

Between Comprehensive Nuclear-Test-Ban Treaty Technologies and National Technical Means

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The International Monitoring System (IMS) of the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) is designed to detect nuclear explosions with a minimum yield of one kiloton of TNT equivalent worldwide. The IMS uses four verification technologies - seismic, Infrasound, hydroacoustic and radionuclide - in a synergistic manner to enable the detection, location, and identification of potential nuclear explosions. Each of these technologies has advantages and limitations, and overcoming these limitations is crucial for the verification regime and for the civil and scientific applications of IMS data and International Data Centre (IDC) products. This poster will demonstrate the use of multi-technology fusion between the four technologies and other national technical means, such as satellite imagery, to overcome gaps and limitations through examples of events in Tunisia (quarries and mines), where infrasound and seismic data is used to distinguish sources in areas with a low seismic network coverage. Another example is using infrasound and satellite imagery during Stromboli eruptions, where other forms of synergy will be explained. The poster will highlight how classic synergy and other forms of synergy between technologies can fill gaps and improve results by utilizing the strengths of each technology while overcoming its limitations.

Promotional text

Synergy between technologies for the CTBT is good but synergy between technologies for civil and scientific applications is important as well.

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Oral preference format

in-person

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