An Integrated Interpretation of Combining Dispersion Curves obtained by using active& passive source methods and calculated S-wave velocity profiles:A Case study of İzmir/Turkey

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Shear wave velocity profiles are very important input parameters in geotechnical earthquake analysis. For this purpose 30 m ground profiles should be described. However, when the soil thicknesses are great, the determinations of shear wave velocities (Vs) of soil are important up to the seismological bed rock (Vs>1500 m/s). In the context of this study, the measurements of the Multi Channel Analysis of Surface Waves (MASW), Refraction Microtremor (ReMI) and Modified Spatial Autocorrelation Method (MSPAC) were made in order to investigate the soil conditions depend on Vs profiles at the İzmir (Turkey) region. At each measurement point, separate dispersion curves were obtained by these methods, accordingly Vs depth profiles were obtained corresponding to these dispersion curves through evaluating them individually. Then one Vs depth profile of this all study point was obtained by combining all of the dispersion curves. Thus, it was tried to determine the S wave velocities on the surface and at depth with the high resolution by carrying out common interpretation for the results obtained for this area. Also, the observed soil transfer functions which were obtained from the microtremor method were compared with the soil transfer functions obtained from the inverse solutions of the separate and combined dispersion curves belonging to the model.