ID: **P4.1-043** Type: **E-poster**

of the Event Detection Level of the Cuban Seismic Network

Wednesday, June 21, 2023 10:15 AM (1 minute)

The detection level of a seismic network is the ability to estimate the level of detection and have a tremendous importance both in the design of a new network and in determining whether a given network can recognize seismicity consistently, or needs to be improved in some way. We determine the detection level of the Cuban seismic network using the empirically estimated seismic noise spectral level at each station site and some theoretical relationships. The minimum local detectable magnitude thus depends on some network parameters such as the signal to noise ratio and the number of stations used in the calculation. We also demonstrate the effectiveness of our predictions by comparing the estimated detection level with those empirically determined from one year of data of the Cuban seismic catalog. Our analysis shows, on the one hand, which areas the current Cuban network should be improved, also depending on the regional pattern of faults, and, on the other hand, indicates the magnitude threshold that can be assumed homogeneously for the catalog of Cuban earthquakes in 2020.

E-mail

diez@cenais.cu

Promotional text

The detection level of a seismic network is a measure of its effective ability to record small earthquakes in a given area. It can vary in both space and time, and depends on several factors as meteorological conditions, anthropic noise, local soil conditions.

Oral preference format

in-person

Primary author: DIEZ ZALDIVAR, Eduardo Rafael (Cuban National Centre for Seismological Research (CENAIS))

Presenter: DIEZ ZALDIVAR, Eduardo Rafael (Cuban National Centre for Seismological Research (CENAIS))

Session Classification: Lightning talks: P2.5, P4.1, P4.2, P4.3

Track Classification: Theme 4. Sustainment of Networks, Performance Evaluation, and Optimization: T4.1 Performance Evaluation of the International Monitoring System and On-Site Inspection and their Components