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the performance of a Bayesian automatic waveform event associator (NET-VISA) with the current operational approach (Global Association) at CTBTO. Minimum detectability maps for simulated explosions.

Friday, 2 July 2021 11:45 (15 minutes)

The Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) has been developing and testing NET-VISA, Bayesian automatic waveform event detector, whilst a conventional detector, Global Association (GA), is in operation. In the context of CTBT verification regime, knowing the location dependency of the minimum detectable magnitude of those two event detectors is of interest. In the presentation, the geographical distribution of the minimum detectable magnitude of those detectors will be examined using a synthetic event generator simulating expected arrivals from hypothetical explosions embedded in an actual data day. Two different data days are used for the simulations. One is chosen as representative of normal seismicity while the other is representative of particularly high seismic activity.

Promotional text

The presentation shows the performance of the currently operational waveform event detector and newly developed machine-learning event detector over synthetic seismic events.

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