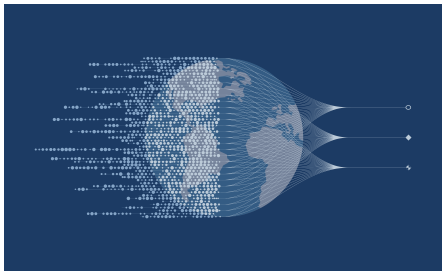

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# the Onset-Delay-Method for Resonance Seismometry

Resonance Seismometry is one of the allowed techniques of CTBT that the Inspection team may apply during the continuation period of an On-Site Inspection (OSI). The intent is to analyse seismic signals (earthquakes, active sources and noise) to detect wavefield disturbances indicative of a cavity or rubble zone caused by an underground nuclear explosion (UNE). However, the technique is only vaguely defined yet.

We present one implementation of Resonance Seismometry, the Onset-Delay Method (ODM), which is designed to analyze data from regional and teleseismic events to further constrain the location of an UNE site to a few meters. In the current version, even small local events like quarry blasts can also be utilized. This greatly enhances the applicability of the method, especially in areas where such anthropogenic sources like quarries and mines are common. We utilize data from the 2022 Field Test near Rotmoos in the Austrian Alps to show an example event and to present possible future refinements to the method.

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