ABSTRACT

In the current study, an estimation of the elastic displacement and velocity response spectra, is attempted, in two ways: first, from the Greek and European dataset of strong ground motion, and secondly from theoretical analysis on typical soil profiles. These response spectra are then compared with the displacement and velocity design response spectra of the Greek Seismic Code (EAK 2000) and the Euro Code 8 (EC8). Especially for the second case, the mean value and the standard deviation ($\pm\sigma$) of the absolute and normalized displacement and velocity response spectra is calculated, and then compared with the corresponding design response spectra. In addition, the design response spectra of the revised provision of EC8 *EC8-Draft4, 2001*, as well as the ones deriving from the normalized acceleration design response spectra, which are introduced along with the proposal of the new classification of subsoil classes, are used. The object of this paper is the conduction of certain conclusion concerning the proposed subsoil classes and design response spectra, in order to improve the relevant provisions of the Seismic Codes EAK 2000 and EC8.