ID: Type: **Poster**

Isolation Chamber for Improved Sensor Calibration

Infrasound isolation chambers are used to isolate sensors from ambient conditions in order to perform calibrations of the sensors being evaluated. Calibrations are typically performed on sensors to be deployed within a monitoring station. Calibrations identifying that a sensor meets performance requirements are necessary before a station can be certified for inclusion within the International Monitoring System (IMS) of the Comprehensive Nuclear-Test-Ban Treaty (CTBT). Infrasound isolation chambers are able to attenuate variations in ambient pressure and temperature that may otherwise affect the outcome of a sensor calibration. Recent advances in infrasound chamber design have improved the isolation through the use of sturdier materials and provided a large volume for evaluating more sensors simultaneously. Infrasound sensor designs have been observed to have performance that is variable at different elevations. In response to this, researchers at Sandia National Laboratories have been developing improvements that will allow a chamber to be pressurized or evacuated in order to replicate the static pressure observed at different elevations. In addition, developments are underway to control the temperature within the chamber to improve traceability and to generate higher dynamic pressures so as to evaluate sensors over a greater amplitude range.

Primary author: MERCHANT, Bion John (Sandia National Laboratories)

Presenter: MERCHANT, Bion John (Sandia National Laboratories)

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