Capability of f-k and SPAC methods in determining shear wave velocity of subsurface soil

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Abstract
A series of microtremor array measurement was performed in a site of Tehran (shaghayeg park) with the aim of estimating the shear wave velocity (Vs) profile for near surface layers. The SPAC and f-k array processing technique were used and the results were compared with other information specially a 200 meters depth borehole and the down-hole and PS logging data have been done in this paper. The data of different time, day and night were processed and the results were compared with the actual Vs profile by definition the various criteria. We found that, the SPAC method is probably more convenient compared to the f-k method. SPAC method gives results as good as the f-k method while using smaller number of recording stations and shorter array dimensions.

Key words: Shear wave velocity, microtremor, f-k method, SPAC method.