SOME RESULTS OBTAINED BY ANALYSIS OF DATA OF THE STRONG MPTION NETWORK IN YUGOSLAVIA

by

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SYNOPSIS

The Yugoslav strong motion instrument network consists of 136 SMA-1 accelerographs and 150 WM-1 seismoscopes. Since 1973 total 34 earthquakes of moderate intensity have occured and have been recorded by the installed instruments. The analysis of these records gave some very interesting results.

Results of the Former Work

All acceleration records were subject of a detailed analysis. The methods used in record analysis are modified methods developed and applied by CALTECH. Modification was necessary because of the different digitizing (semi-automatic A-D converter of SM-2 type) and data processing (IBM-1130) equipment used. The digitalization was performed in equal intervals and reading density of 0.01 sec. After correction and elimination of errors which appeared during recording and digitalization, the data obtained are used for calculation of the response spectra, Fourier spectra, various static characteristics and intensity. The final results include computer plots and tables of ground acceleration, velocity and displacement, response spectra graphs and Fourier's amplitude spectra.

Due to the relatively long digitalization and final processing procedures and the urgent data requirement of the recorded ground acceleration during earthquake, a preliminary analysis is carried out for definition of time histories of acceleration, velocity and displacement. These data are mainly used for definition of response spectra and dynamic time response of structures.

During the past three years 34 earthquakes with M=2.7-4.9 have been recorded by the accelerographs and seismoscopes in Yugoslavia. The peak acceleration has been recorded at Imotski during the earthquake of May 23, 1974. The instrument was placed on a rock in a distance of 5 km.from the epicenter, while the magnitude was M=4.1. It should also be mentioned that the strong earthquake of May 6, 1976 in Furlandia (Italy) with M=6.4 has been recorded by several seismoscopes and accelerographs installed on D=40 km (Tolmin) and D=135 km (Ljubljana), from the epicentre.

All earthquake recorded in Yugoslavia have been processed by the above mentioned methods and will be published in the IZIIS bulletin.

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