

عنوان مقاله:

EFFECTS OF DIFFERENTIAL GROUND MOTION ON STRENGTH-REDUCTION FACTORS FOR STRUCTURES
NEAR EARTHQUAKE FAULTS

محل انتشار:

پنجمین کنفرانس بین المللی زلزله شناسی و مهندسی زلزله (سال: 1386)

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خلاصه مقاله:

We show how the differential strong earthquake ground motion influences the strength-reduction factors of man-made structures in the near-field. We consider fault-normal and fault-parallel near-field displacements. It is shown that the classical recommendations for selection of the strength-reduction factors are usually conservative in the near-field of strong earthquakes for fault-normal pulses. However, the same reduction factors are not conservative for fault-parallel displacements and must be changed. It is recommended that for design in the near-field, for all components of motion and for long periods, the strength-reduction factors should be constant and equal to $(2\mu - 1)^{1/2}$ where μ is ductility. For periods shorter than about one second, these strength reduction factors should be further reduced by 30 to 40 percent, to account for the effects of wave passage and differential ground motion.

کلمات کلیدی:

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