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between quarry blasts and local earthquakes in Aswan, Egypt

A modern and sensitive seismic network (ASN) is operated in Aswan since June 1982 for monitoring the earthquake beneath Nasser Lake. It is 23 field stations distributed south of Aswan High Dam. ASN records are clear and high quality digital waveform seismogrms. In that region, the seismic disturbances are also generated by the ongoing quarry blasts that are carried out mostly in the day time. They confused sometimes with the micro-earthquake activity of the area. Thus, the discrimination between quarry blasts and local earthquake seismograms are important. In fact, Multi- criteria investigations are know well known for identifying earthquakes as events distinct from artificial explosions. This study presents a comparison between source properties of the quarry blasts and natural earthquakes (i.e., amplitude, periods and waveform). The P to S spectrum and logarithmic values of 15 quarry basts and 15 micro-earthquakes of magnitude (ML) < 3 with an attempt to examine the short-period discriminants on those events from Aswan area. As Aswan seismic events are of near-source effects, which allows neglecting the propagation correction. The comparison between the quarry blast and natural earthquake involves on the source effects parameters (i.e., dynamic characteristics of waves, amplitudes, periods, and waveform).

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