



## **Seismic Background Noise Analysis of BRTR (PS-43) Array**

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The seismic background noise variation of BRTR array, composed of two sub arrays located in Ankara and in Ankara-Keskin, has been investigated by calculating Power Spectral Density and Probability Density Functions for seasonal and diurnal noise variations between 2005 and 2011. PSDs were computed within the frequency range of 100 s – 10 Hz. The results show us a little change in noise conditions in terms of time and location. Especially, noise level changes were observed at 3-5 Hz in diurnal variations at Keskin array and there is a 5-7 dB difference in day and night time in cultural noise band (1-10 Hz). On the other hand, noise levels of medium period array is high in 1-2 Hz frequency rather than short period array. High noise levels were observed in daily working times when we compare it to night-time in cultural noise band. The seasonal background noise variation at both sites also shows very similar properties to each other. Since these stations are borehole instruments and away from the coasts, we saw a small change in noise levels caused by microseism. Comparison between Keskin short period array and Ankara medium period array show us Keskin array is quieter than Ankara array.