

**Ground Motion Selection and Modification (GMSM) Working Group**  
**Summary of Working Group Meeting**  
**10am – 2pm August 21, 2006**  
**New PEER Headquarters**

Participants: Norm Abrahamson, Yousef Bozorgnia, Allin Cornell, Jennifer Donahue, Christine Goulet, Curt Haselton, Erol Kalkan, Nico Luco, Jack Moehle, Jon Stewart, Polsak Tothong, Melanie Walling, Jennie Watson-Lamprey, Marcello Bianchini, Frank McKenna, Tony Yang , Farzin Zareian

**Progress on nonlinear structural models**

Erol and Curt presented summary of the models they are using.

Erol presented summary of procedure for equivalent nonlinear SDF based on pushover results.

Erol and Curt will provide the group with electronic copies of their presentations and fill in any missing information.

Jack provided overview of Tall Buildings Initiatives (TBI) and linking TBI to GMSM working group. Tony Yang (post-doc) and another graduate student will work on tall building models and will attend meetings of GMSM working group.

Farzin gave a presentation about his Drain models. He will provide the group with information on four structural models, and try to run for 98 records – Yousef will give him the records:

1. 12-story frame T small
2. 12-story frame T large
3. 12-story shear wall T small
4. 12-story shear wall T large

The information shall include all available of:

1. Plan and elevation views
2. Year of design
3. Building code used for design
4. Fundamental mode periods and their mass participation factors
5. Design base shear and corresponding weight
6. Expected global ductility
7. Pushover curve

**Example analysis using preliminary results:**

Jennie will perform further analyses as additional data is produced. She will create two pdfs:

1. “Blue line” – pdf of response value conditioned on M7, Rrup10
2. “Green line” – pdf of response value conditioned on M7, Rrup10, Sa<sub>1</sub>

She will check the feasibility of using nonlinear oscillator response as a predictor and attempt to remove PGV from the example analysis. She will provide a more in depth example for the next meeting as necessary.

Allin and Yousef will send the group nonlinear oscillator GRMPEs if available.

### **List and summary of ground motion selection and modification methods**

The next meeting will be focused on the list of methods to be examined. The group is requested to review the material presented thus far and supply Nico and Christine with any comments.

Christine will give a presentation about Naeim's procedure for selection and modification of records.

Christine will create a simple web site (at PEER site) for GSM working group to post data, agenda, papers, etc. Yousef will talk to Debra and Marcos to get permission and serve space.

### **Upcoming Meetings**

Monday September 18<sup>th</sup> – GSM Working Group Meeting

Friday October 27<sup>th</sup> – GSM Invitational Meeting

Friday November 17<sup>th</sup> – COSMOS Annual Meeting Technical Session

Friday October 20<sup>th</sup> – Proposed additional meeting to coordinate GSM Public Meeting