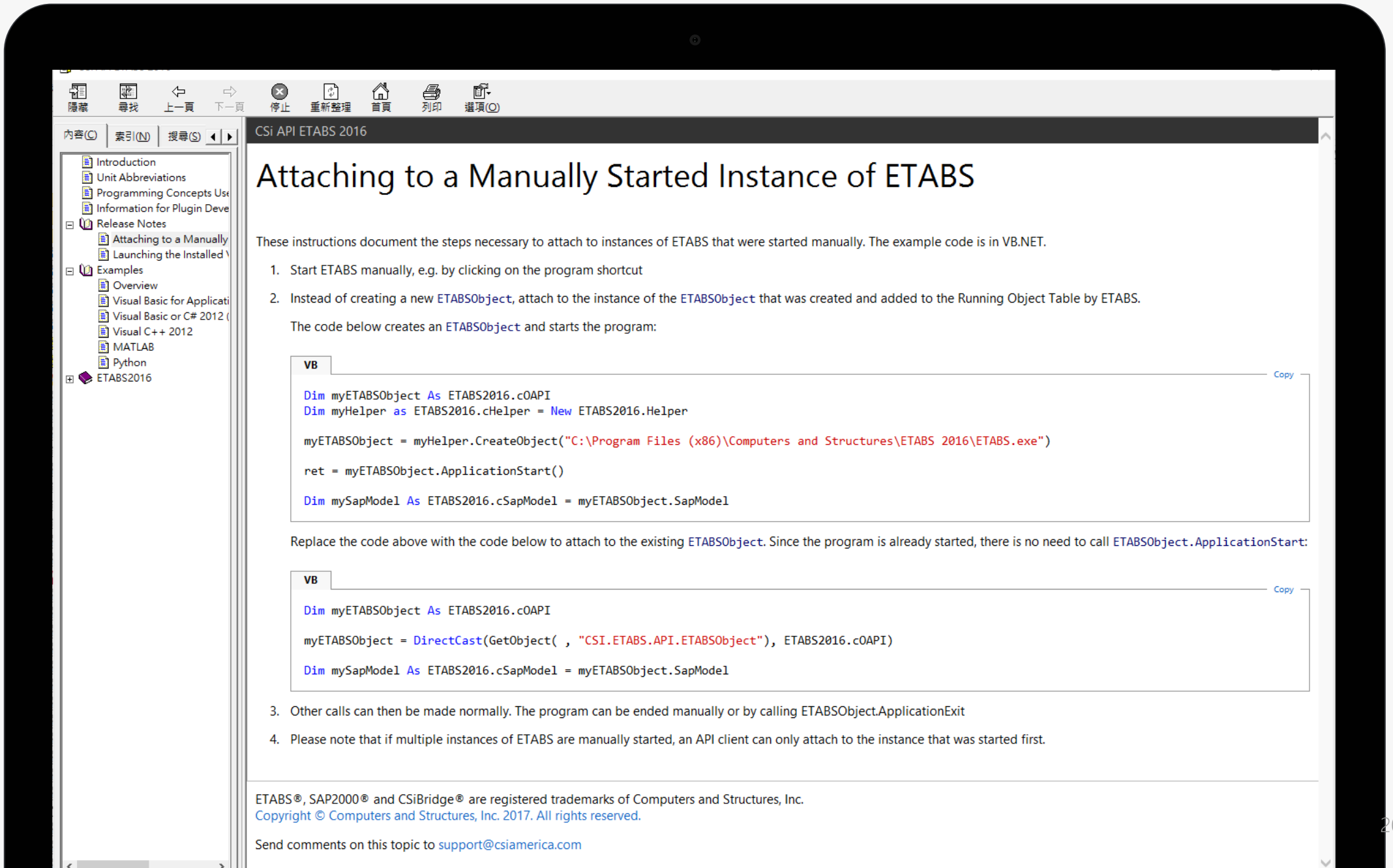

Mode 2
Base Shear vs Monitored Displacement
Legend
V vs Displ
Base Shear, tonf
Monitored Displacement, mm
MMC
Base Shear vs Monitored Displacement
Legend
V vs Displ
Base Shear, tonf
Monitored Displacement, mm


Elevation View - 1 - Displacements (TCU052-4) Step 18000/18000 [mm]
1
A
1
B
RF
3F
2F
1F
BASE
Z
X


Elevation View - 1 - Displacements (PUSHXP) Step 24/24 [mm]
1
A
1
B
RF
3F
2F
1F
BASE
Z
X

LinearCut
GUI




隱藏
尋找
上一頁
下一頁
停止
重新整理
首頁
列印
選項(O)
內容(C)
索引(N)
搜尋(S)
Introduction
Unit Abbreviations
Programming Concepts Use
Information for Plugin Deve
Release Notes
Attaching to a Manually
Launching the Installed V
Examples
Overview
Visual Basic for Applicati
Visual Basic or C# 2012 (
Visual C++ 2012
MATLAB
Python
ETABS2016
CSi API ETABS 2016
Attaching to a Manually Started Instance of ETABS
These instructions document the steps necessary to attach to instances of ETABS that were started manually. The example code is in VB.NET.
1. Start ETABS manually, e.g. by clicking on the program shortcut
2. Instead of creating a new ETABSObject, attach to the instance of the ETABSObject that was created and added to the Running Object Table by ETABS.
The code below creates an ETABSObject and starts the program:
VB
Copy
Dim myETABSObject As ETABS2016.cOAPI
Dim myHelper as ETABS2016.cHelper = New ETABS2016.Helper
myETABSObject = myHelper.CreateObject("C:\Program Files (x86)\Computers and Structures\ETABS 2016\ETABS.exe")
ret = myETABSObject.ApplicationStart()
Dim mySapModel As ETABS2016.cSapModel = myETABSObject.SapModel
Replace the code above with the code below to attach to the existing ETABSObject. Since the program is already started, there is no need to call ETABSObject.ApplicationStart:
VB
Copy
Dim myETABSObject As ETABS2016.cOAPI
myETABSObject = DirectCast(GetObject(, "CSI.ETABS.API.ETABSObject"), ETABS2016.cOAPI)
Dim mySapModel As ETABS2016.cSapModel = myETABSObject.SapModel
3. Other calls can then be made normally. The program can be ended manually or by calling ETABSObject.ApplicationExit
4. Please note that if multiple instances of ETABS are manually started, an API client can only attach to the instance that was started first.
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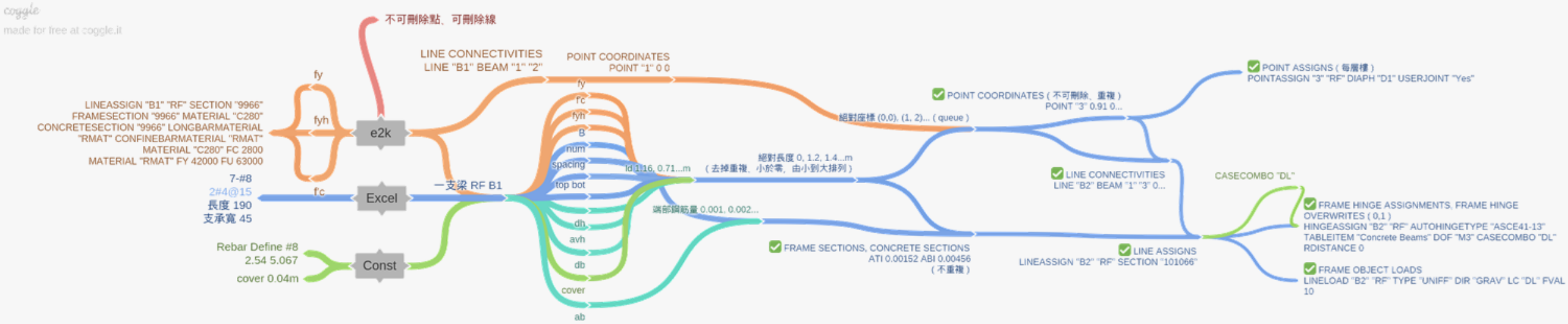
E2K versus API



Roadmap


coggle
made for free at coggle.it
目的：節省鋼筋量
多點斷筋
非線性驗證
Pushover
Higher Mode
MMC
EPA
APA
MPA
First Mode
FEMA(NSP)
ATC-40
Time History
IDA
Performance Base Design
彎矩多點斷筋
三點簡化算法
三點精確算法
五點精確算法
施工成本
剪力多點斷筋
三點精確算法