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New portable digital microbarometer DMB one

g. nief, p millier, n. brebion, and s. denis
CEA-DIF bruyères le châtel 91297 Arpajon cedex France (guillaume.nief@cea.fr)

Since the infrasound technology was chosen to ensure the respect of the Comprehensive Nuclear-Test-Ban Treaty, it has been experiencing a renewal.
The development of high-sensitivity, high-resolution, low-noise and low-cost infrasound sensors has thus become a need for installing operational infrasound recording station, as well as for research purpose (study of sources, study of atmosphere as an acoustical propagation medium. . .).
A new model of digital microbarometer, DMB1, is proposed. The pressure sensitive element is a metallic bellows ; a magnet and coil device is used as an electromagnetic transducer. The digitization electronic board is encapsulated, and synchronised by a GPS clock.
Its characteristics are detailed and analysed in terms of noise floor, sensitivity, resolution and pass band. A model describing the behaviour of the sensor is also proposed.