



The use of waveform cross correlation at a three-component seismic array for detection, location, and magnitude estimation

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Using the waveform cross-correlation technique, we have re-estimated relative locations and magnitudes of 200 events detected by an array consisting of seven 3-C sensors. All these events were quarry blasts conducted at several local/regional mines, which were detected and identified in the course of regional seismotectonic monitoring. From all detected signals we selected those having the highest quality and created a set of three-component templates for further cross correlation study. By changing the length of correlation window and the frequency band of the templates we selected optimal parameters for robust estimates of cross correlation coefficients and relative amplitudes/magnitudes of all signals. The relative locations and magnitude estimates obtained by cross correlation are compared to those in the catalog created in standard interactive analysis.