

Publications

Northridge — Performance of Instrumented Buildings — Dig Into the Data and Analyses with New CD-ROM

"An Interactive Information System" is the label given to the report and CD-ROM, *Performance of Extensively Instrumented Buildings During the January 17, 1994 Northridge Earthquake*, by Farzad Naeim, Director of Research and Development at John A. Martin & Associates.

The report and CD-ROM document the results of a two-year research and development project which included inspection of the buildings, damage assessment, and performance evaluations. They also contrast forces, displacements, and dynamic characteristics interpreted from recorded data with those suggested by building codes.

The CD-ROM holds the data, analysis tools, results, and conclusions. The written report gives an overall view of the most significant findings and includes information on how to use the CD-ROM.

Funding for the development of the system was provided in part by the State of California, Division of Mines and Geology (CDMG) Strong Motion Instrumentation Program (SMIP). Significant additional funding was provided by John A. Martin & Associates. For ordering information, contact CDMG SMIP at 801 K St., MS 13-35, Sacramento, CA 95814. For more information on the technical content, contact Farzad Naeim at 213-483-6490 or e-mail: farzad@johnmartin.com.

Learning from Earthquakes

Deadly 6.9 Earthquake Strikes Coast of Venezuela, July 9, 1997

EERI member Professor Jose Grases of Caracas, Venezuela recently returned from a reconnaissance of the affected area and has provided the following preliminary information about the Cariaco earthquake of July 9, 1997. He is currently gathering additional information from seismologists, geologists and engineers for a more complete report.

About 80 people were killed in Venezuela on July 9 when a 6.9 M_s earthquake struck the coast. Most of those killed were in just three buildings: one modern six-story steel and reinforced concrete office building in Cumana and two schools in Cariaco. In addition, a bank, a pharmacy and several other smaller buildings in Cariaco collapsed or were severely damaged.

The event occurred at about 3:30 pm local time. The duration of strong shaking was between 13 and 18 seconds. Maximum ground accelerations have not yet been determined, but Modified Mercalli Intensities have been estimated at VII-IX for the city of Cariaco, the most badly shaken area, and V-VII for Cumana, site of the collapsed office building.

The event, named the Cariaco earthquake, is related to the El Pilar fault in the northeast of Venezuela. It had a 40-to-50-km-long surface fracture with about 25 cm of right-lateral strike-slip displacement and no observed vertical component. The fracture seems to be an extension of the 1929 rupture in the same region. The focal depth has been estimated at less than 6 km.

Thanks to Julio Ramirez, Purdue University, for supplementary translation.

NISEE Issues SIMQKE-II

The National Information Service for Earthquake Engineering (NISEE) at the University of California, Berkeley, has released a new computer program that produces realistic earthquake ground motion simulations over both space and time for structural design purposes: SIMQKE-II. The program was developed by Erik Vanmarcke, Princeton University; Gordon Fenton, Technical University of Nova Scotia; and Ernesto Heredia, Universidad Nacional Autonoma de Mexico.

The program employs sophisticated space-time random field theory to efficiently produce a realistic field of conditioned or unconditioned evolutionary ground motions that represent one possible realization of an earthquake event at a set of spatial points. The average spectrum of the generated motions matches the target spectrum.

To obtain a copy of this software, contact NISEE/Computer Applications, 375 Davis Hall - MC 1792, University of California, Berkeley, CA 94720-1792, phone 510-642-5113, fax 510-643-9400, e-mail: info@nisee.ce.berkeley.edu.