



ID: O2.2-250

Type: Oral

## in Seismoacoustic Science and Technology Based on Long-Term Network Operations

A network of seismoacoustic arrays, each of which combine seismic and infrasonic sensors into a single integrated array design, provides a unique capability to detect, locate, and characterize various sources of mechanical waves. Since 1999, Southern Methodist University and Korea Institute of Geoscience and Mineral Resources have cooperatively designed, built, operated, and upgraded six seismoacoustic research arrays (SARAs) in South Korea. This collaboration has developed instrumentation efficiencies based on an evolutionary design, testing, installation, and operation of collocated seismic and infrasound sensors. This talk summarizes the synergy of science and technology based on SARA data over the last 26 years. Topics covered include: (1) Signal characterization of various sources, including earthquakes, volcano eruptions, mining explosions, North Korea's underground nuclear explosions, and industrial chemical explosions; (2) Improved detection capability; (3) Integrated seismoacoustic event location procedures; (4) Understanding of how the time-varying nature of the atmosphere influences signal propagation; and (5) Contributions to natural hazard mitigation. The capture of both seismic and infrasound wavefields together provides the opportunity to develop new understandings of the physical processes that generate the two types of waves and improve our understanding of wave propagation through the two media.

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**Session Classification:** O2.2 Seismoacoustic Sources in Theory and Practice

**Track Classification:** Theme 2. Monitoring events and Nuclear Test Sites: T2.2 Seismoacoustic Sources in Theory and Practice