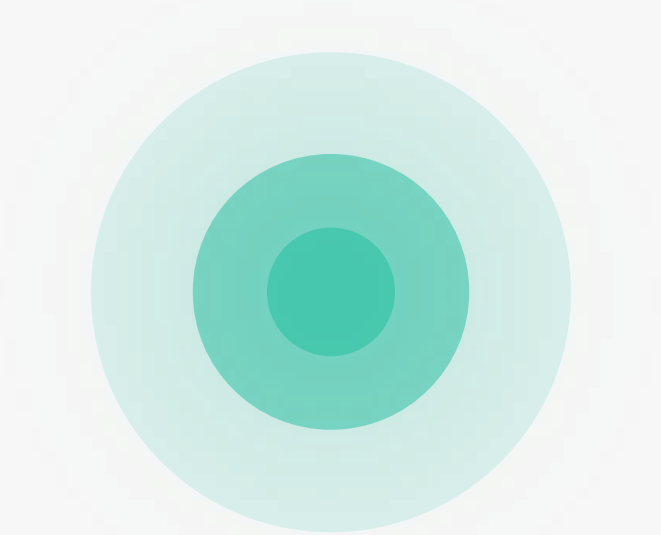


MULTI-CUT REBAR(11)

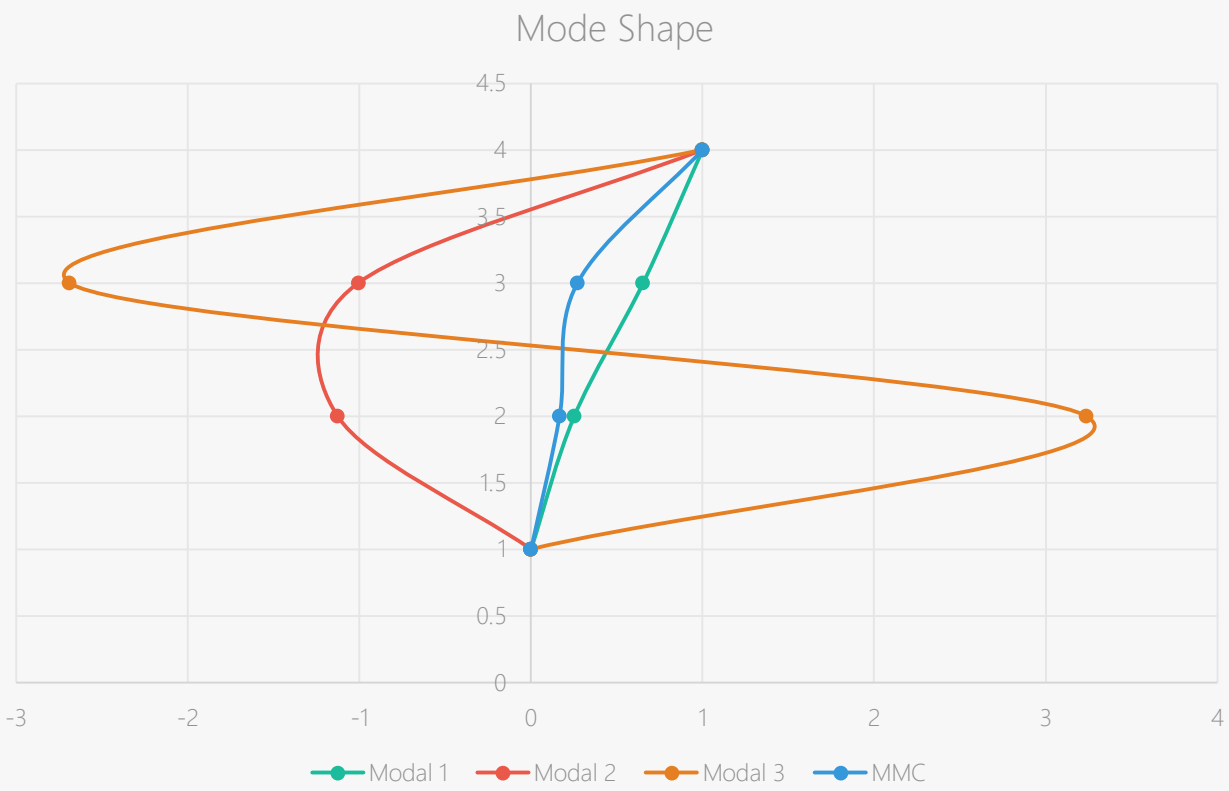
Advisor : Prof. K.C.Chang

Presenters : You-Ran Nai

Outline

1. Load Pattern
2. IDA vs Pushover
3. Nonlinear Hinge
4. GUI Progress
5. Roadmap

Pushover



Mode 1

100mm

Mode 3

10mm

User Defined

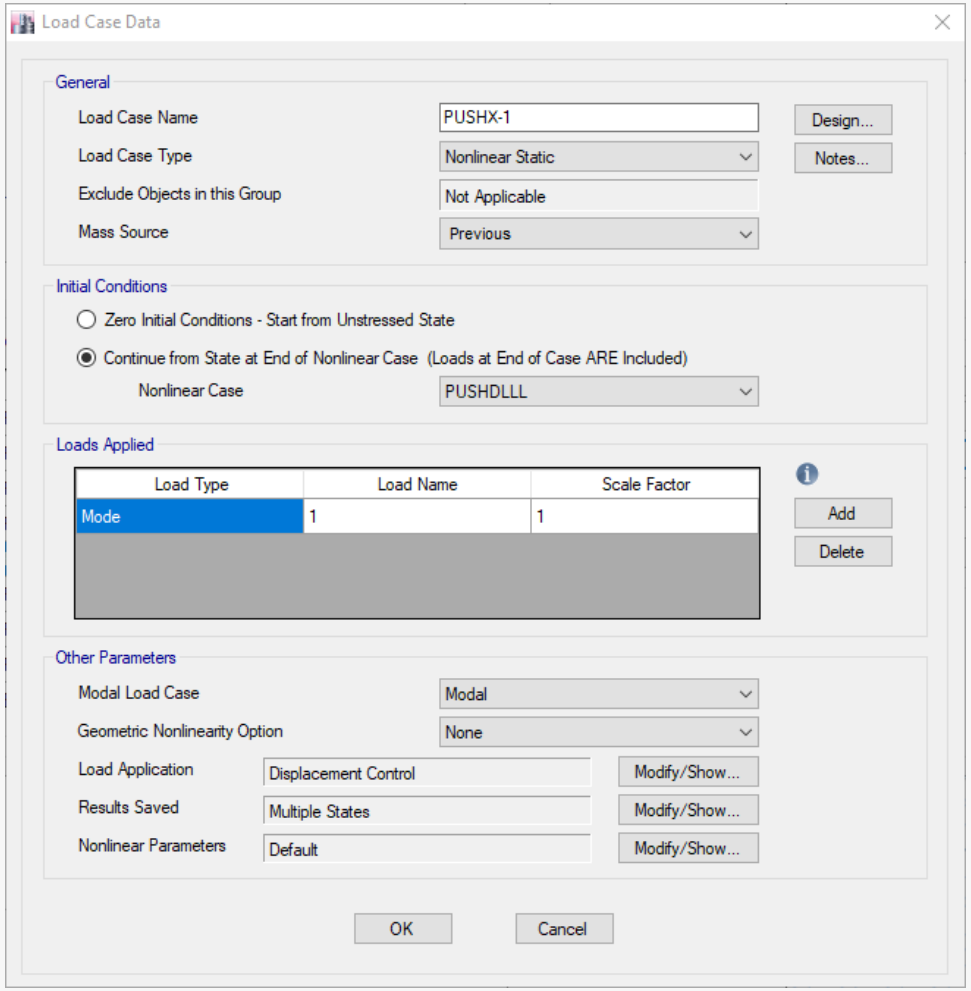
Mode 2

10mm

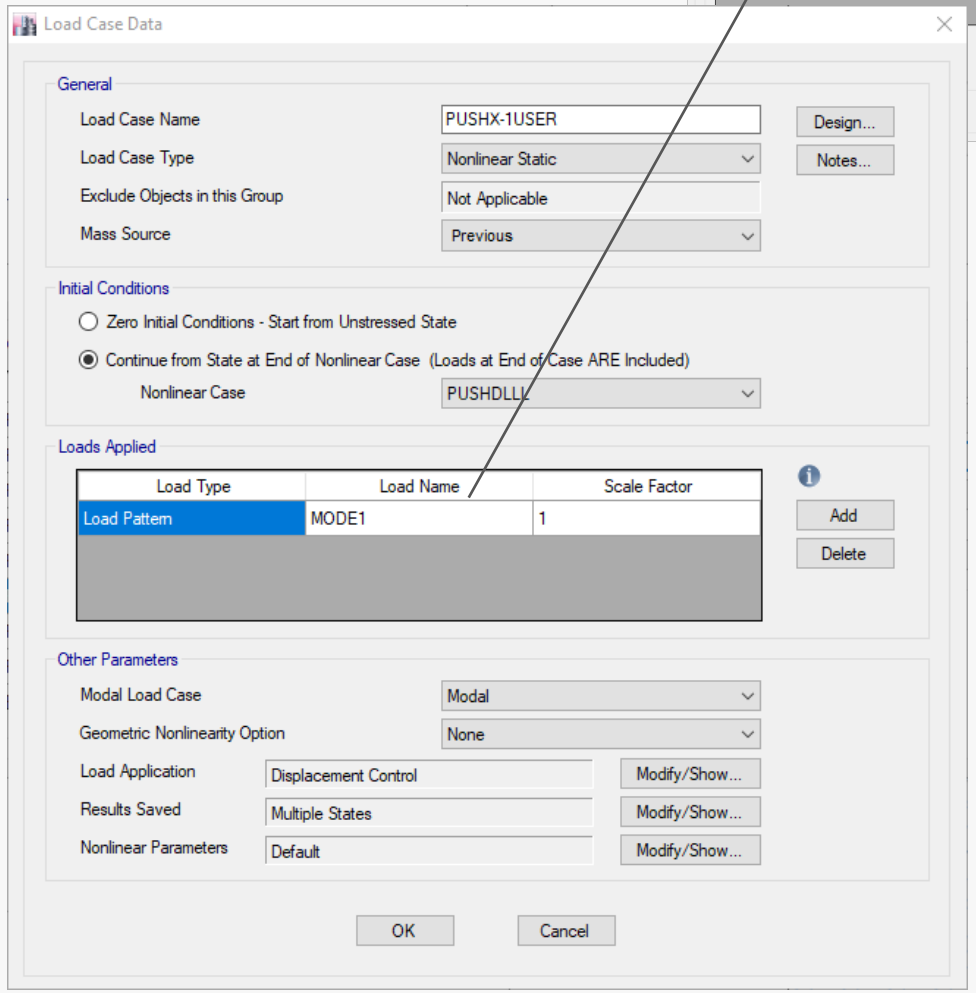
MMC

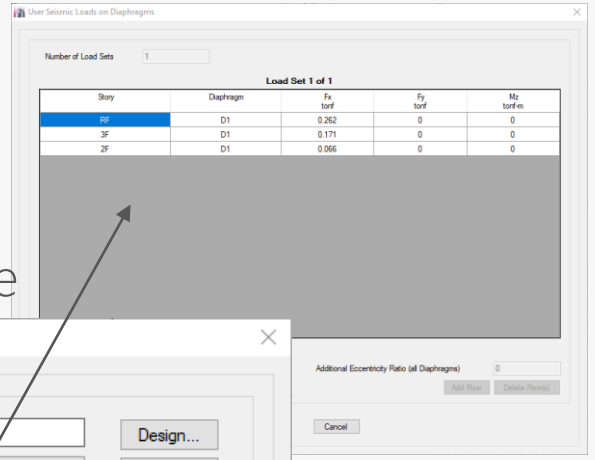
10mm

Auto Generate Mode



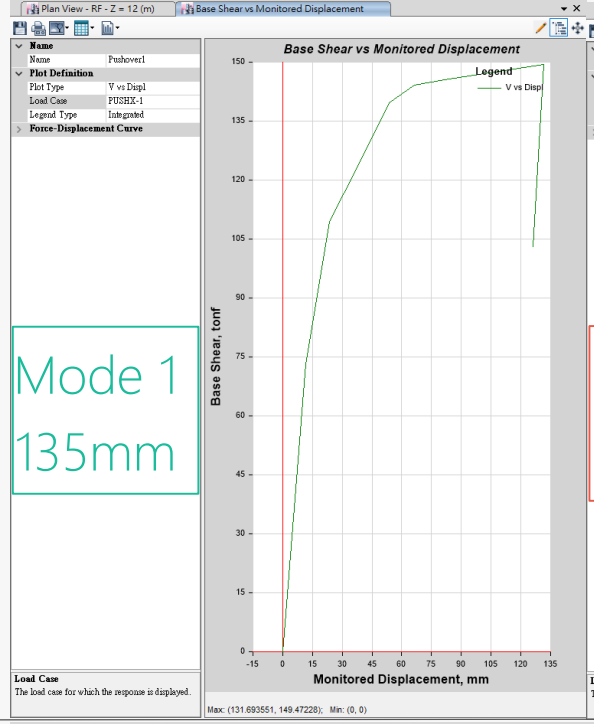
User Defined Mode



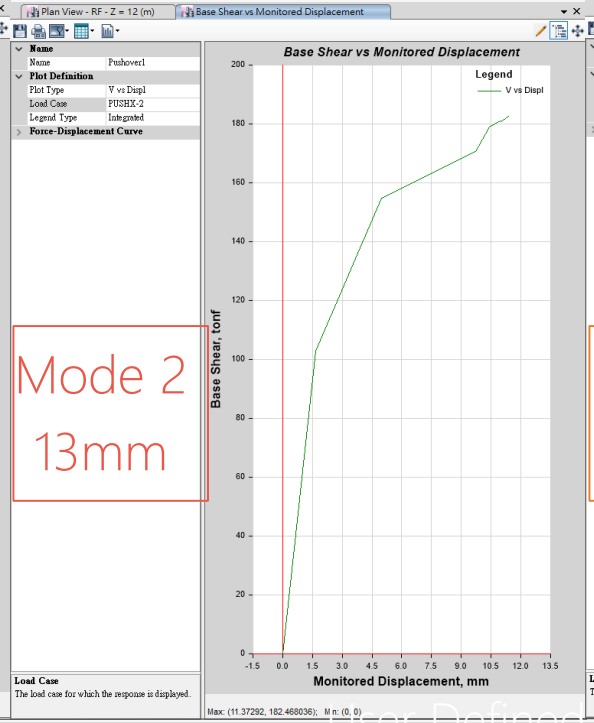


Auto Generate Mode

Mode 1
135mm

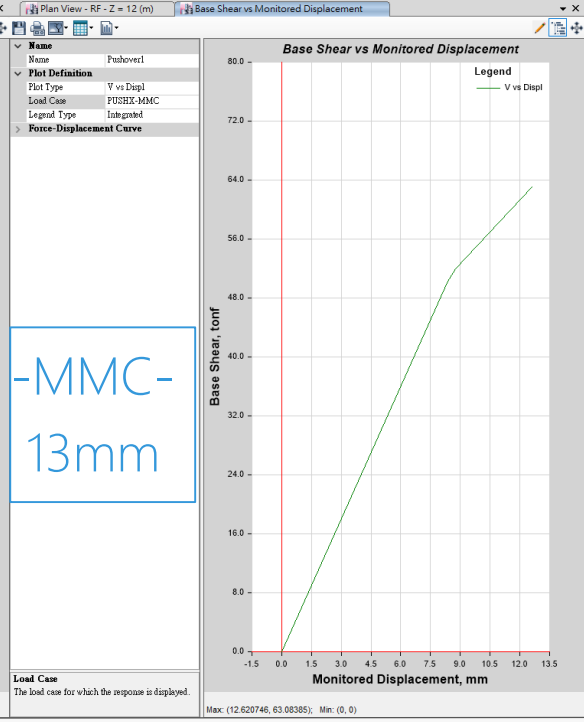


Mode 2
13mm



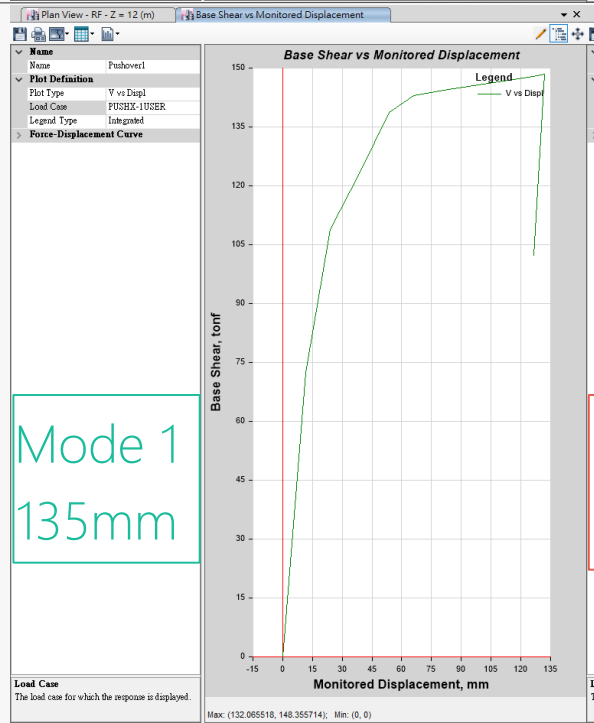
Mode 3
27mm

-MMC-
13mm

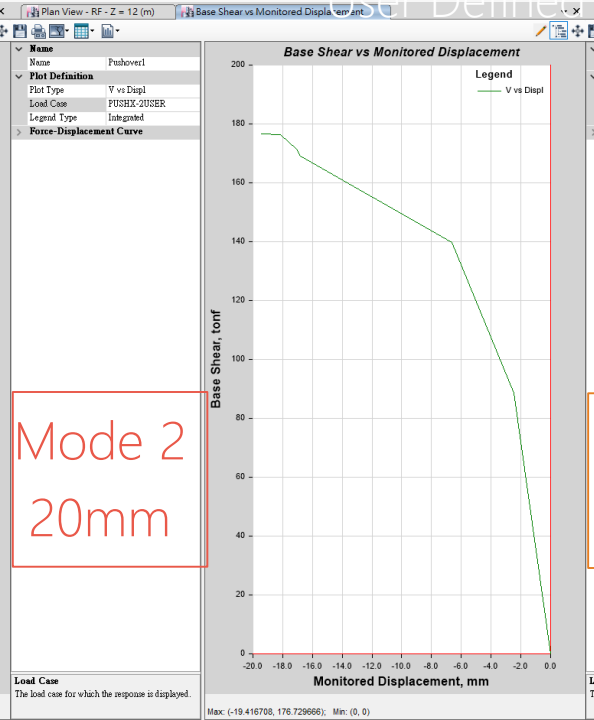


User Defined Mode

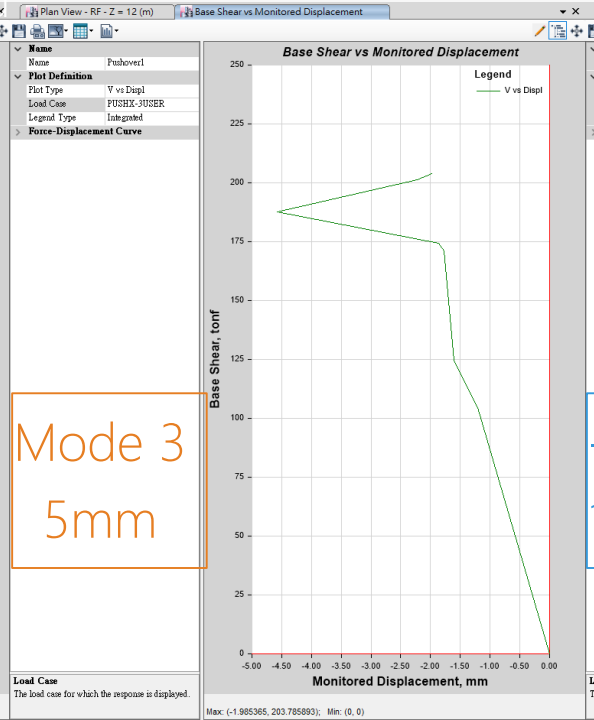
Mode 1
135mm



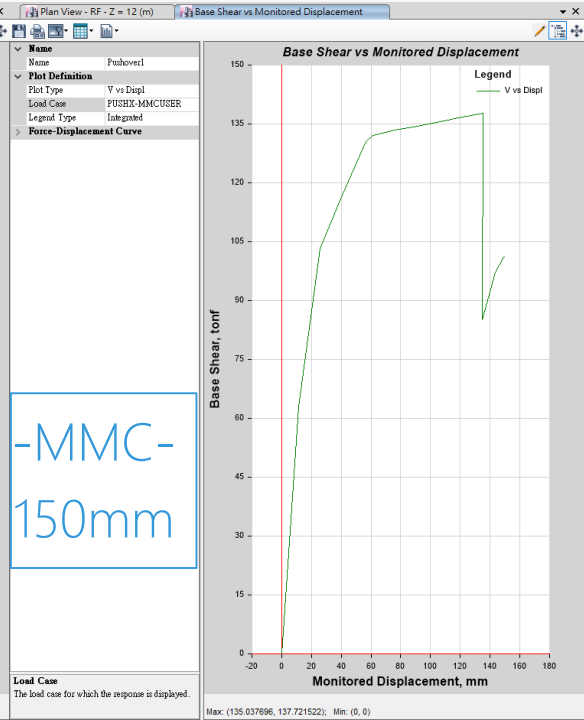
Mode 2
20mm



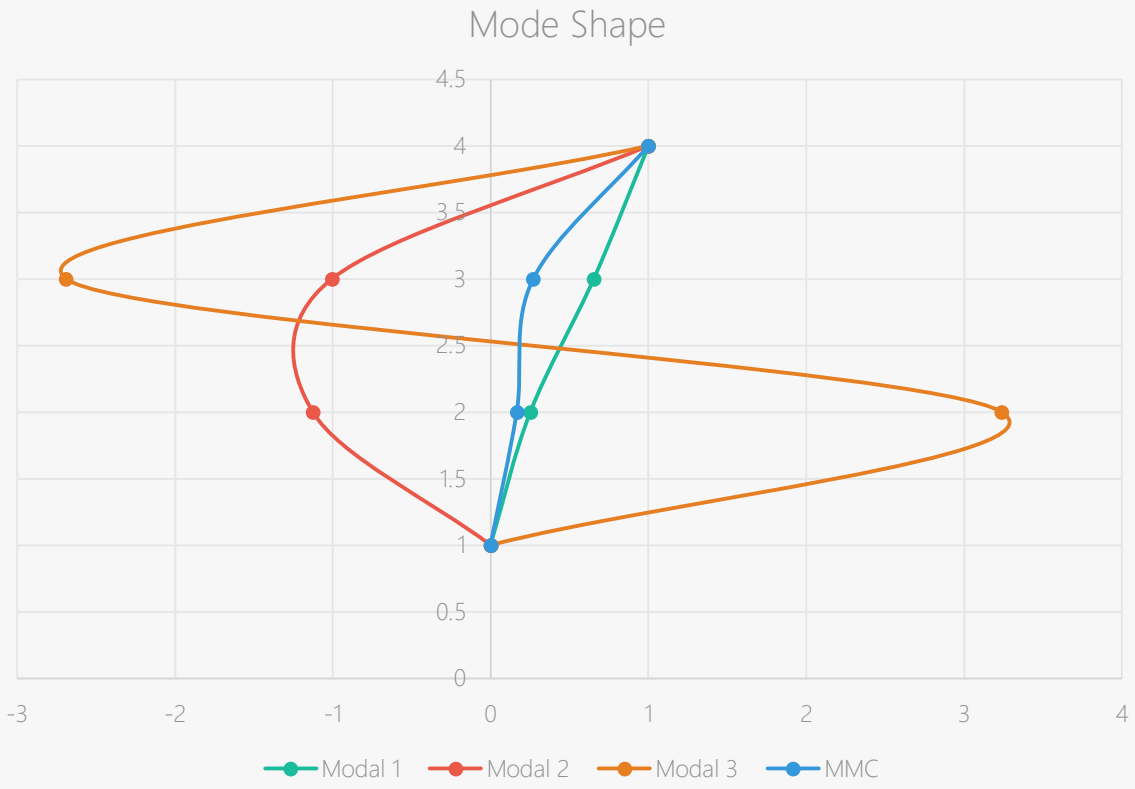
Mode 3
5mm

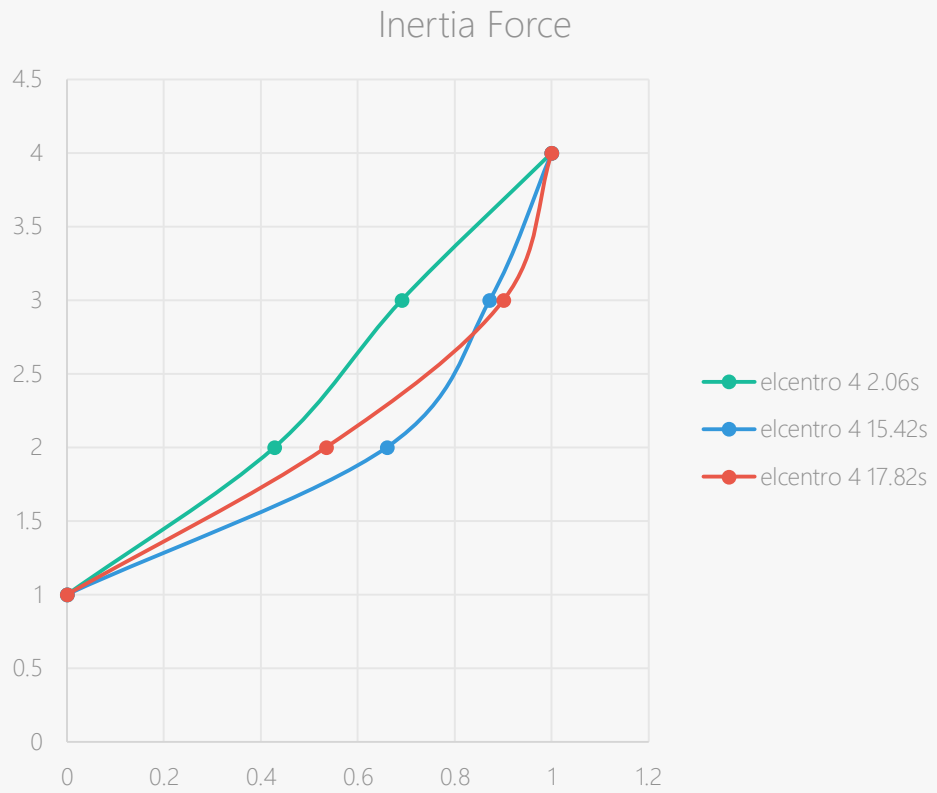


-MMC-
150mm

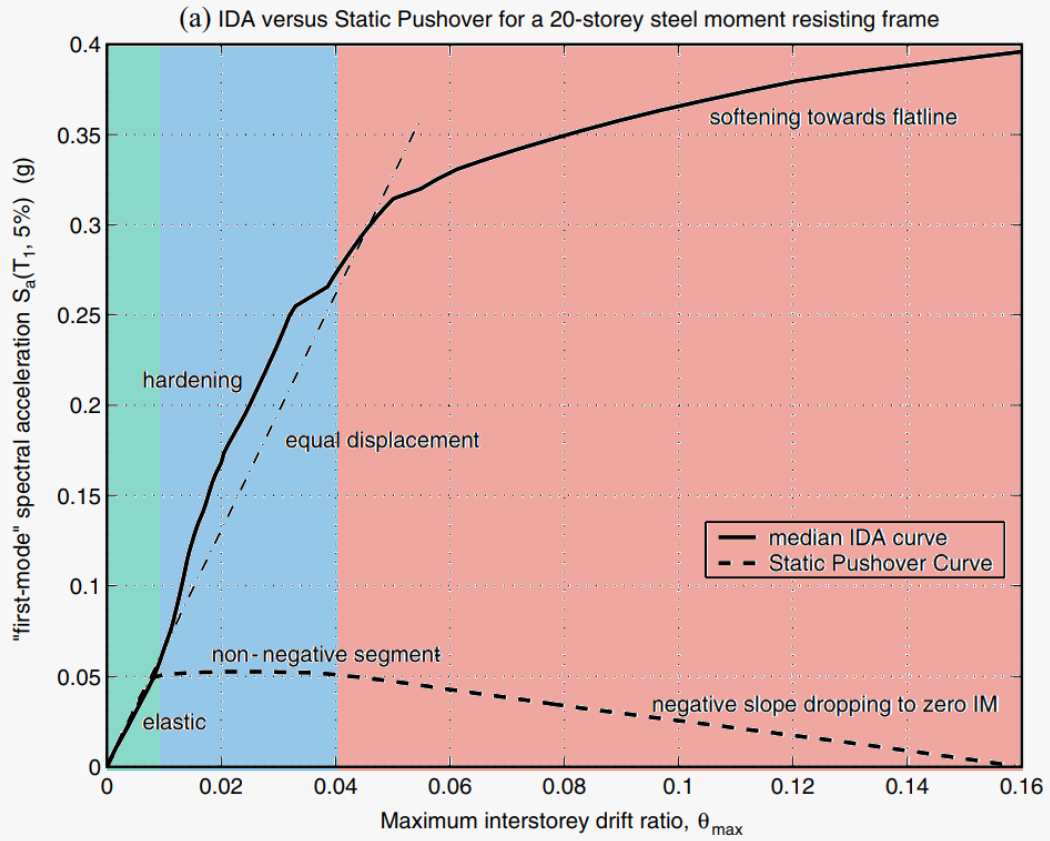


Inertia Force





NON-LINEAR SPO



ELASTIC

➔ MATCH

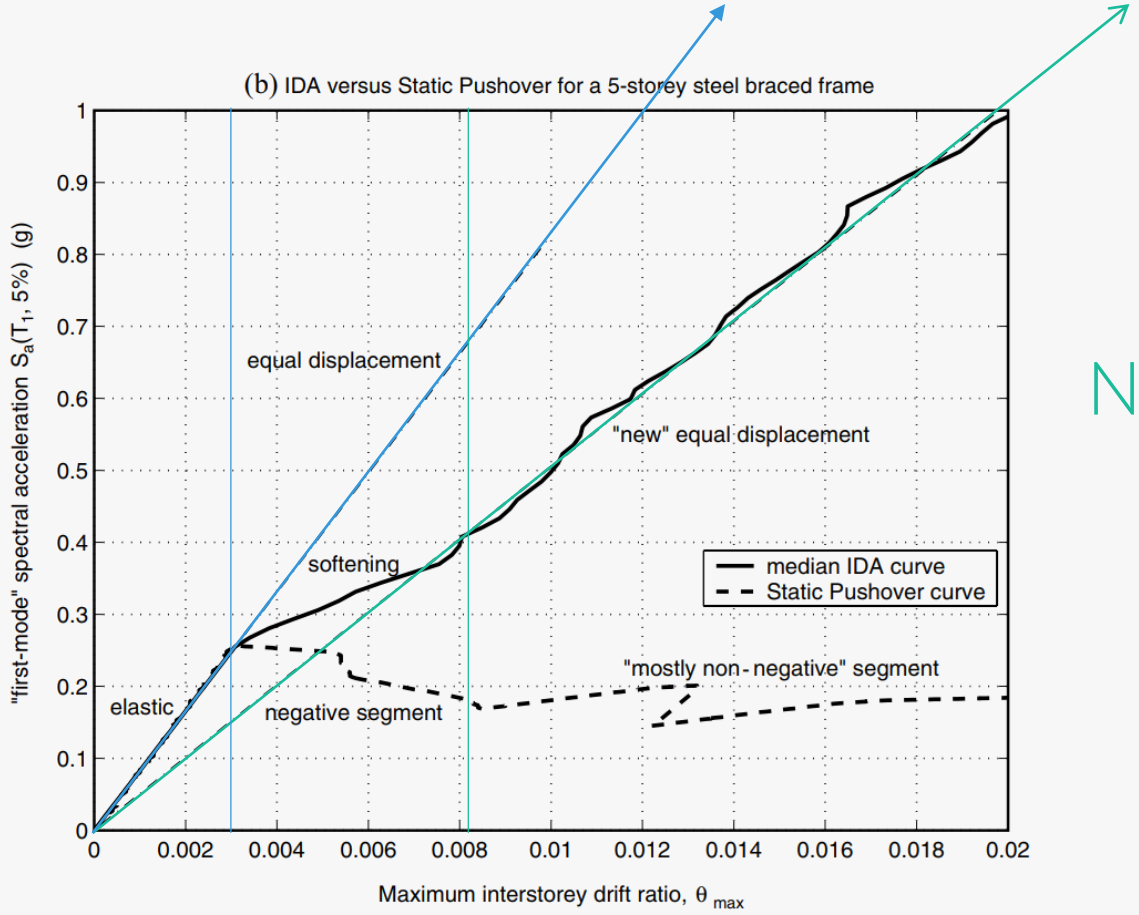
NON-NEGATIVE

➔ EQUAL DISPLACEMENT

NEGATIVE

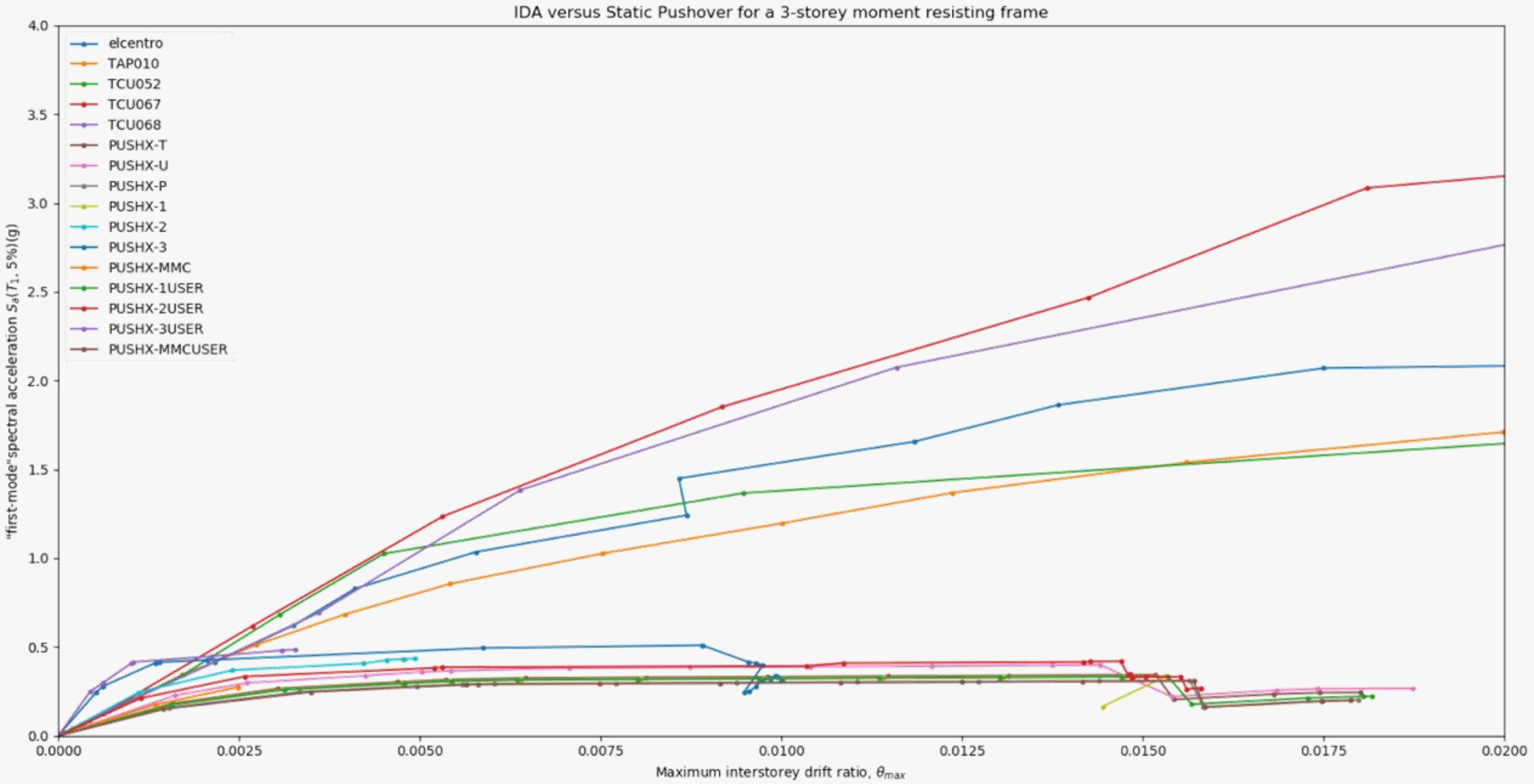
➔ SOFTENING

NON-LINEAR SPO

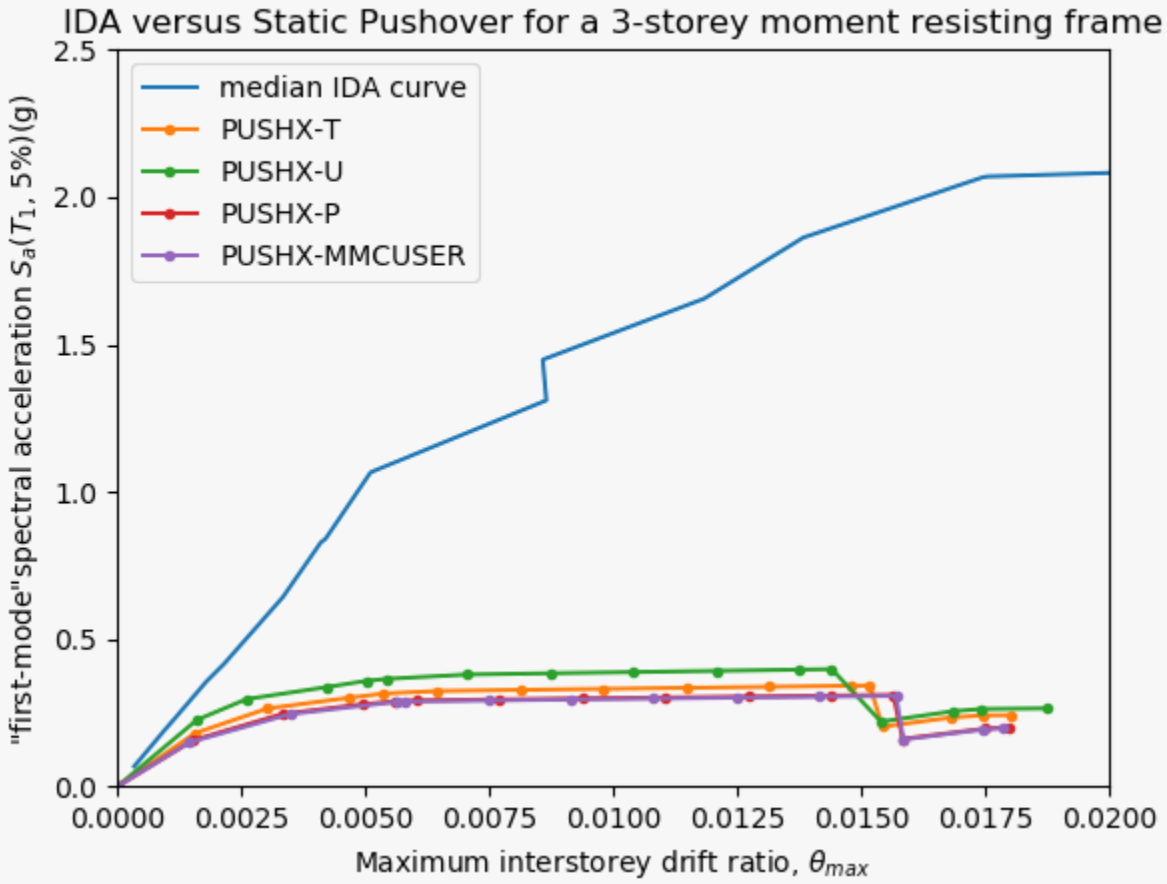


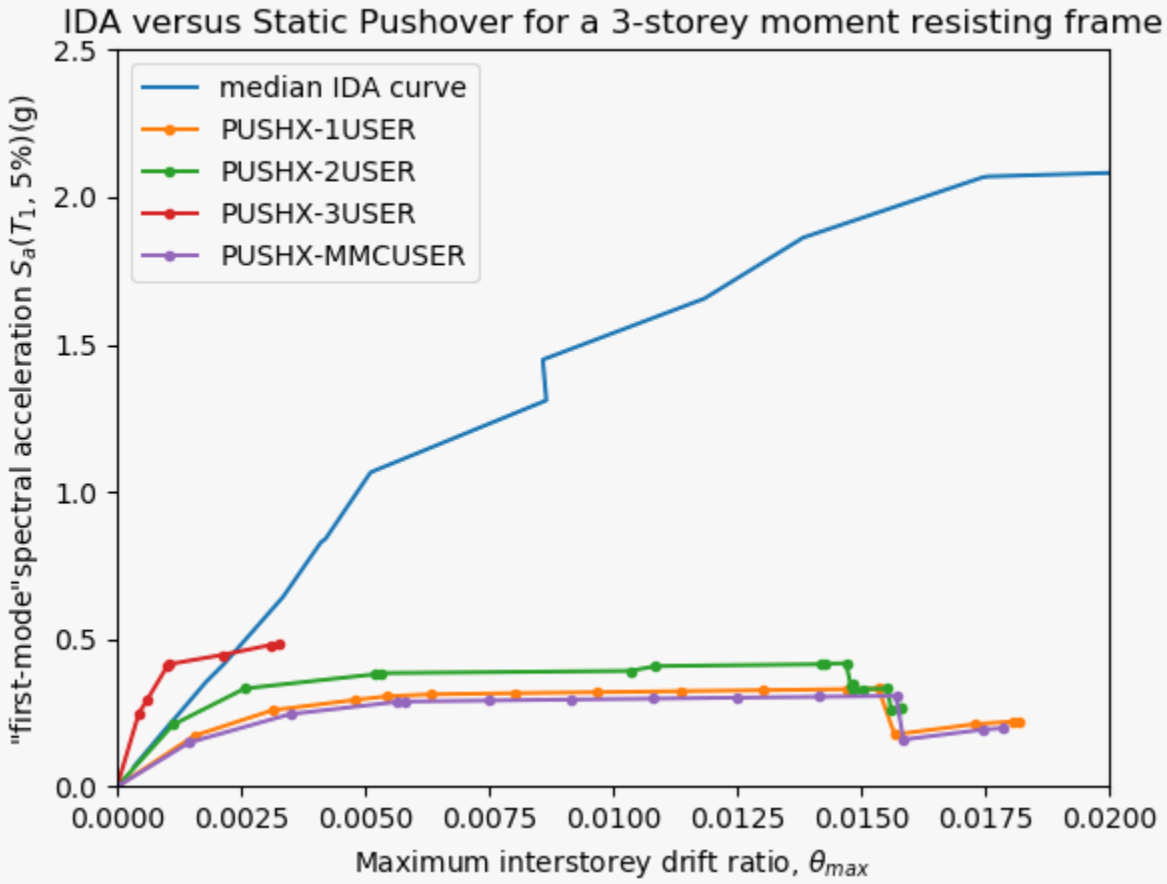
NEGATIVE => NON-NEGATIVE

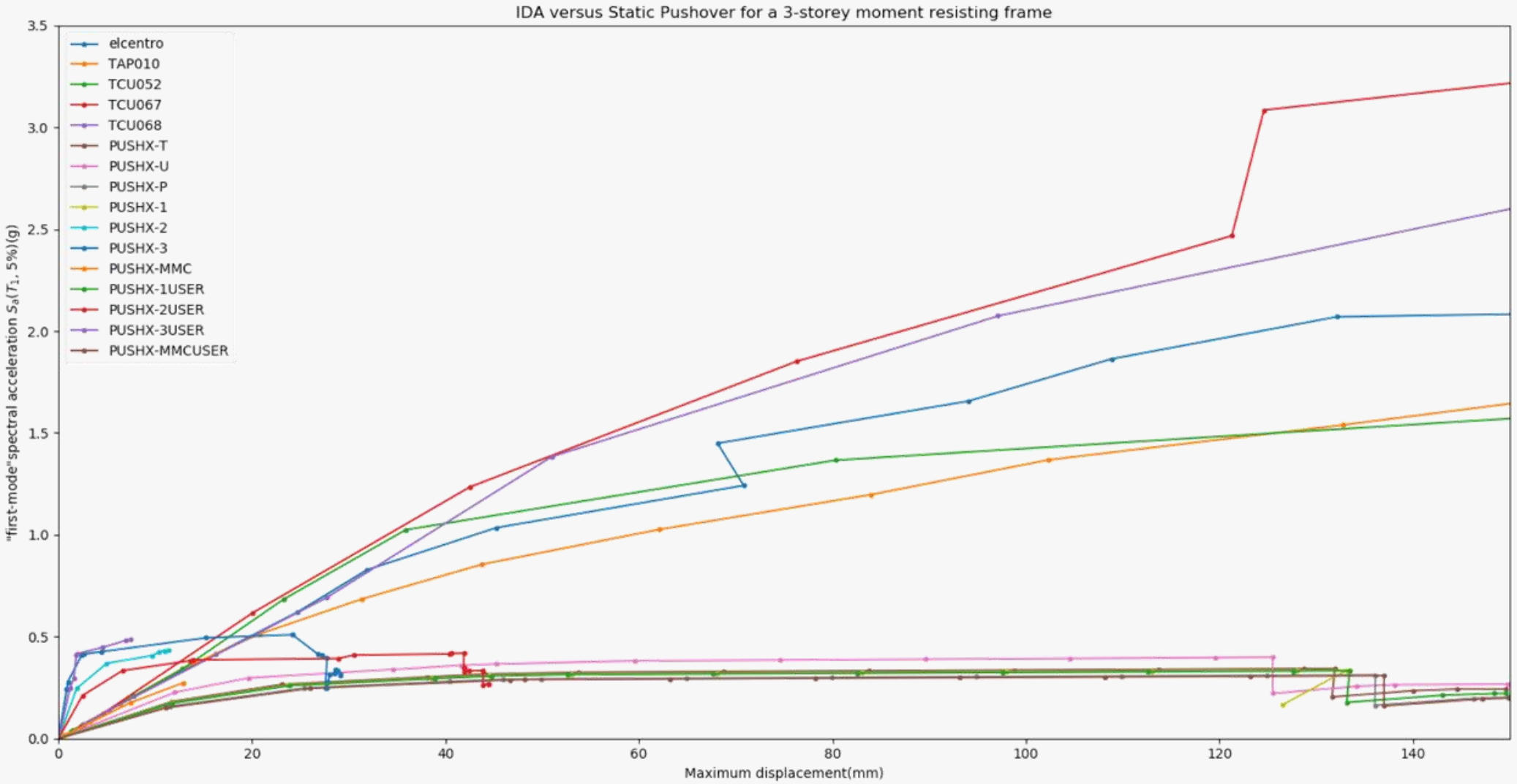
➔ NEW EQUAL DISPLACEMENT


IDA versus Static Pushover for a 3-storey moment resisting frame
elcentro
TAP010
TCU052
TCU067
TCU068
PUSHX-T
PUSHX-U
PUSHX-P
PUSHX-1
PUSHX-2
PUSHX-3
PUSHX-MMC
PUSHX-1USER
PUSHX-2USER
PUSHX-3USER
PUSHX-MMCUSER
"first-mode"spectral acceleration $S_a(T_1, 5\%)(g)$
Maximum interstorey drift ratio, θ_{max}
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
0.0000
0.0025
0.0050
0.0075
0.0100
0.0125
0.0150
0.0175
0.0200

IDA vs Pushover

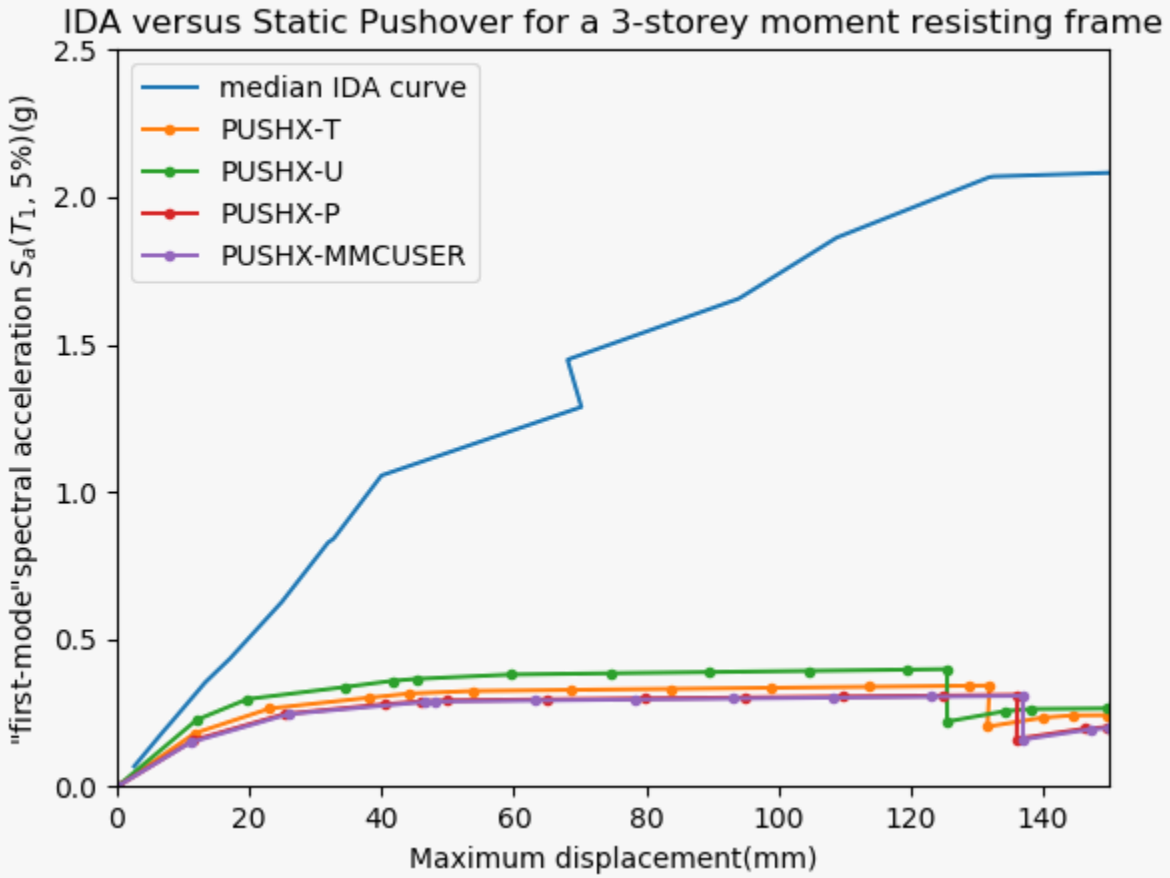




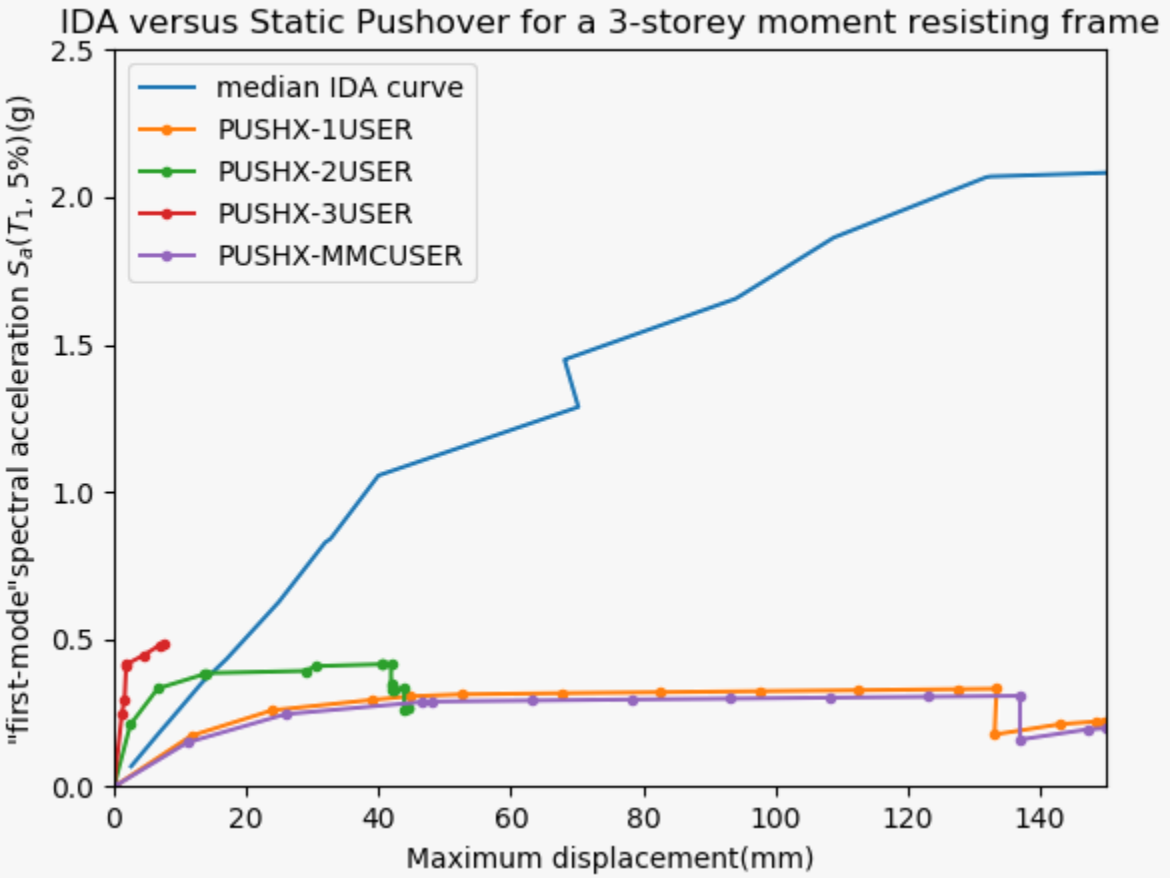


Displacement

IDA vs Pushover



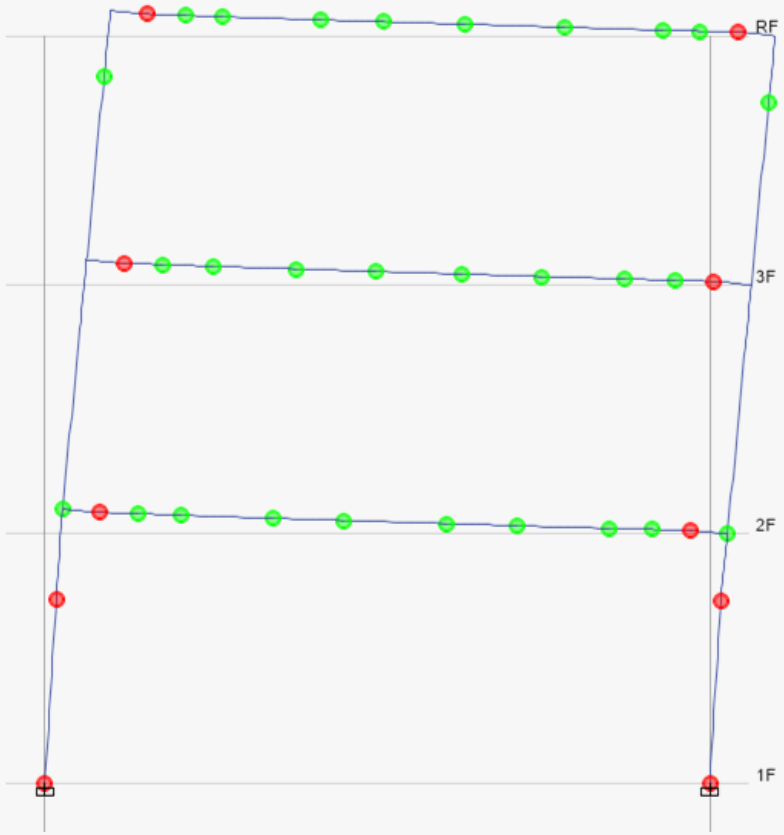
Displacement



Displacement

Beam Design

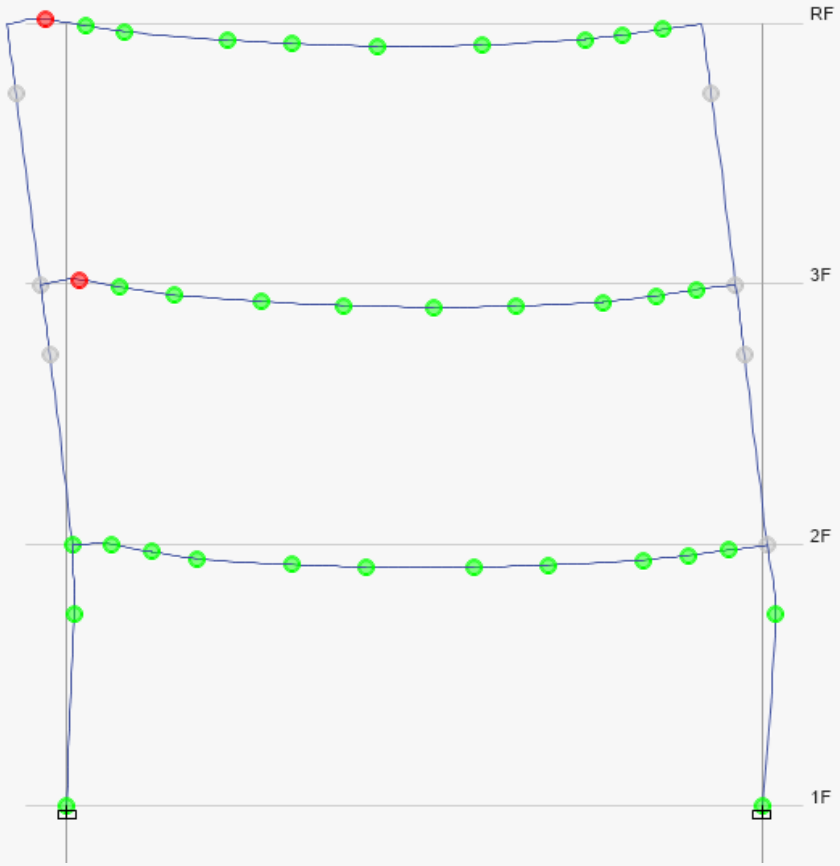
Time History



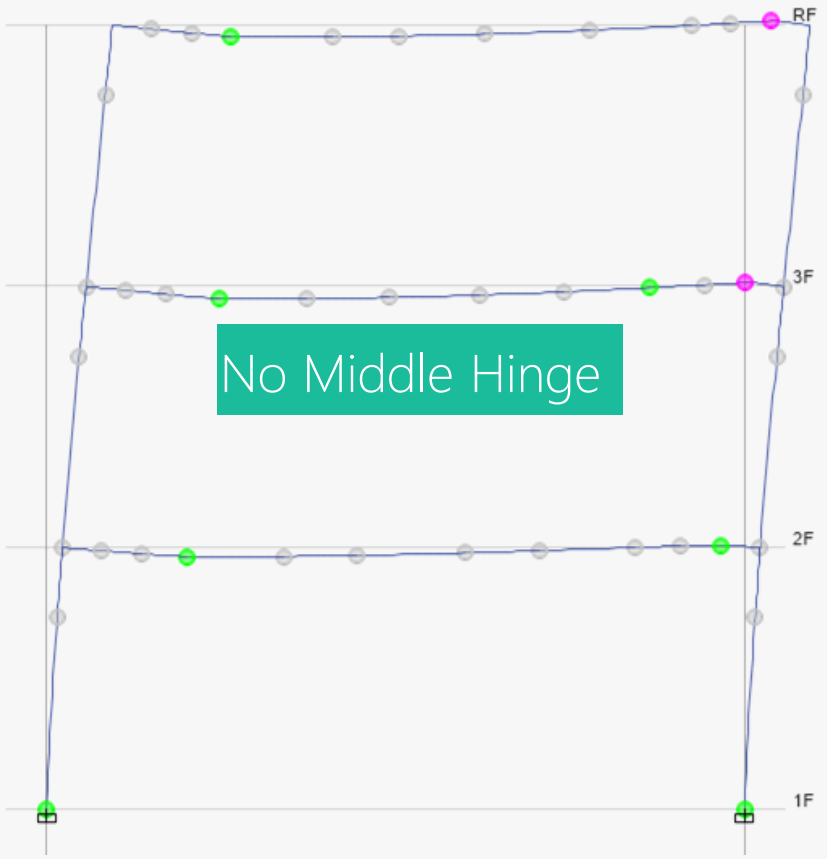
Pushover

Strong Column Weak Beam

Time History

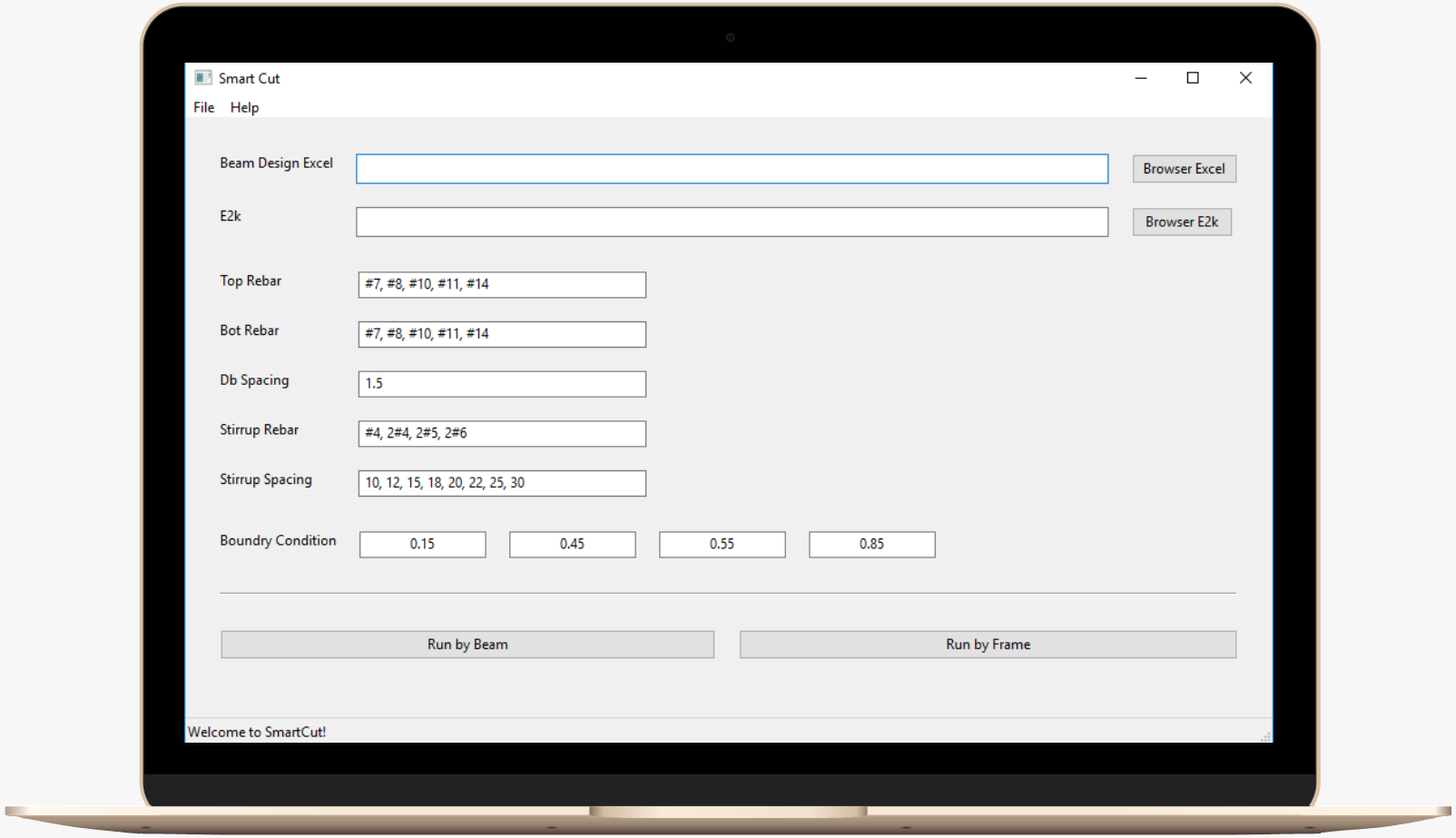


Pushover



No Middle Hinge

LinearCut
GUI



Roadmap


coggle
made for free at coggle.it
目的：節省鋼筋量
MMC
EPA
APA
MPA
Higher Mode
Pushover
FEMA(NSP)
ATC-40
First Mode
非線性驗證
Nonlinear Hinge
IDA
Performance Base Design
Time History
多點斷筋
GUI
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