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# of quarry blasts near BRMAR seismic array: An application of Multichannel Cross-Correlation detector.

With the increasing population of many quarries around the BRMAR array, the data quality of the stations is polluted by the blasts. There are more than 10 operational quarries spread across the city and in the vicinity of the array. BRMAR is a circular shaped 7 elements array with a diameter of approximately 40 km located in city of Ankara. The array consists of borehole type medium period instruments installed at 60 to 40 m depth from the surface. Long period array data is important for nuclear explosion monitoring, especially for measuring the mb/MS discriminant. Therefore, monitoring of the quarry activities has become an important task for Turkish NDC. Multichannel waveform cross-correlation method accurately and reliably detects and classify the quarry blasts using a repository of template events. Occurrence rate of the mining blasts between the time period of January 2016 – September 2018 was examined. More than 2 templates for each of the mining quarries were selected to detect the blasts at different sites for MWCC method. The results show that the number of blasts displays an increasing trend over the years, as much as on average at least 2 to 3 mining blasts occurring every weekday.

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