

assurance for IMS measurements: Insights from the 2023 Science and Technology Conference

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Since 2011, the PTS for the CTBTO has collaborated with the global community to establish a robust Quality Assurance (QA) framework for IMS measurements, with special focus on infrasound technology. These efforts have resulted in notable progress with setting standards and refining calibration methodologies, as evidenced by discussions and presentations provided during the CTBTO Science and Technology Conference in 2023 (SnT2023).

The outcomes from SnT2023 will be summarized, highlighting the potential for leveraging existing national network best practices and recent advancements, including IMS seismic facilities, with the goal of ensuring a broad quality spectrum for IMS seismoacoustic measurements. In addition, the advantages of increased collaboration with the metrology community will be emphasized. Key benefits of the robust QA framework include a) broader adoption of measurement traceability, b) global acceptance of calibration capabilities, c) improved comprehension of uncertainty in measured parameters, such as amplitude and phase responses, d) better assessment of sensor susceptibility to environmental and installation factors, and e) enhanced interoperability through standardized equipment specifications and operating procedures.

Such benefits would enhance all areas of the IMS seismoacoustic network operations, from equipment specification and type approval process to on-site calibration.

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