

the outcomes of recent research in metrology for the benefit of the IMS.

Monday, 4 November 2024 11:30 (25 minutes)

The EURAMET Infra-AUV project ended in Dec-2023 and made significant progress on laboratory-based metrology for the calibration and traceability of seismic and infrasound sensors, and conducted several field studies providing new insights for on-site calibration. These advances in metrology are now ready to be exploited for maximum advantage at CTBTO. Perhaps the most significant of the recent developments is the provision of measurement traceability for infrasound across the whole IMS range of frequencies, allowing CTBTO to take up the new calibration offerings into the existing procedures. The new calibration capabilities now allow measurement uncertainty to be systematically assessed and propagated from the laboratory primary standards to the field sensors. This enables the working tolerances and accuracy assumptions specified in documentation describing the operation of stations to be verified. The now well-established process for on-site calibration of infrasound sensors using a reference sensor can also be reviewed in the light of the recent research, especially in terms of added value that can be extracted from the rich source of calibration data, which can potentially improve confidence in the operation of the station on an ongoing basis.

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Session Classification: Measurement Systems

Track Classification: Measurement Systems