عنوان مقاله:

THE ABILITY OF CRITICAL STATE CONCEPTS FOR LIQUEFACTION ASSESSMENT IN GRAVELY SANDS

محل انتشار:

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

تعداد صفحات اصل مقاله: 6

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خلاصه مقاله:

In order to evaluate the liquefaction potential in sandy layers of South Tehran, a site exploration program conducted consisting of boring, SPT and disturbed sampling. The samples with nearly similar gradations were grouped. As a result four groups of sandy soil were identified. Consolidated undrained triaxial tests were performed on remolded samples which were prepared in different densities. The critical state line for each group was determined. Using the in situ void ratio and referring to the critical state line, the critical state strength of some layers was estimated. Also the cyclic resistance ratios of these layers were determined according to the SPT N-value considering the fine content of the soil. The shear stress due to an earthquake with a PGA of 0.35g was determined using a simplified method. The factor of safety against liquefaction was calculated dividing the critical state strength or cyclic resistance ratio to the cyclic stress values. Comparing the factor of safeties the application of the critical state theory in determination of liquefaction potential was examined.

کلمات کلیدی: