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STRONG MOTION ACCELEROGRAMB BASED OS VECTORIAL COMBINATION OF HORIZONTAL COMPONENT SPECTRA

Bolt, B. A. and J. Shoja-Taheri, Seismographic Station, University of California at Berkeley, Berkeley, California 94720

Parameters (spectra, duration, peaks) of a strong ground motion record at a given site generally depend significantly on azimuthal direction. Analysis using only individual components of the strong ground motion does not provide complete information on the behaviour of these parameters. In this paper the spectra of the two horizontal components, at each site, are combined so as to maximize the resultant spectra (AMS) with respect to azimuthal direction. Accelerograms of over thirty strong ground motion records are then calculated from their corresponding AMS and smoothed by passing in ten different frequency bands (0-1HZ, 1-2HZ, . . . , 9-10HZ). In a majority of cases the peak accelerations from the ANS are about ten percent greater than the peaks from the original horizontal components. The duration is also always greater. In each band a general correlation is attempted between acceleration peaks, uniform duration, spectral shapes, magnitude, and source distances.