

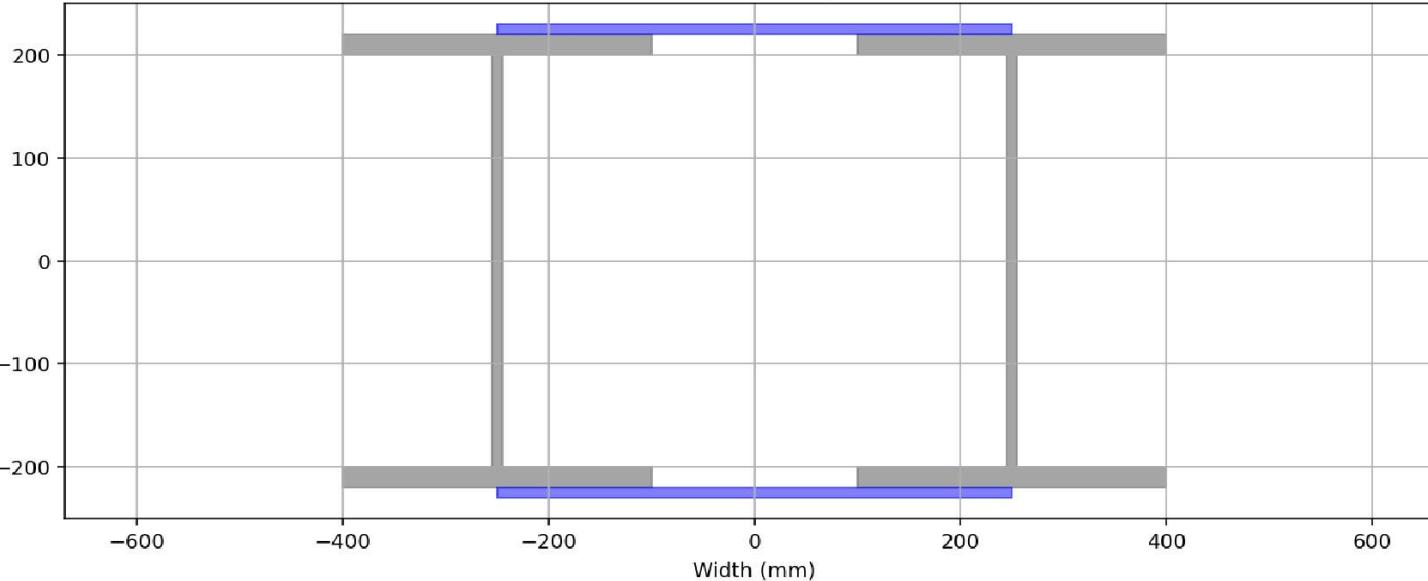
>> IN THE NAME OF ALLAH, THE MOST GRACIOUS, THE MOST MERCIFUL <<

# **INVESTIGATION OF FREE-VIBRATION ANALYSIS WITH LATERAL DISPLACEMENT OF MULTI-MODE POST- BUCKLING PHENOMENA STEEL COLUMNS USING OPENSEES CONSIDERING THE GEOMETRIC AND MATERIAL PROPERTIES NONLINEARITY**

WRITTEN BY SALAR DELAVAR GHASHGHAEI (QASHQAI)

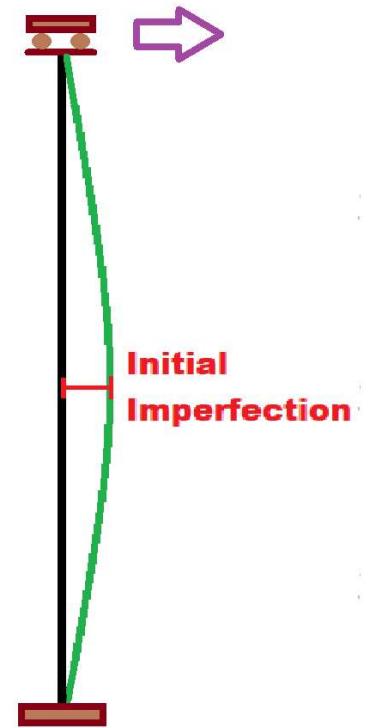
Double I-Section with Plates (10mm×500mm)

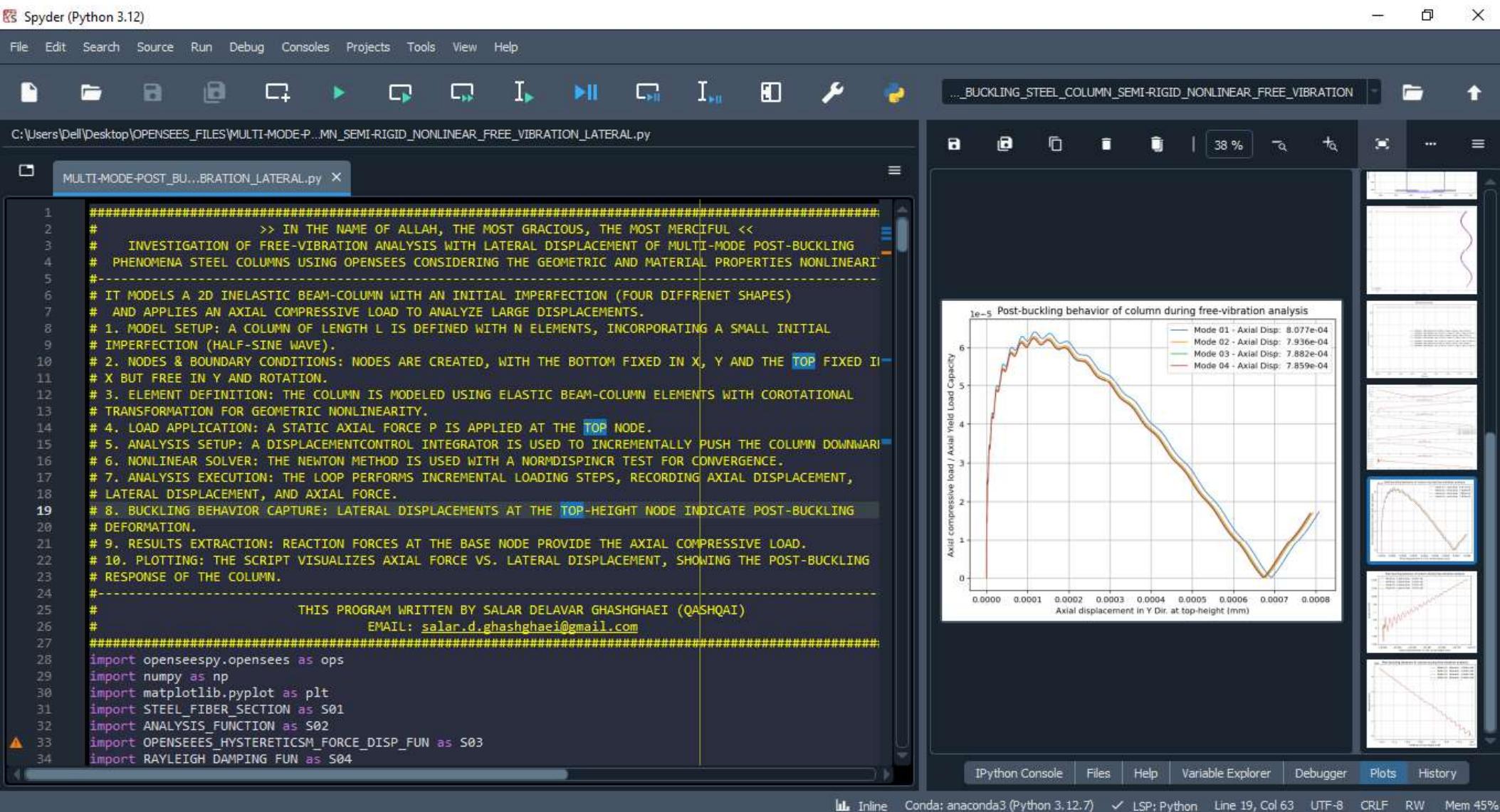
Height (mm)

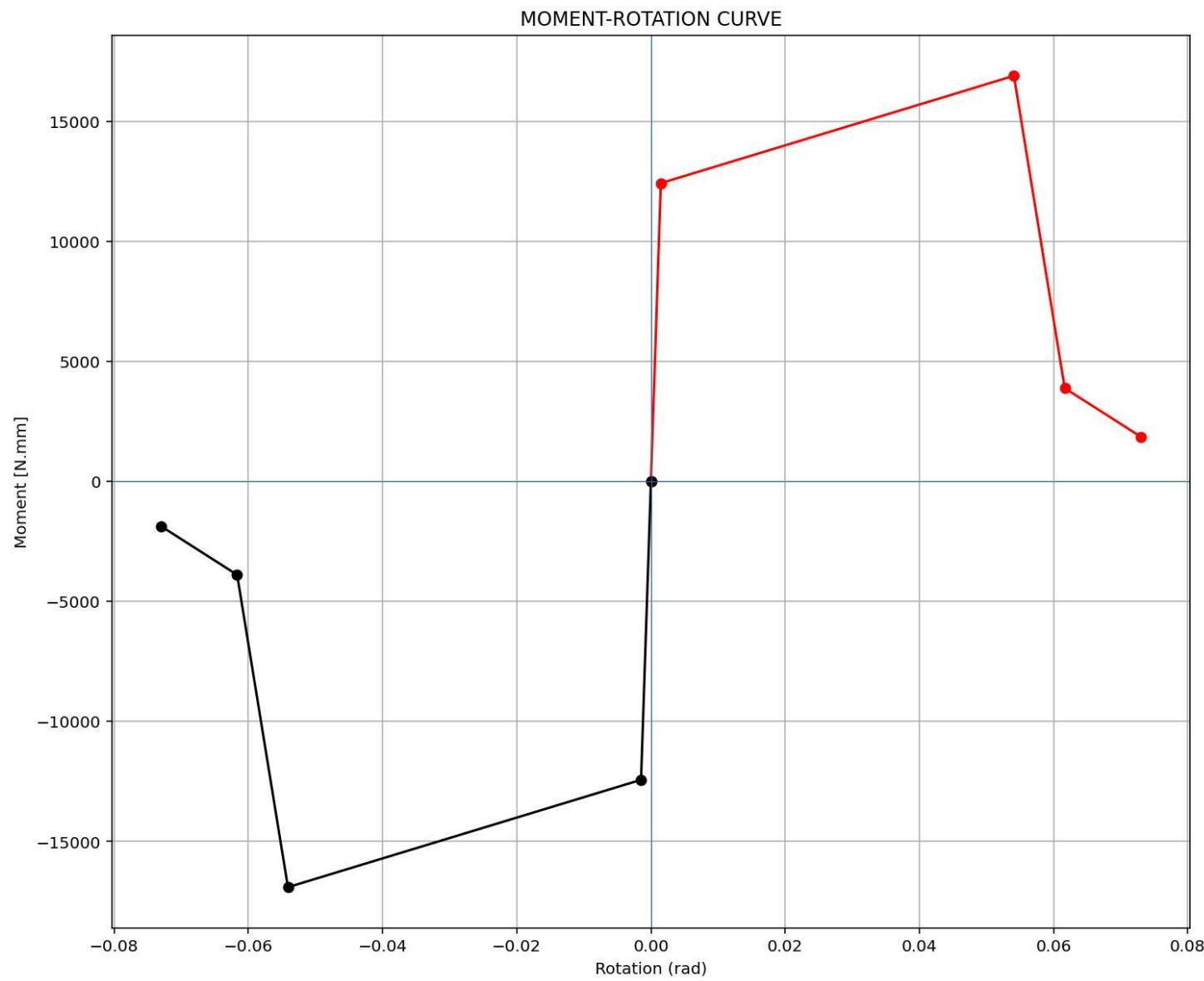


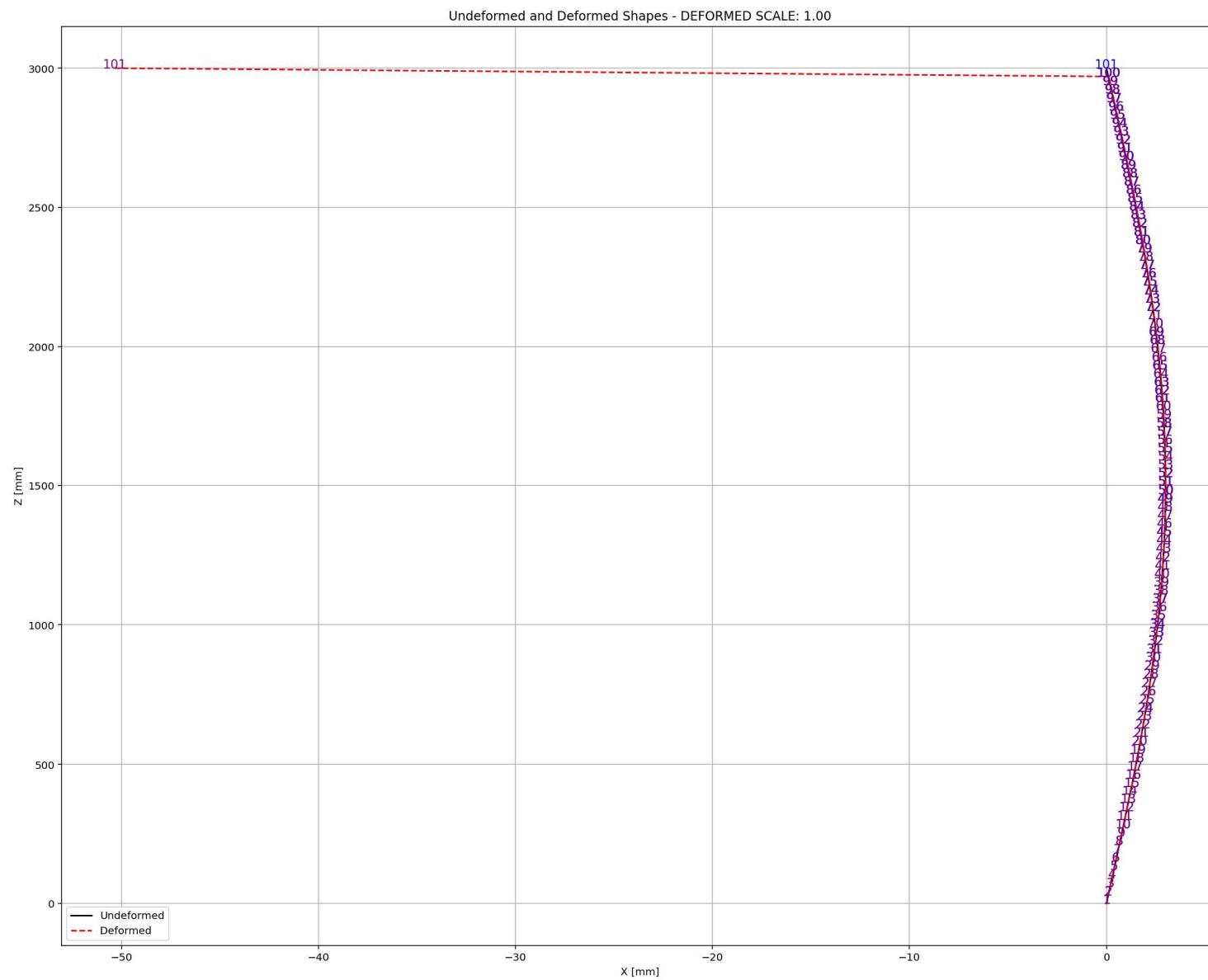
Width (mm)

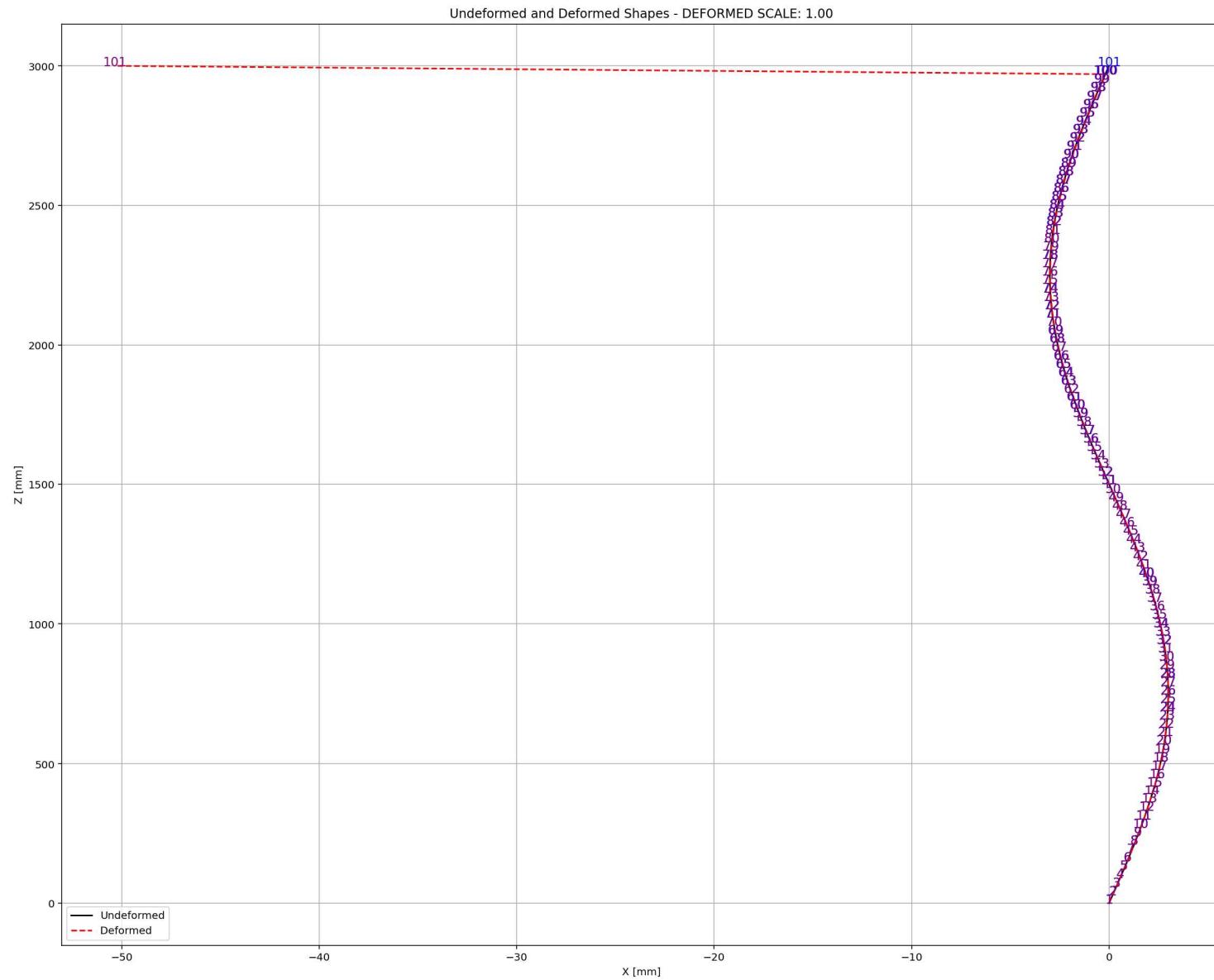
Initial displacement  
Initial velocity  
Initial acceleration

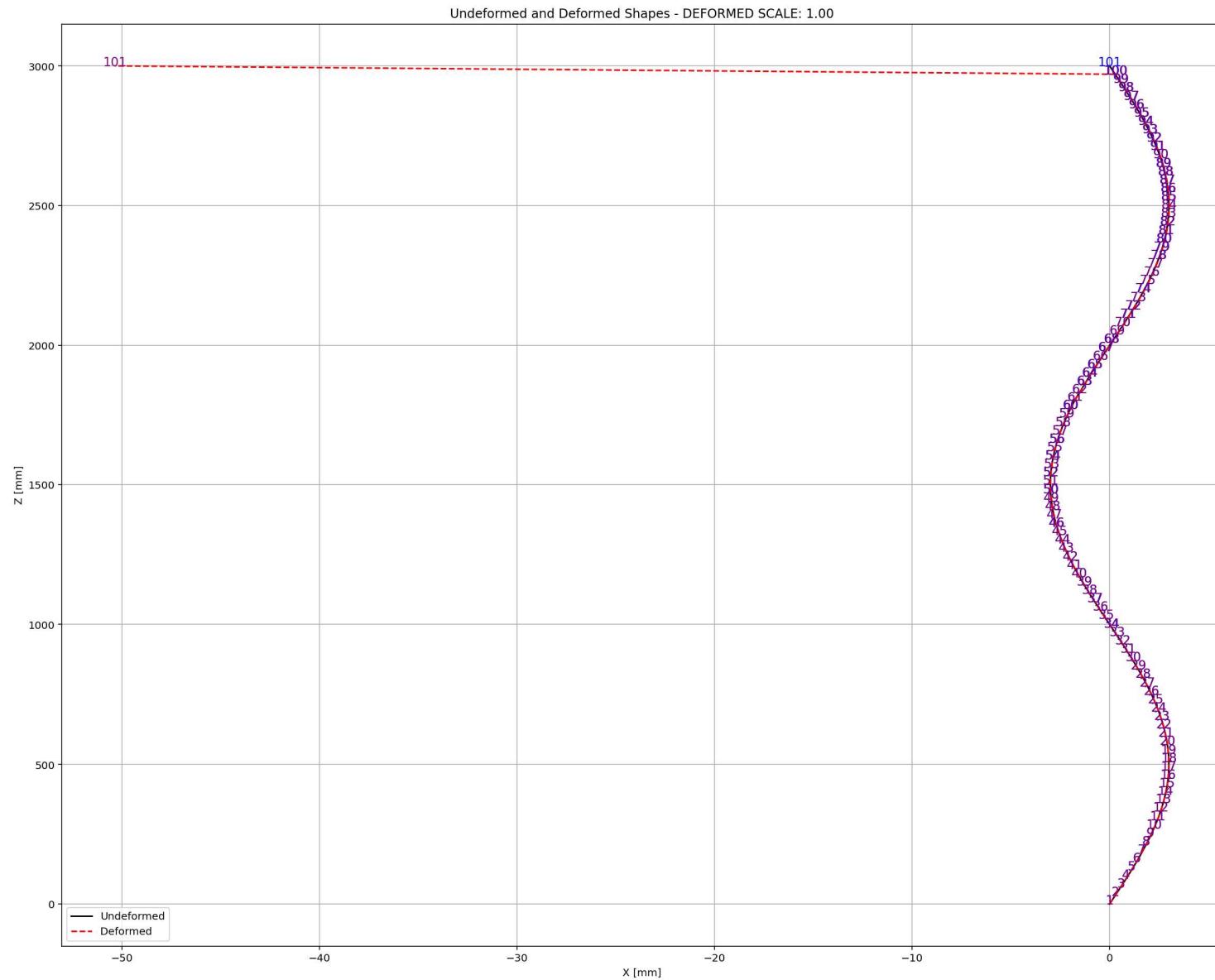


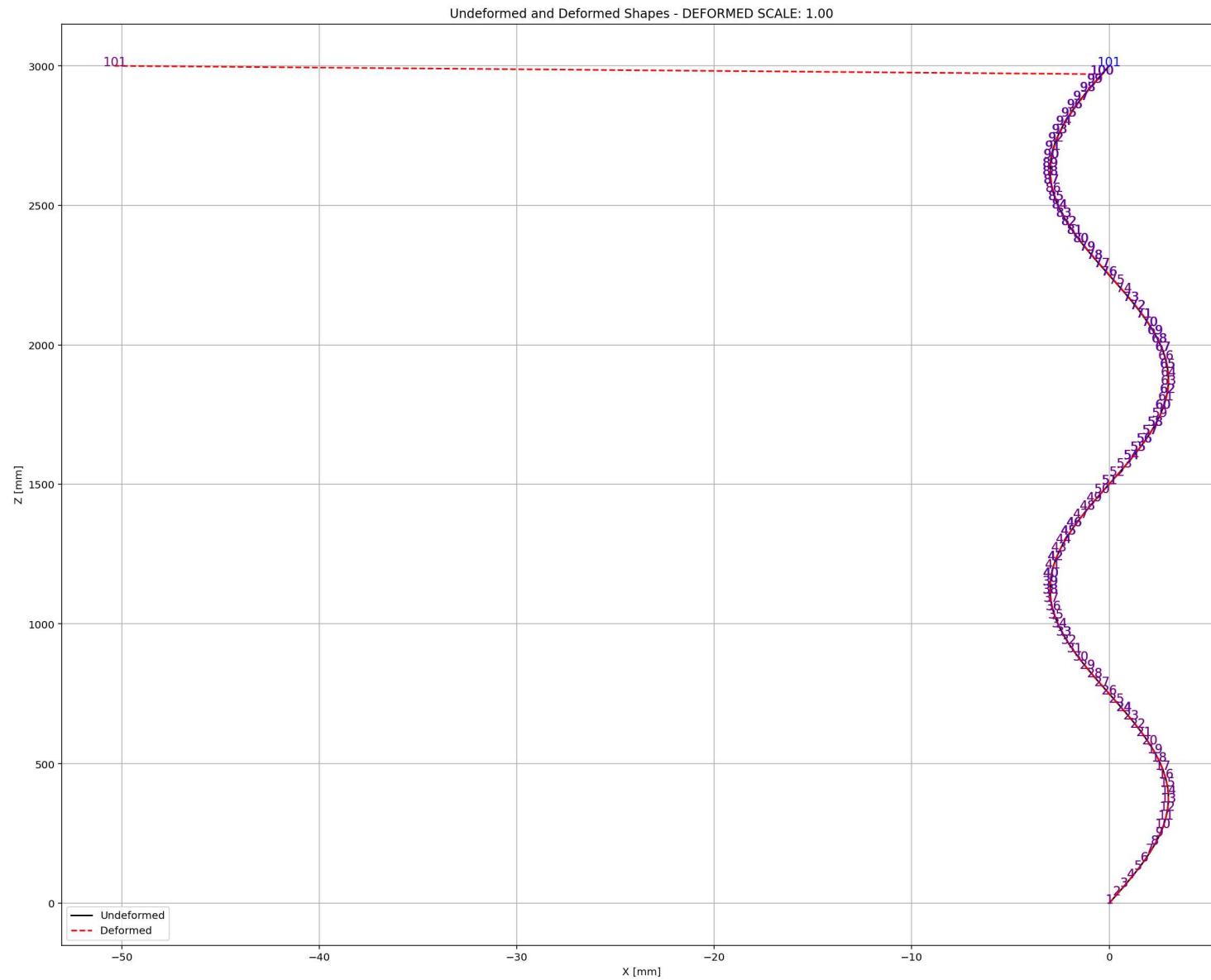


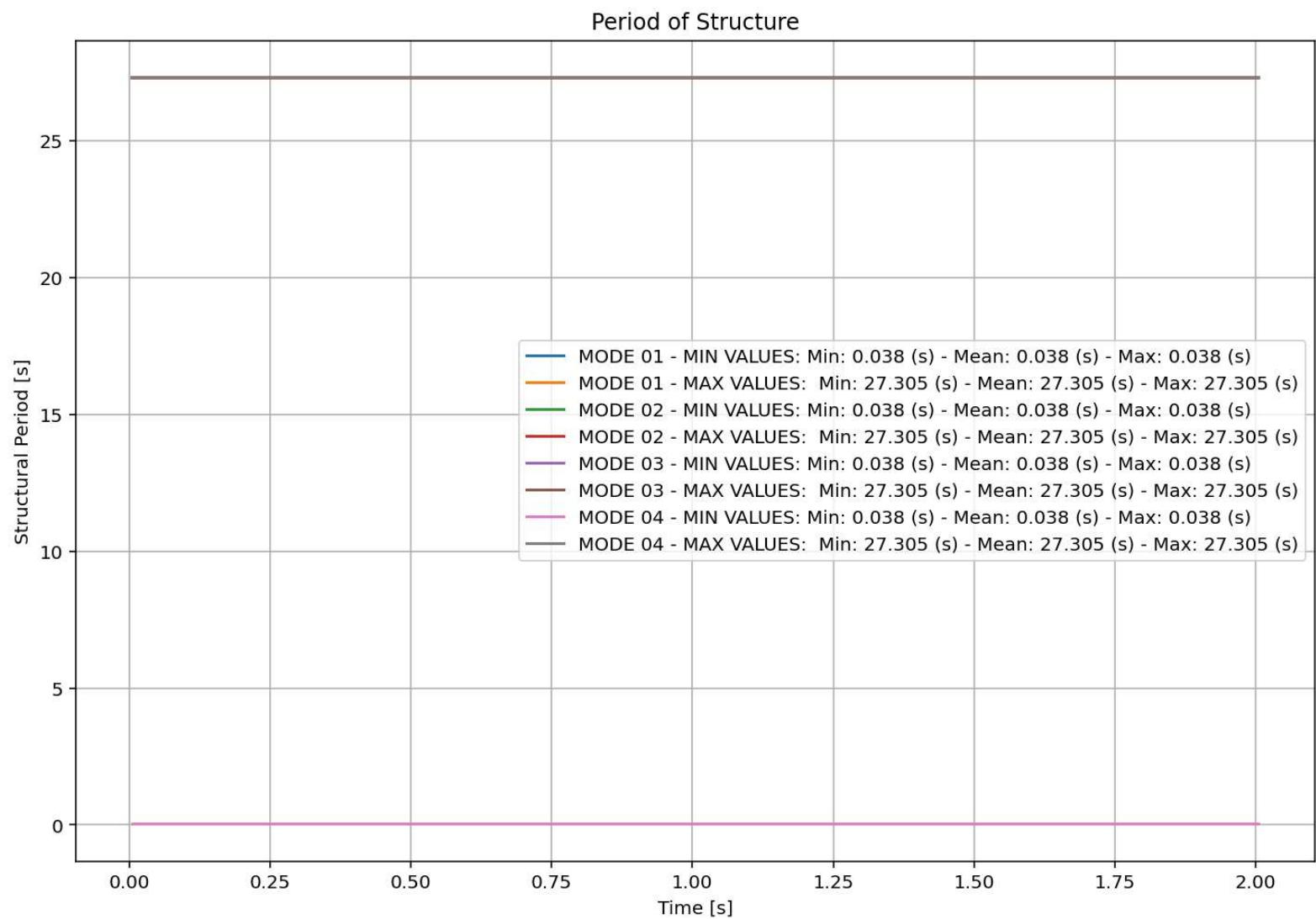


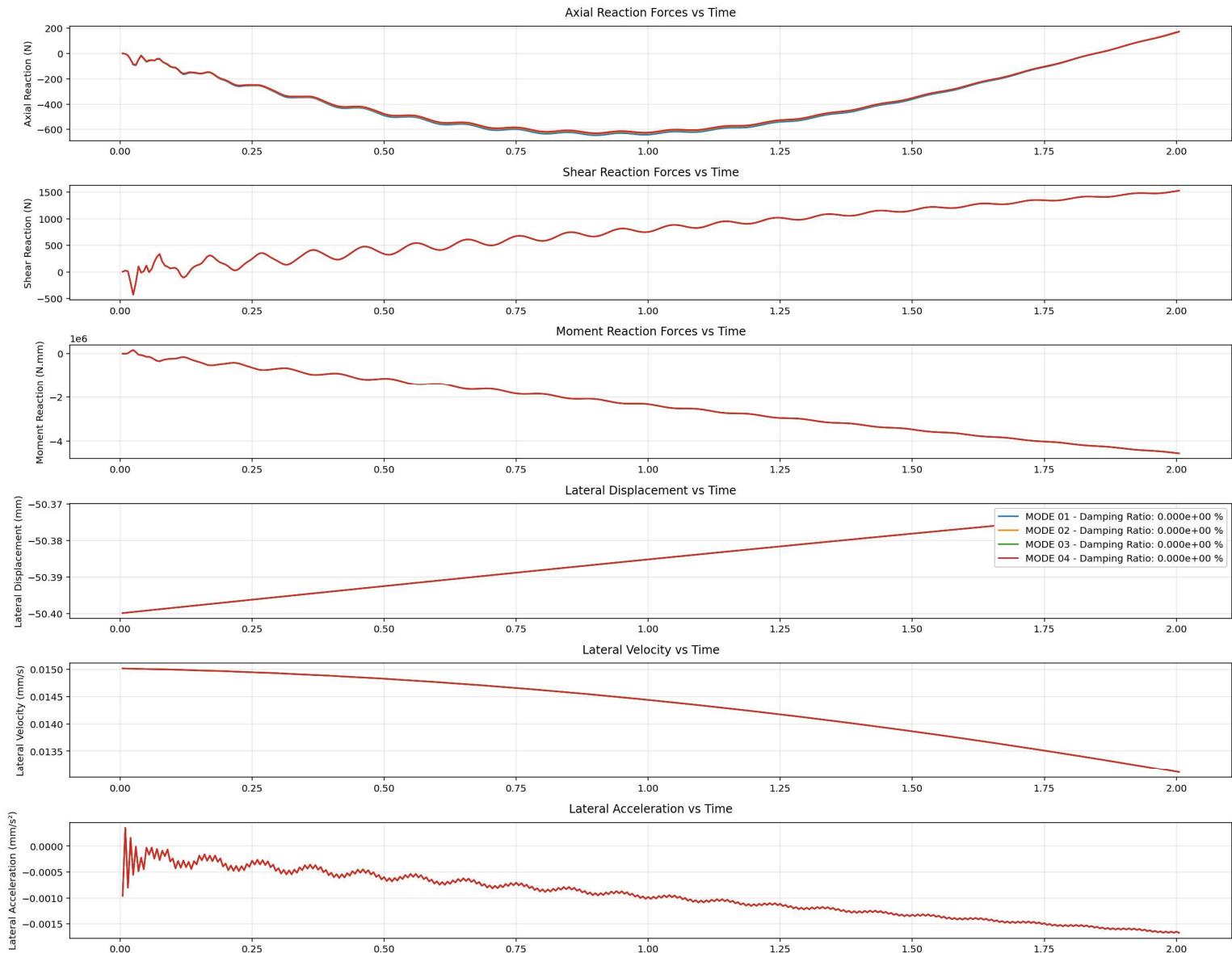




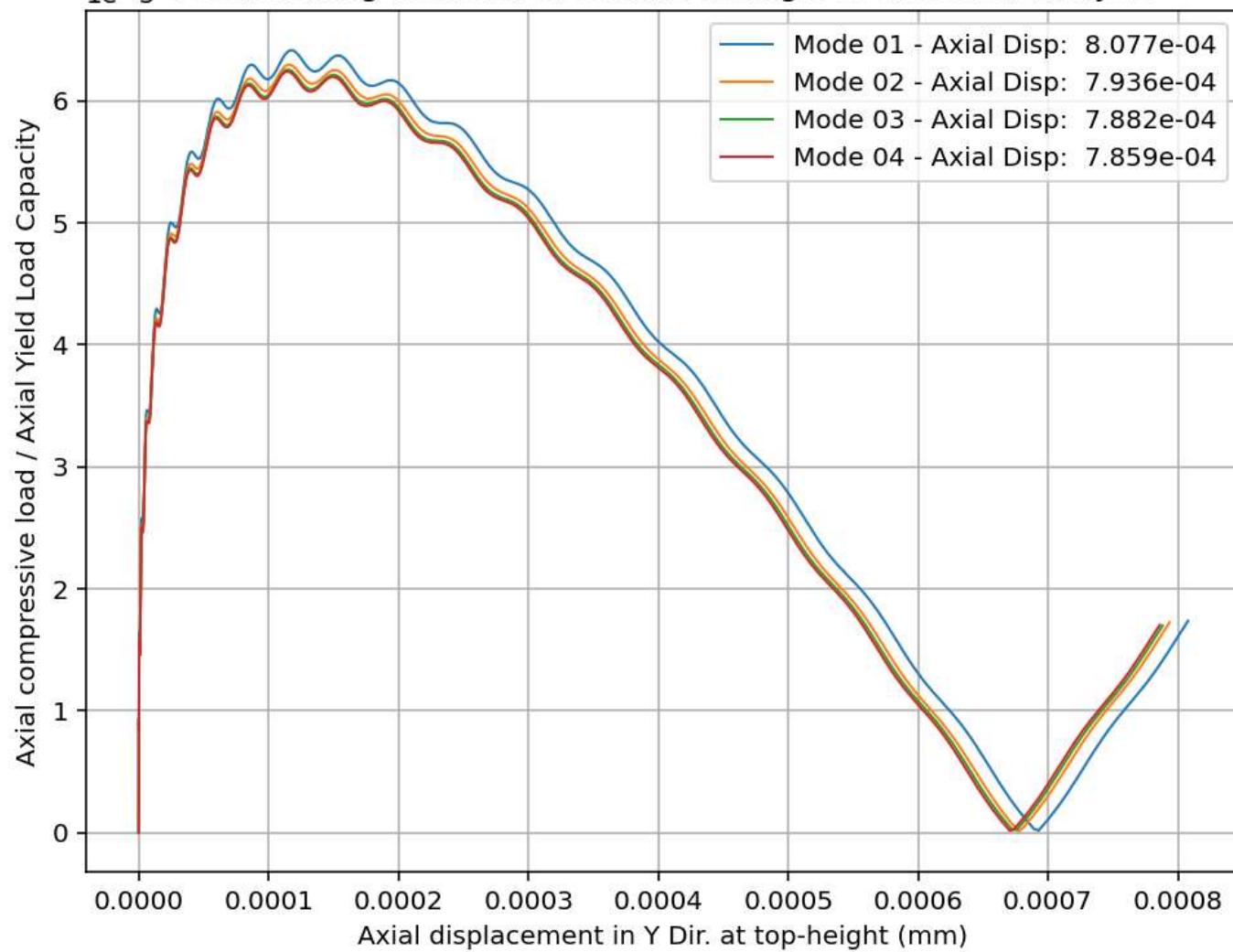








$1e-5$  Post-buckling behavior of column during free-vibration analysis



### Post-buckling behavior of column during free-vibration analysis

