

PREFACE

The California Strong Motion Instrumentation Program (CSMIP) in the Division of Mines and Geology of the California Department of Conservation promotes and facilitates the improvement of seismic codes and design practices through the Data Interpretation Project. The objective of this project is to increase the understanding of earthquake strong ground shaking and its effects on structures through interpretation and analysis studies of strong-motion data. The ultimate goal is to accelerate the process by which lessons learned from earthquake data are incorporated into seismic code provisions and seismic design practices.

Since the establishment of CSMIP in the early 1970s, over 800 stations have been installed, including 550 ground-response stations, 162 buildings, 20 dams and 60 bridges. Significant strong-motion records have been obtained from many of these stations. One of the most important sets of strong-motion records is from the 1994 Northridge earthquake. During this earthquake strong-motion records were obtained from 116 ground-response stations and 77 extensively-instrumented structures. In addition to these records, CSMIP in cooperation with the City of Los Angeles and other agencies, collected and archived accelerograms recorded at over 300 high-rise buildings during the Northridge earthquake. These buildings were instrumented by the building owners as required by the City's Building Code. The strong-motion records from the Northridge earthquake have been and will be the subject of CSMIP data interpretation projects.

The SMIP2000 Seminar is the 12th in a series of annual technical seminars designed to transfer recent interpretations and findings on strong-motion data to practicing seismic design professionals and earth scientists. The goal of the Seminar is to increase the utilization of strong-motion data in improving post-earthquake response, seismic design codes and practices.

In this seminar, investigators of three CSMIP-funded data interpretation projects and invited experts will present the results from studies on data from ground response stations, steel frame buildings, bridges and downhole geotechnical arrays, on measured ground motion and observed damage in the 1999 Taiwan earthquake, and on seismic performance evaluation of transportation structures. In addition, there will be presentations on the virtual strong-motion data center of the Consortium of Organizations for Strong-Motion Observation Systems (COSMOS) and the TriNet engineering strong-motion data center. Director Darryl Young of the Department of Conservation will present a luncheon address on the importance of strong motion programs for California.

The papers in this Proceedings volume presented by the investigators of the CSMIP-funded data interpretation projects represent interim results. Following this seminar the investigators will prepare final reports with their final conclusions. These reports will be more detailed and will update the results presented here. CSMIP will make these reports available after the completion of the studies.

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