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## 1. Motivation – Seismic Risk Assessment

### Scenario-based risk assessment

Fault Rupture Scenario  $M, r_{rup}$       Specific Structure

GMPE

$10^0$   $S_a$

$M = 6.5$

$M = 7.5$

$10^1$   $r_{rup}$

Nonlinear Time-History Analysis

Risk

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Advances in the Assessment of Buildings Subjected to Earthquakes and Tsunami

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