



2011 Grímsvötn (Iceland) and 2016 Etna (Italy) volcanic activity: Long-range infrasound observations at IS42, Azores, North-Atlantic

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Grímsvötn volcano, located under the Vatnajökull glacier on the center of the active NE rift zone of Iceland, is the most active Icelandic volcano. Its last eruption, on May 2011, broke the ice cover and became subaerial explosive, ejecting volcanic ash into the atmosphere.

Mt. Etna, the largest and most active volcano of Europe, is located on the NE region of Sicily Island (tectonic subduction zone), southern Italy. Its recent volcanic activity is typically effusive with explosive episodes and lava fountaining able to produce high (up to 15 km) eruptive plumes.

IS42 is one of International Monitoring System (IMS) infrasound stations, located in the Azores islands in the middle of the North-Atlantic and operating since 2010.

On the behalf of the ARISE2 project, 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), are carrying out a collaborative research on the IS42 infrasound detections in particular on the Far-Field detections of explosive volcanic activity.

We present long-range observations of the May 2011 Grímsvötn eruptive activity recorded at IS42, at a source-to-receiver distance of 2900 km, and the comparison of infrasound recorded at IS42, at a distance of 3700 km, with data recorded near the source (aprox. 5km) by the ETN local UniFI infrasonic array related to Etna 2016 volcanic activity.

Keywords: Grímsvötn, Etna, Infrasound, IS42, North Atlantic, ARISE2