



IS42: the Azorean crossroad for infrasound monitoring in the North Atlantic Region

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The infrasound station IS42, located in Graciosa Island, Azores archipelago, Portugal, is part of the International Monitoring System (IMS) of the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO): the station is certified since December 2010.

The station comprises 8 array elements, which have been located in the most sheltered available areas of Graciosa Island: this configuration, joint to its strategic geographical location in the North Atlantic allow the detection of a large variety of infrasound signals, generated by local, regional and far-field sources.

The collaborative research between the Instituto de Investigação em Vulcanologia e Avaliação de Riscos (IVAR) of the University of the Azores and the Department of Earth Sciences, University of Florence (UniFI), has been established in the framework of the Atmospheric dynamics Research Infrastructure in Europe (ARISE2) Project and has led to a pilot study aiming at compiling a first revision of the main recursive infrasonic detections at the station, in particular on the Near- and Far-Field detections of explosive volcanic activity.

A second stage of the pilot study is currently under development: the main results of the major infrasonic detections across different seasonal and operational conditions in the last 7 years (since the time of certification of the station) is presented. Specific highlights of the recorded infrasonic activity (natural and of anthropogenic origin) are included.

Keywords: Infrasound sources, North Atlantic, IS42, CTBTO, volcanoes, microbaroms, oceanic storms