

on Infrasound Technology Applied to the Discrimination of Chemical Explosions From Tectonic Events

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This work has the goal to present a useful method to help in the discrimination of natural events (tectonics) from artificial events (chemical explosions in quarries blasting) when both sources are co-located. This is a frequent problem where the seismicity is triggered by stress released due to material removal in mines. With that purpose, we are conducting experiments using local infrasound stations to monitor blasting in quarries, recording infrasonic signals from detonations and infrasonic signals generated by earthquakes, in case they are present. Our work is done considering two scenarios, one of them using one co-located seismic and infrasound stations installed where there are blasting in mines and natural events (up to 30 km distant). We have already managed to get some results with this configuration. The other scenario we are in our way to implement two infrasound arrays (triangular shape four elements each) and a seismic network where there are blasting in mines and natural events. This implementation will be done soon. Our initial findings is that the few induced earthquakes occurred at a mining open pit did not produce any detectable infrasonic signal, hence we managed to discriminate them from the mining blast occurred at the same spot.

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Promotional text

Studies on Infrasound technology applied to the discrimination of chemical explosions from tectonic events developed by University of Brasilia researchers.

Oral preference format

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