



IOANE - A Romanian Infrasound Monitoring Array at Plostina - Vrancea.

An evolving project on earth's whispers.

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The paper depicts the *IOANE* infrasound monitoring array that is partially deployed at Plostina site, Romania - PLOR. Plostina is located at 45.8512 N latitude and 26.6499 E longitude and is one of the seismic stations under the administration of the *National Institute for Earth Physics (NIEP)*, Romania.

Starting with October 2005, *NIEP and AZEL - Designing Group S.R.L.* made a research consortium who's project "Methods and models to detect natural and artificial events using infrasounds emissions monitoring systems" was financed by the Romanian Ministry of Research and Education, through the Programme "SECURITY". The partners within the consortium, using the experience of NIEP, have studied the main sources, models and propagation mechanisms of infrasounds through atmosphere and earth.

Meanwhile, AZEL developed an original project of an infrasounds monitoring station, following the International Monitoring System's (IMS) specifications regarding the requirements to be fulfilled by such a station. Using a high quality and yet not expensive differential pressure transducer and a self-designed, 24 bits, GPS synchronized embedded system, AZEL succeeded to accomplish all the requirements and to present an web-accessed infrasounds monitoring station which operates at frequencies between 0.002 and 25Hz, 126dB dynamic range and a noise (at 1Hz) of -38dB relative to 5mPa. The paper presents the actual structure of the array, the auxiliary equipments and data communication protocol and format, as well as the next steps the partners will take toward a reliable and high quality infrasound monitoring array in Romania.