ID: Type: **Oral**

MB3: A New Microbarometer with Internal Calibration Capability

The development of high-sensitivity, high-resolution, low-noise and low consumption microbarometers is still a need for infrasound community. Internal calibration of such sensors remains a critical issue for CTBT application. To address this issue, a new sensor called MB3 has been developed by the CEA/DASE, following 20 years of experience with MB2000 series. It is composed of a metallic bellows used as the pressure sensitive element, and a magnet / coil electromagnetic transducer. Thanks to a secondary coil, self-calibration is possible the same way as for seismological stations. On site full frequency band transfer function measurements can thus be carried out using pseudo-random signals like maximum length sequences for example. The performances of the sensor in terms of noise floor (resolves the Low Noise Model on IMS bandwidth), sensitivity, resolution, pass-band and full range scale are presented. Analog (adaptable to any digitizer) and digital (all packed low consumption 24 bits digitizer encapsulated) versions are proposed.

Primary author: NIEF, Guillaume (CEA/CENTRE Ile-de-France)

Presenter: NIEF, Guillaume (CEA/CENTRE Ile-de-France)

Track Classification: Theme 3: Advances in Sensors, Networks and Processing