

Dams and Risk Assessment Consultant Perspective

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Seismic Risk Assessment Elements

- Seismic hazard
- Structure vulnerability
- Consequences

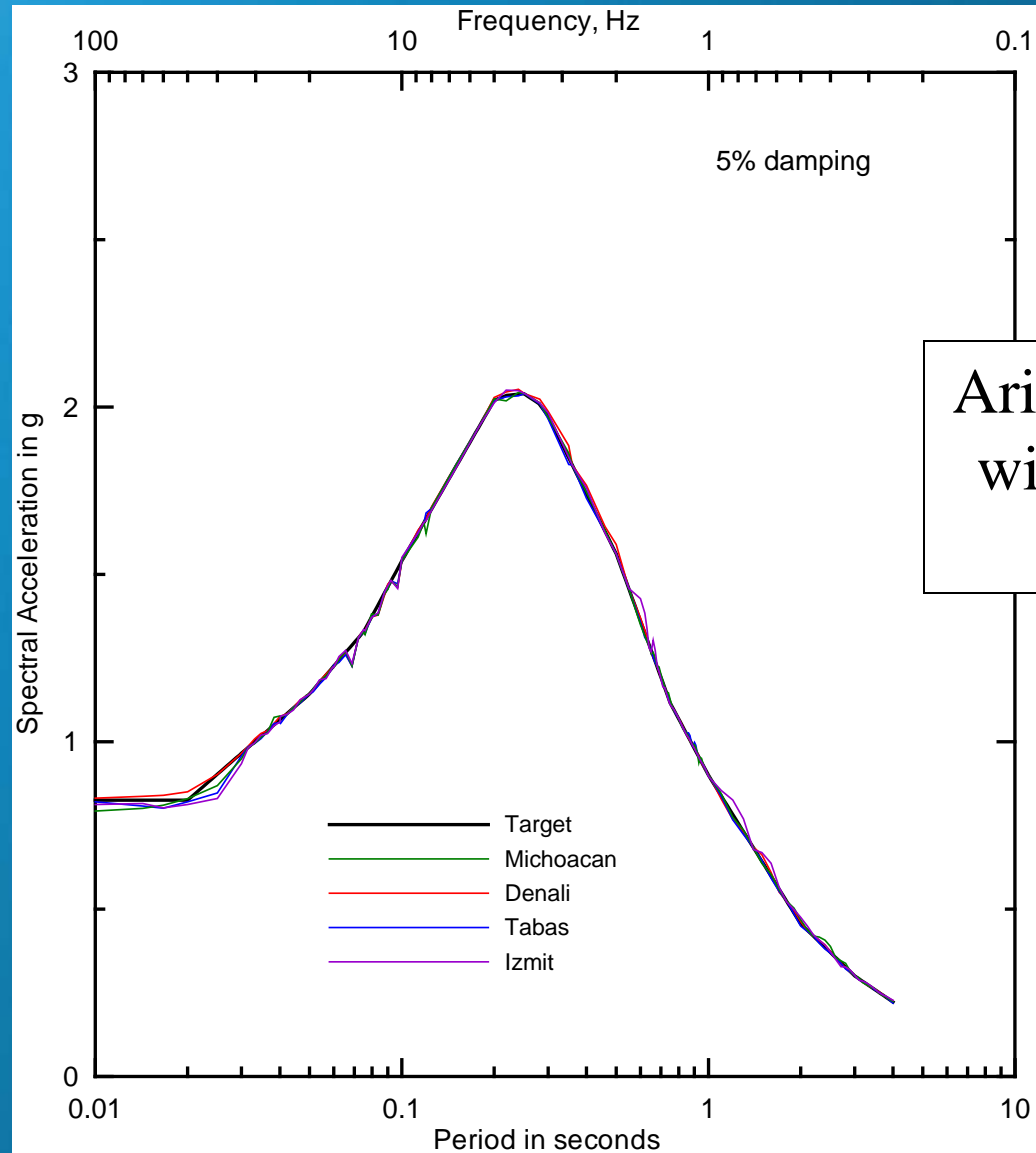
Considerations for Dam Vulnerability Evaluation (1)

- Dam seismic performance typically assessed in terms of deformations.
- Assessment of deformations requires proper characterization of material behavior, and modeling of dam seismic response
- The assessment of seismic deformations is subject to considerable uncertainty

Considerations for Dam Risk Assessment (2)

- Variability in response to ground motion time history details is at least a factor of 5 in sensitive dam/foundation systems
- Uncertainty in calculated dam seismic deformations for a given earthquake ground motion, is at least a factor of 2 under most circumstances
- Strive to characterize such uncertainty by increased analysis of case histories

Tight Fit by Spectral Matching



Arias Intensity
within factor
of 1.5

Calculated Permanent Displacement of Sensitive Foundation Material

