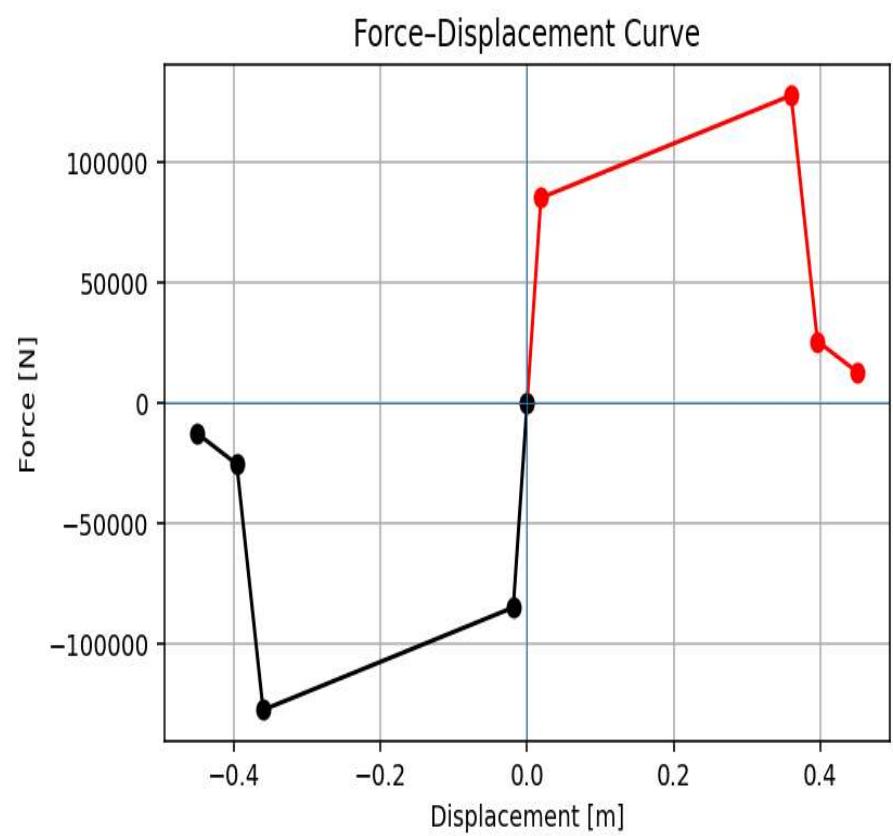
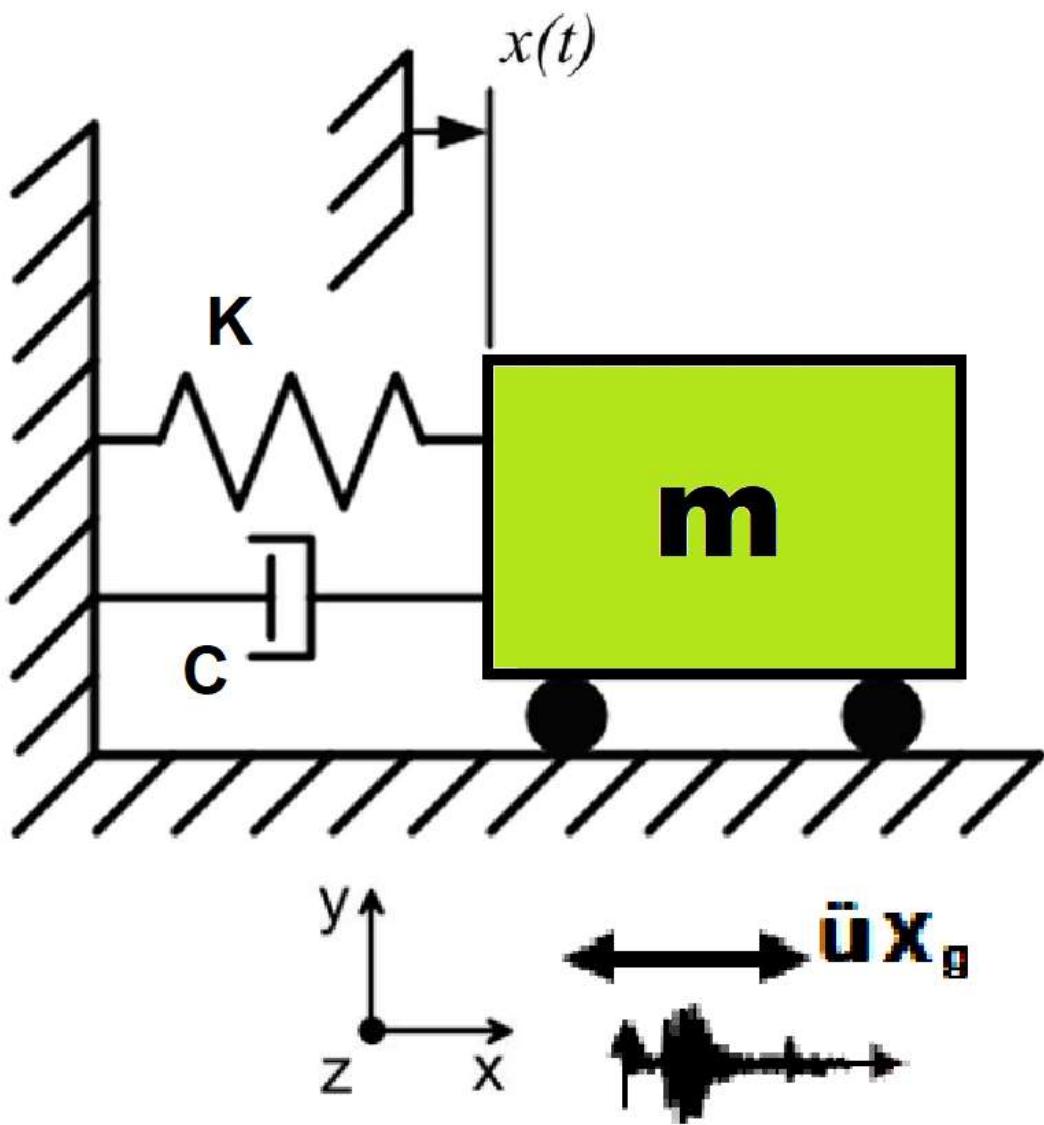


>> IN THE NAME OF ALLAH, THE MOST GRACIOUS, THE MOST MERCIFUL <<

NONLINEAR DYNAMIC ANALYSIS UNDER A SINGLE GROUND MOTION RECORD COMPUTATION AND VISUALIZATION RESPONSE SPECTRA OF ACCELERATION, VELOCITY, DISPLACEMENT DUCTILITY DAMAGE INDEX USING OPENSEES

(CONSTANT STRUCTURAL DUCTILITY RATIO RESPONSE SPECTRUM)

WRITTEN BY SALAR DELAVAR GHASHGHAEI (QASHQAI)

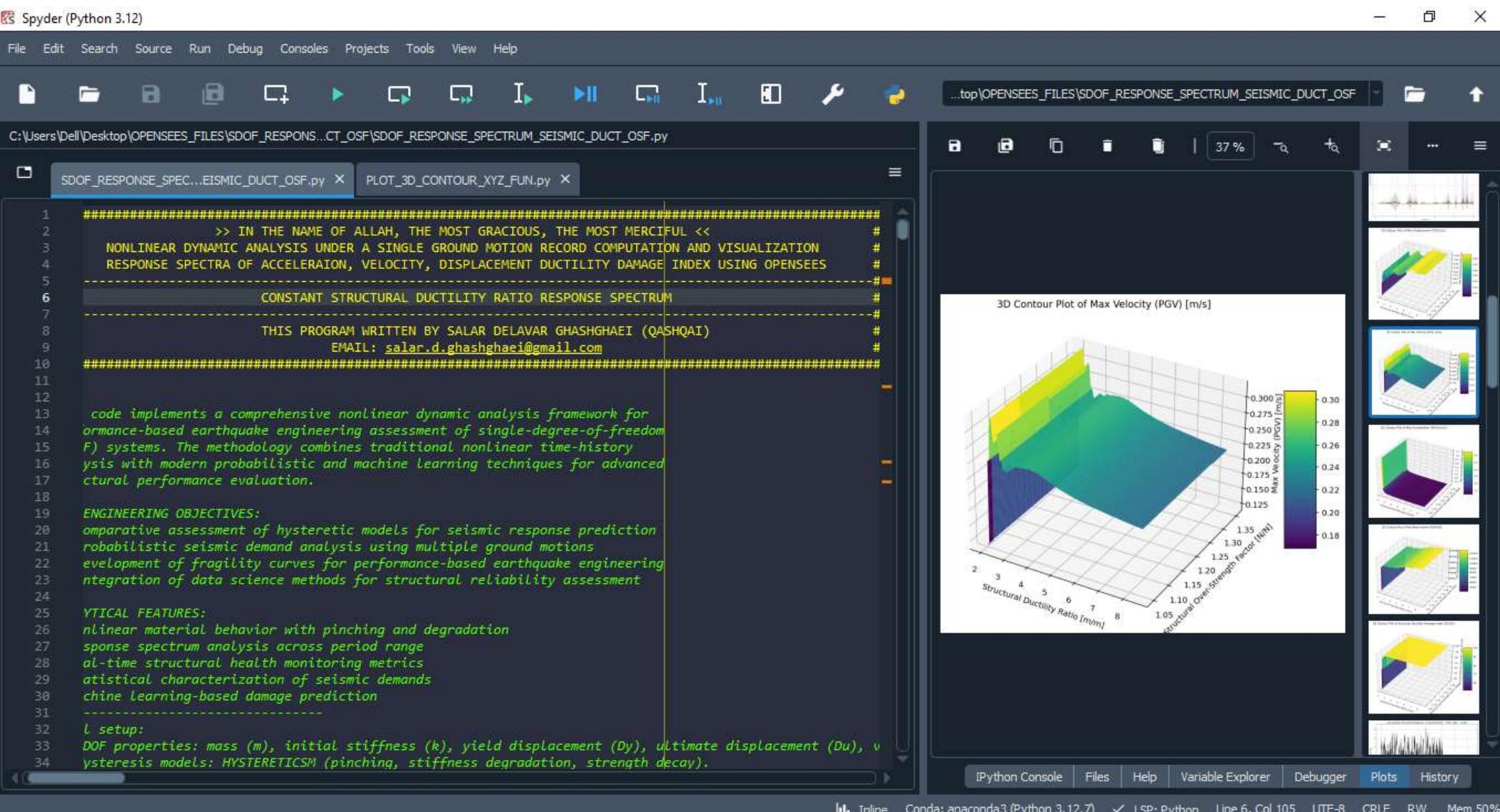


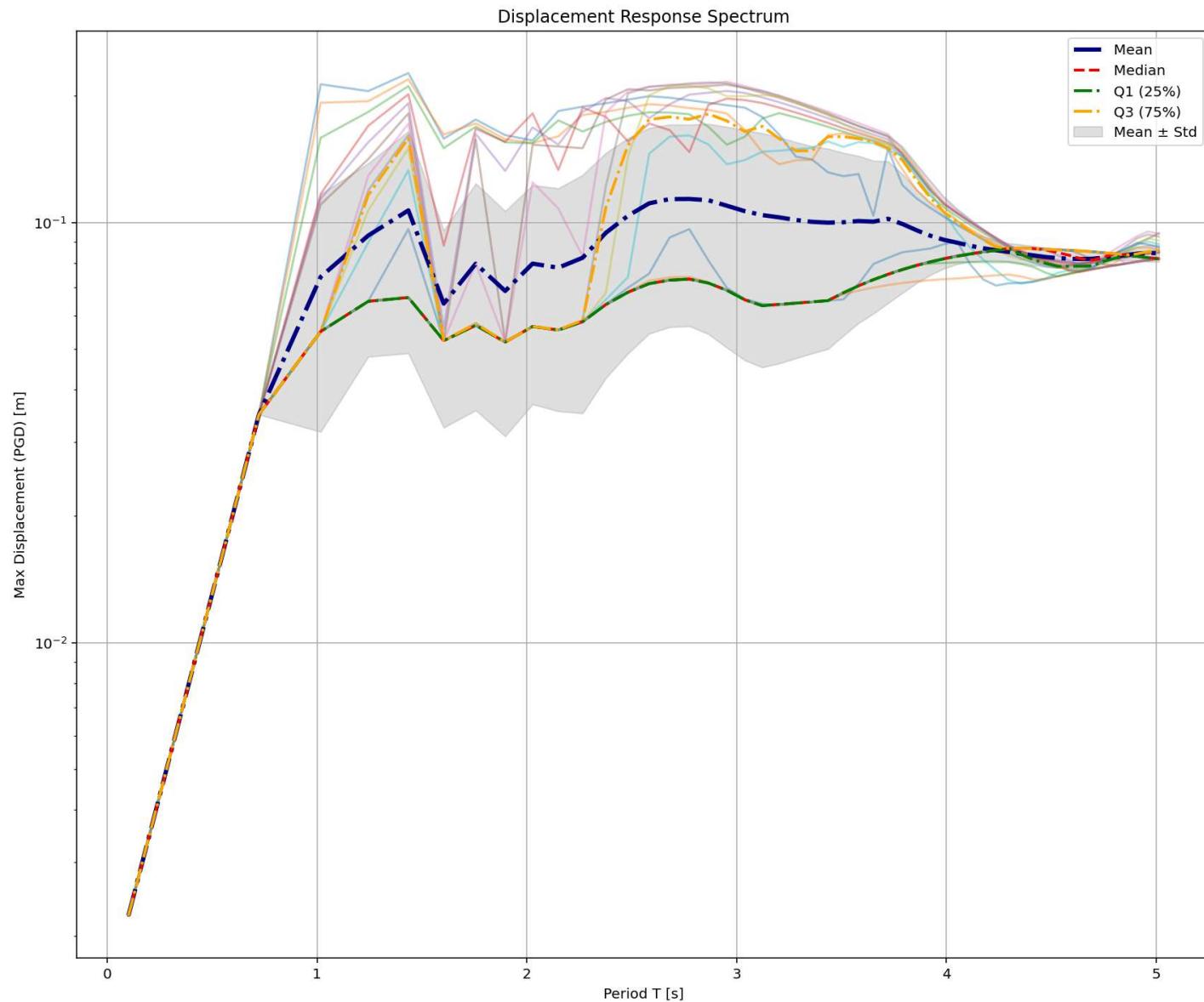
$$\text{Structural Ductility Damage Index} = \frac{\Delta_d - \Delta_y}{\Delta_u - \Delta_y}$$

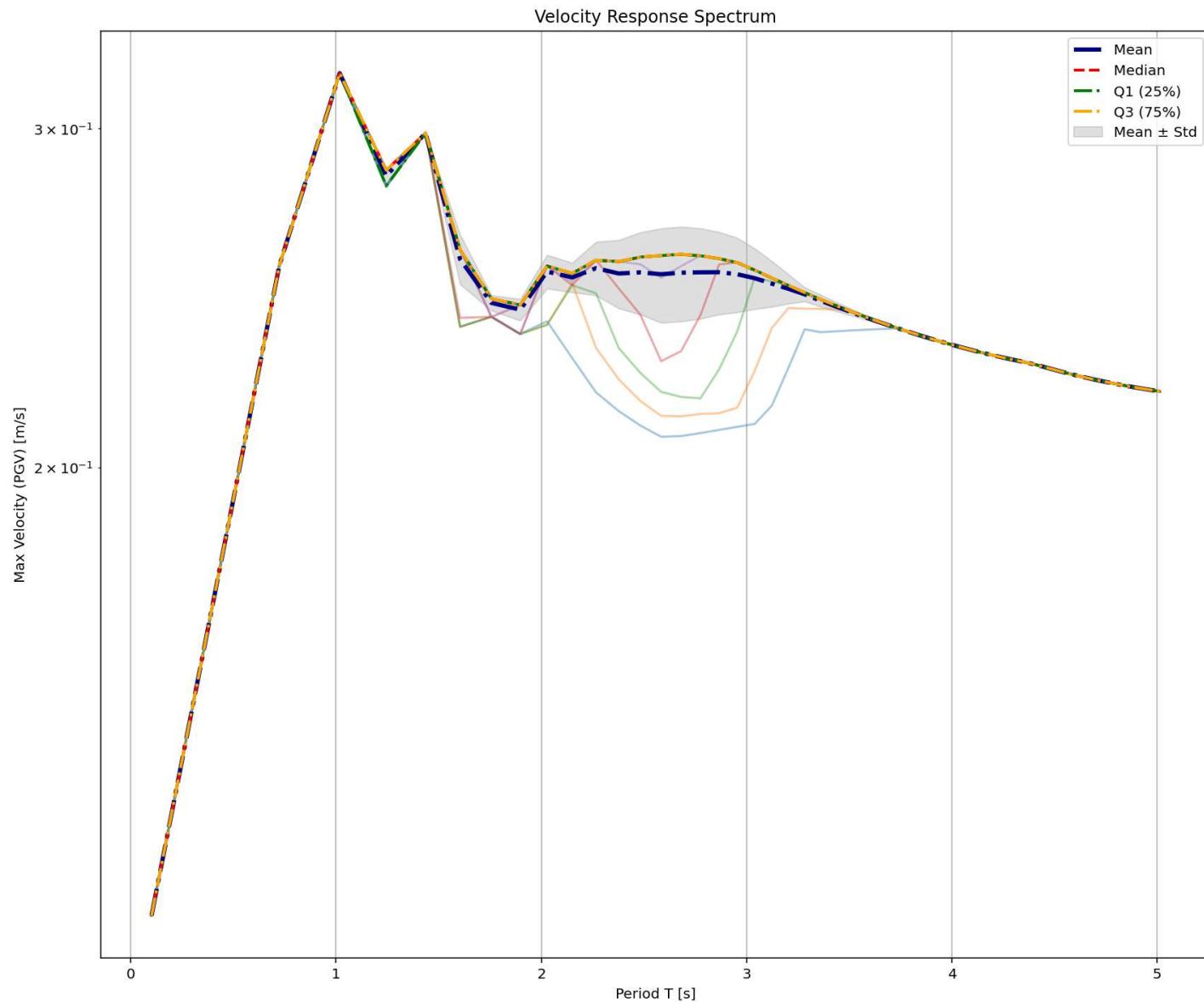
Δ_d = Lateral Displacement from Dynamic Analysis

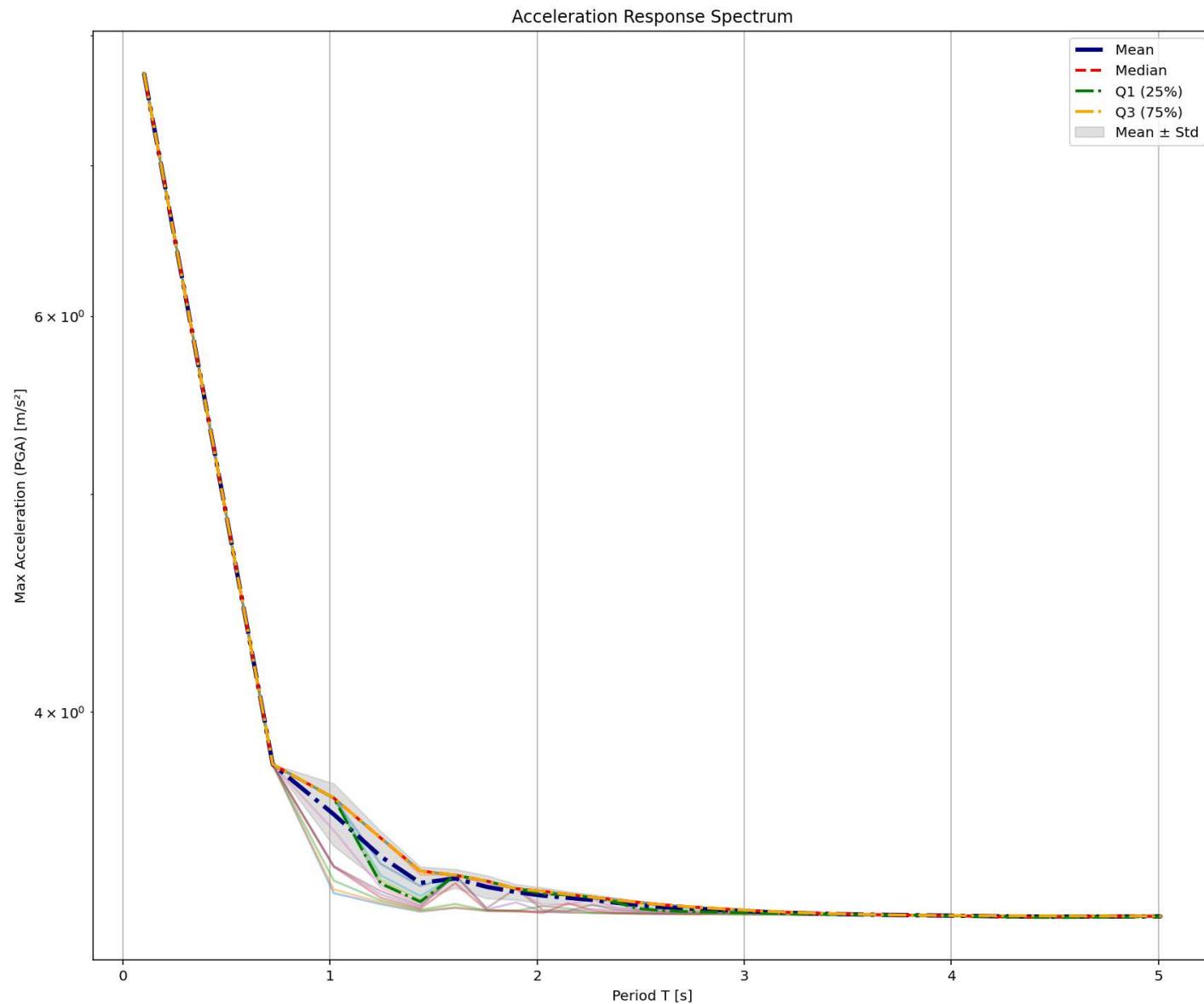
Δ_y = Lateral Yield Displacement from Pushover Analysis

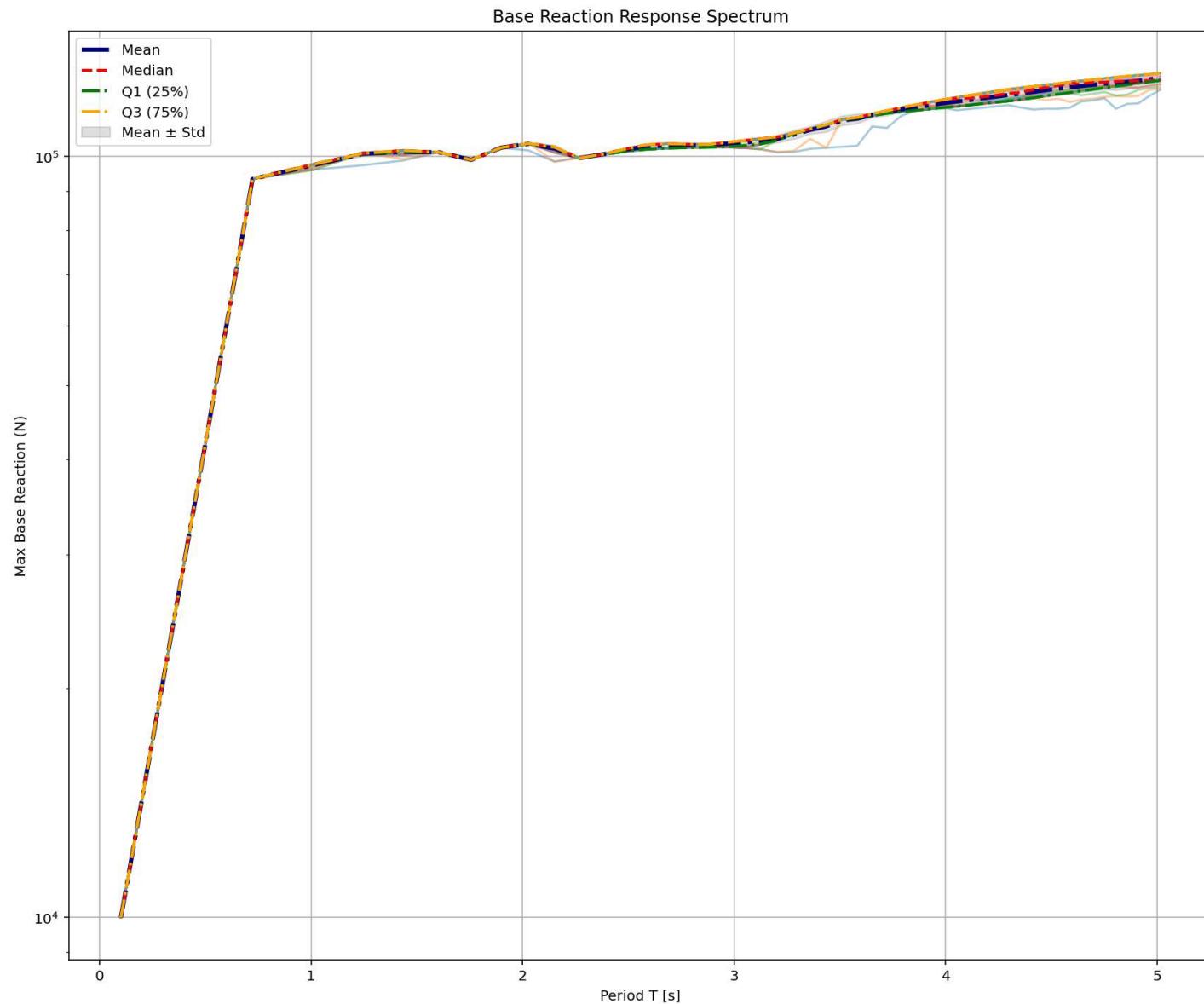
Δ_u = Lateral Ultimate Displacement from Pushover Analysis

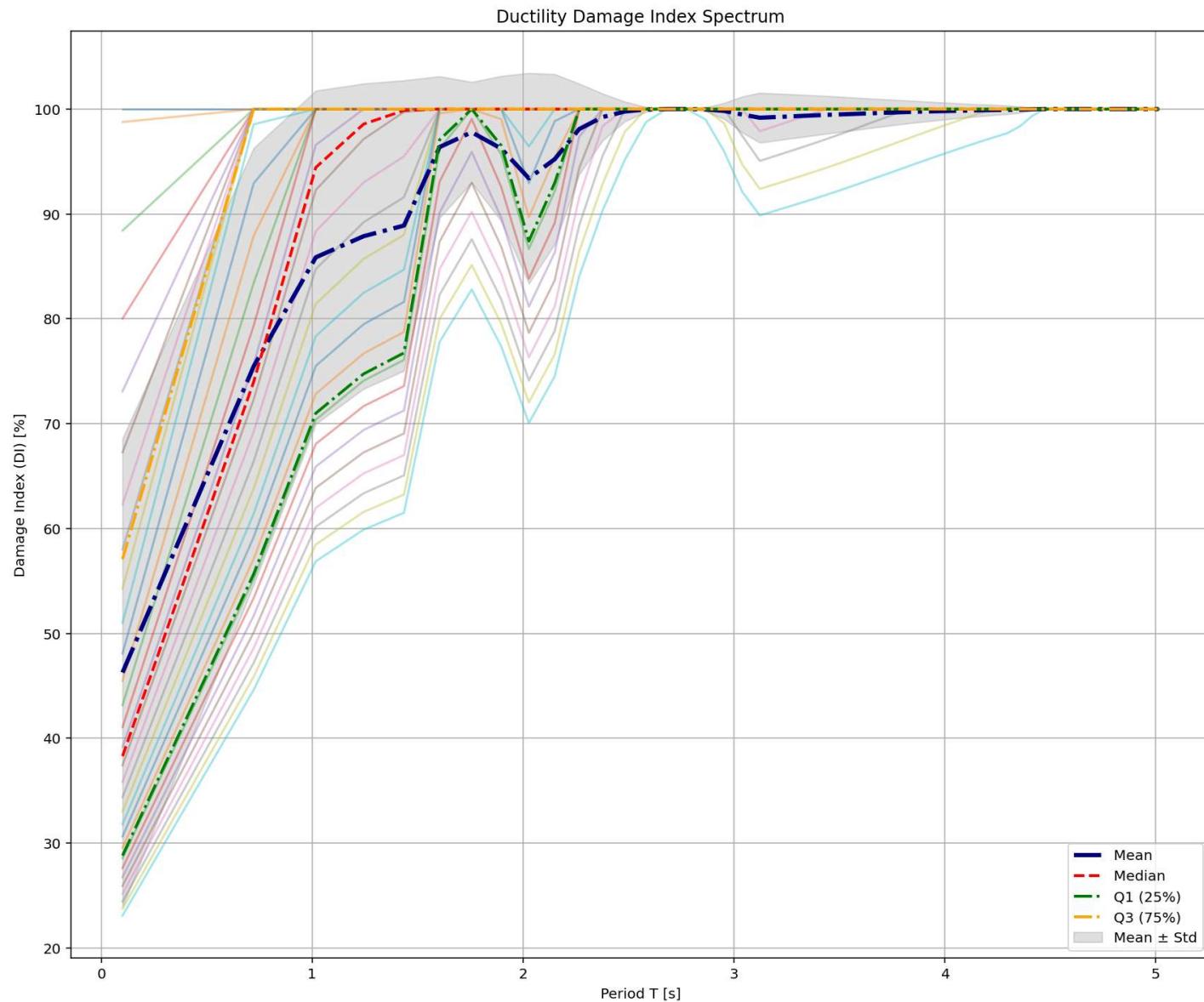




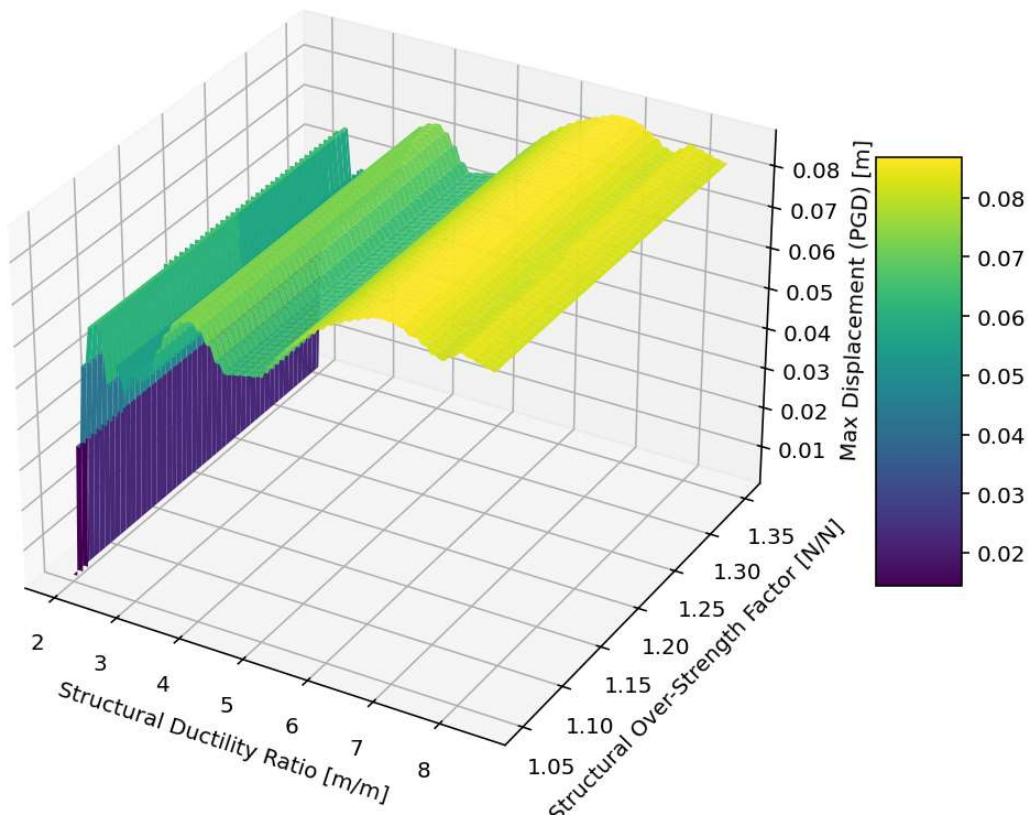




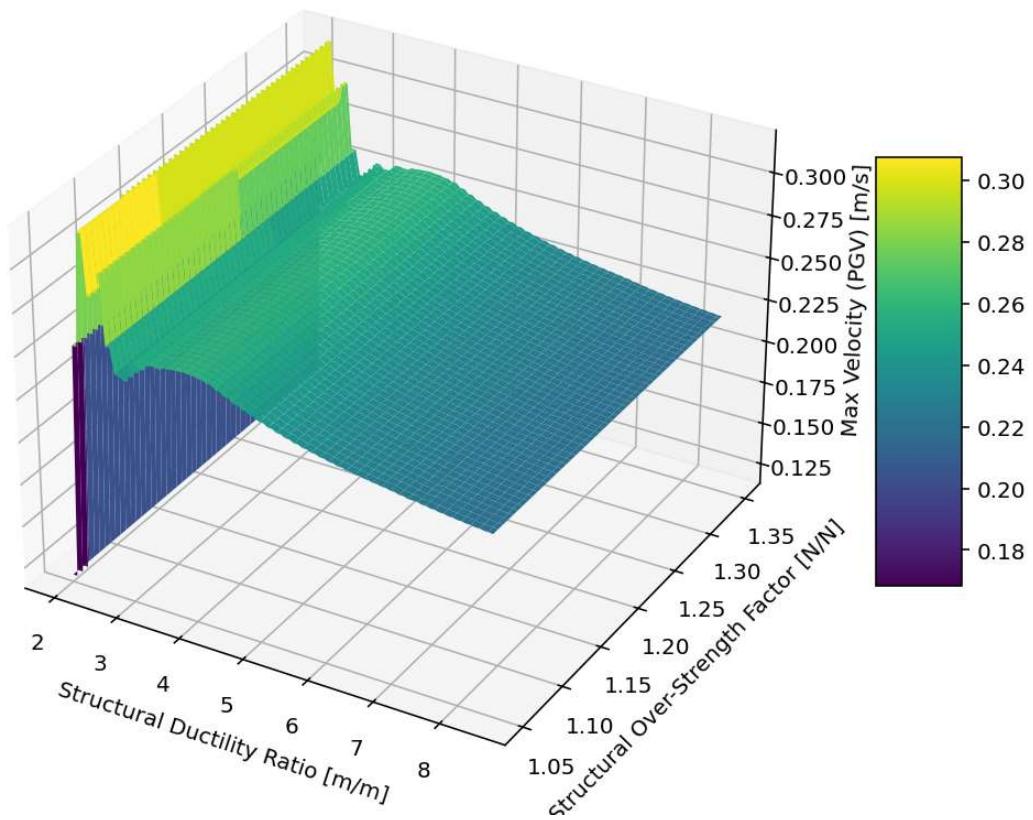




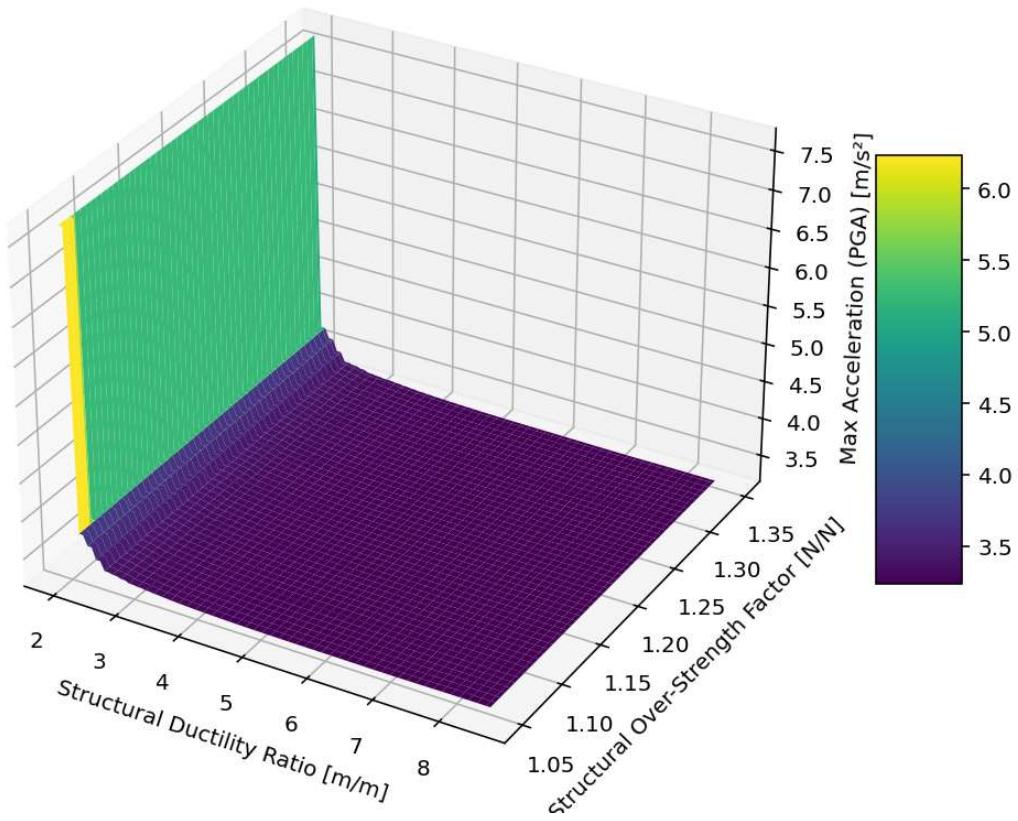
3D Contour Plot of Max Displacement (PGD) [m]



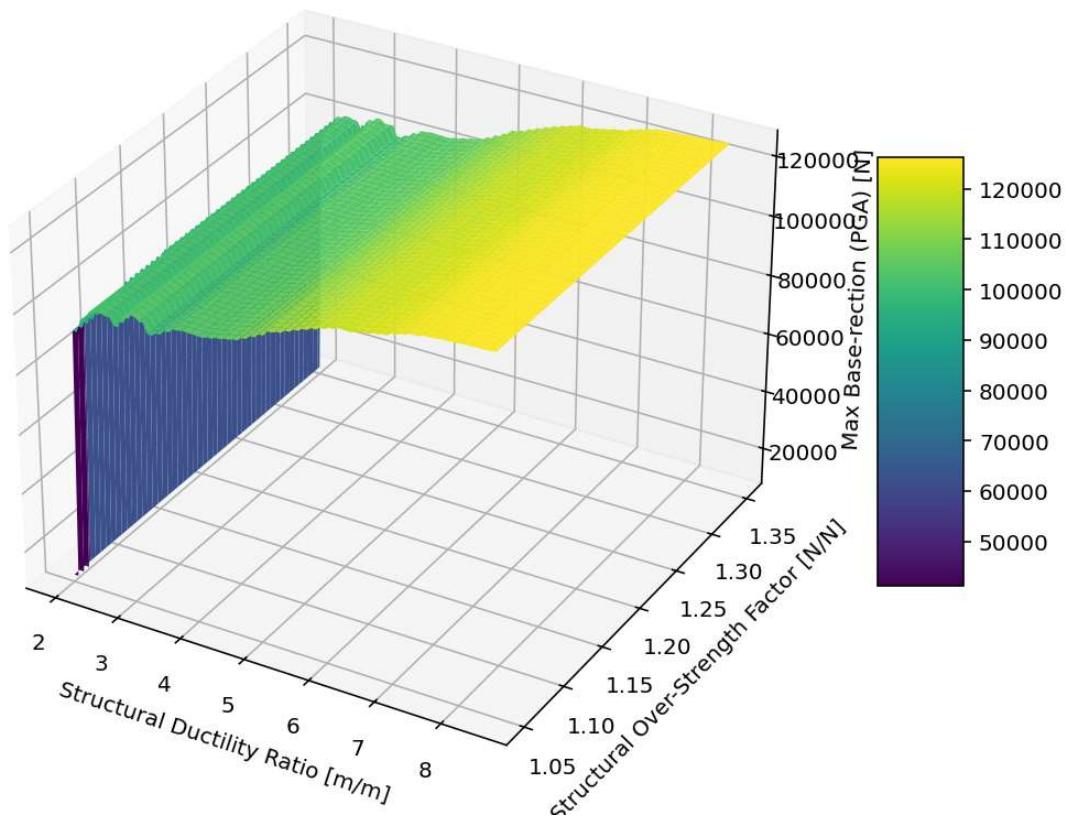
3D Contour Plot of Max Velocity (PGV) [m/s]



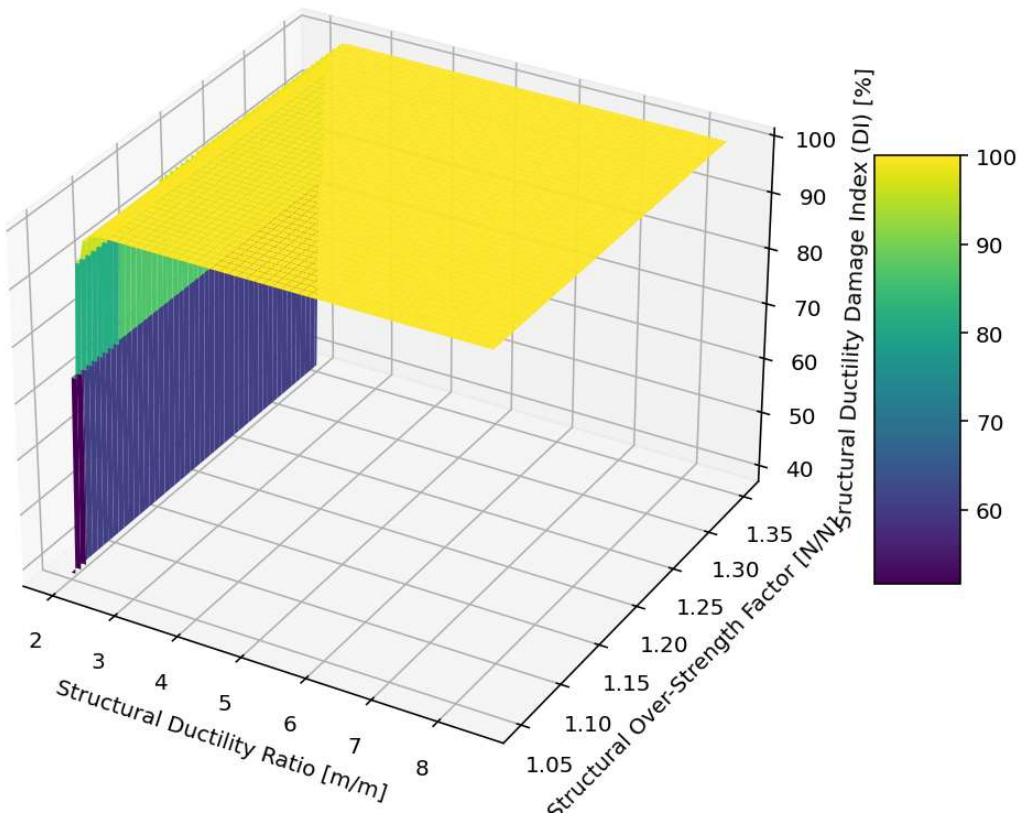
3D Contour Plot of Max Acceleration (PGA) [m/s²]



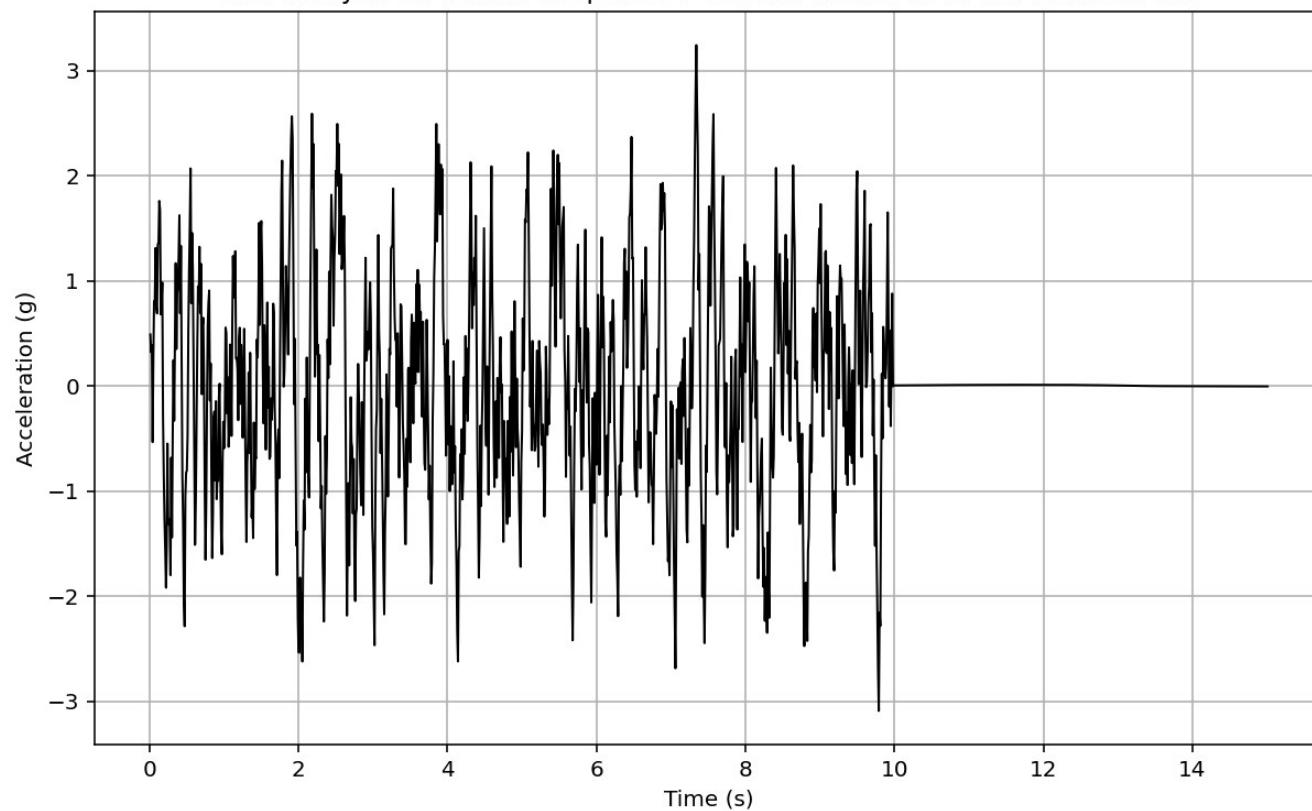
3D Contour Plot of Max Base-rection (PGA) [N]

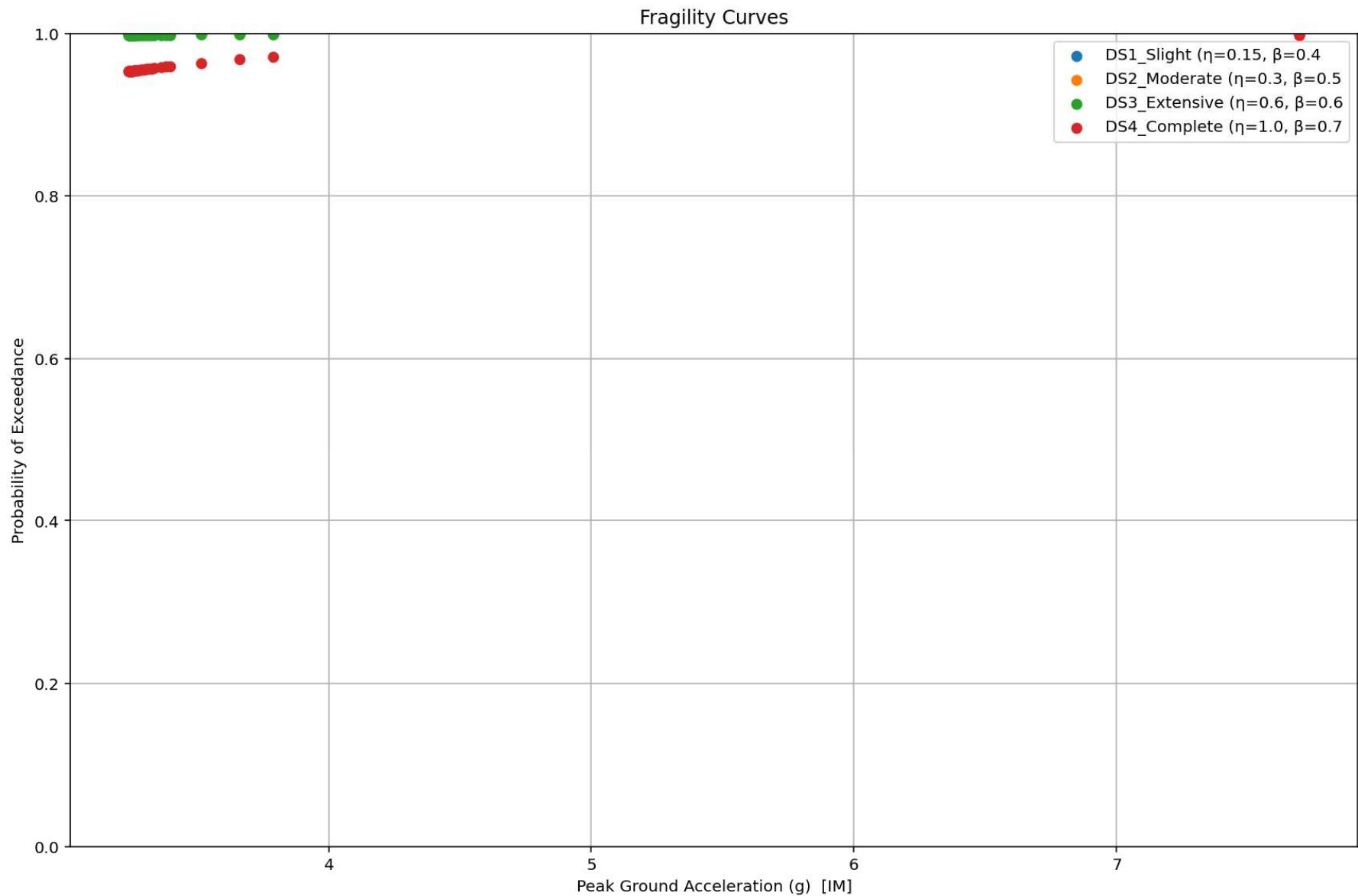


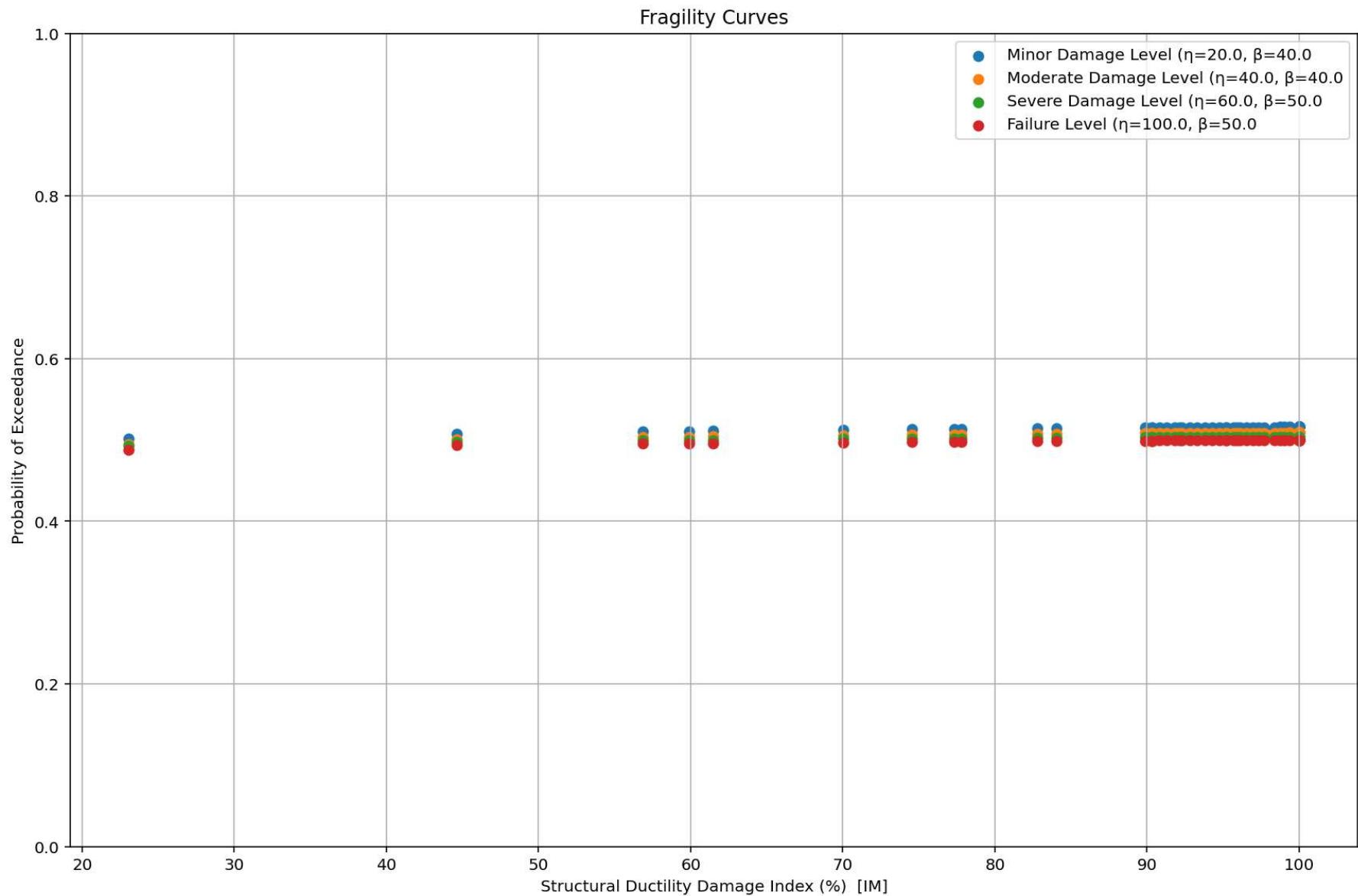
3D Contour Plot of Structural Ductility Damage Index (DI) [%]



Last Analysis Structural Response + Ground Motion :: MAX. ABS. : 3.2421







Displacement & Base Reaction Relation From Last Dynamic Analysis

