Ground Motion Selection & Modification for Nonlinear Analysis

We need to accurately predict how earthquake ground motions impact the built environment







 Develop robust methods for GMSM.
Identify other community GMSM procedures.

3. Develop robust technique for comparison.

4. Compare nonlinear response predictions for various methods.

Courtesy: C.B. Haselton (2006)

Current Efforts



The PEER GMSM working group is currently:

- Performing an objective evaluation of 17 prevalent GMSM methods.

- Collaborating closely with over 20 researchers, to establish community consensus.

- Using the findings to provide guidance for defensible ground motion selection.



<u>Impact</u>

- PEER findings have led to important modifications to the NEHRP provisions.

- Community consensus was developed at the 2006 COSMOS annual meeting, regarding use of scenariobased target spectrum.

- PEER ground motion methods are already being utilized in the performancebased design of tall buildings in California.

Pacific Earthquake Engineering Research Center http://peer.berkeley.edu/GMSM

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