Statistical Analysis of Seismic Bulletin in Egypt

The Egyptian Seismological Network has more than 75 seismic stations distributed all over the country. The analysis of NRIAG bulletin could identify 15769 artificial seismic events recorded in the period from 1997 to 2015. The spatial distribution of events is used to identify localities where there may be explosion contamination. We present a statistics and mapping to identify mining and quarry blasts from seismic catalog. We could detect the location of 26 major potential quarries and one gold mine active from the screening of the catalog. By mapping these events we able to divide Egypt in to Five seismic-artificial zones: North Egypt,middle Egypt,South Egypt,Mersa Alam and Sinai zones; each zone include blasting activity recorded from Quarry-mining areas. We applied Statistical and mapping analysis to recognize the active artificial and natural seismic sources of events,as this represents a challenge for seismic Discrimination between quarry-mining blasts and earthquakes for each zone which can include both natural-artificial event. we applied statistical analysis to evaluate the particular difficulties in identifying of this common type of seismic source from other sources for both earthquakes and artificial explosions with magnitudes (ML â⊠¤ 3.5). There are 15769 events evaluated in the study should statistically represent possible blasts.

Primary author: OTHMAN, Adel (National Research Institute of Astronomy and Geophysics (NRIAG))

Presenter: OTHMAN, Adel (National Research Institute of Astronomy and Geophysics (NRIAG))

Track Classification: 1. The Earth as a complex system