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**EMPIRICAL EQUATIONS DESCRIBING ATTENUATION OF
PEAKS OF STRONG GROUND MOTION, IN TERMS OF
MAGNITUDE, DISTANCE, PATH EFFECTS AND SITE CONDITIONS**

by

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ABSTRACT

In this report we present amplitude attenuation equations for peaks of strong motion acceleration, velocity and displacement. These equations depend on magnitude scale, M , representative distance to the fault, Δ , fault length, type of propagation path and fraction of epicentral distance travelled through basement rocks ($0 < r < 1$). Near the recording station, the local geological conditions can be characterized either by the geologic site parameter s (distinguishing between sediments and basement rock) or by the depth of sediments, h . The local soil conditions are described by the local soil parameter s_L (distinguishing "rock", stiff and deep soil conditions). We examined the relative significance of the common site parameters, which are used to describe the site specific amplitudes of strong motion amplitudes. We found that the average velocity of the shear waves in the top 30 m below ground surface is not a significant parameter influencing the peak amplitudes of acceleration, velocity and displacement.

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