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Assurance/Quality Control Processes at the National Center for Physical Acoustics (NCPA) Infrasound Calibration Facility

The NCPA has developed an infrasound calibration facility capable of calibrating sensors over frequencies from 0.002-20 Hz and amplitudes from a few milli-pascal to 40 Pa. The static pressure in the tank can be varied from 40 kPa to 120 kPa, and the effects of temperature can be tested for variations from -20℃ to ±45℃. Here we discuss quality assurance (QA) evaluation of different types of sensors as well quality control (QC) testing used in screening of individual sensors before being deployed. Typical results will be presented, as well as specific methodologies for QA and QC. One sensor that is of particular interest is the Hyperion sensor, a variant of which is being considered for use in International Monitoring System (IMS) infrasound arrays. The Hyperion sensor is an outgrowth of sensor development at the NCPA. Under a licensing agreement between Hyperion and the University of Mississippi (UM), the NCPA is involved in QA testing of any variant on the Hyperion sensor, as well as QC testing of each sensor shipped under the UM licensing agreement. Results from QA/QC testing of the Hyperion sensor as well as QA/QC processes adopted by the NCPA will be a particular focus of this talk.

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