



GT0 Explosion Sources for IMS Infrasound Calibration, Winter 2011

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Recently a new Infrasound Calibration Experiment has been conducted by the Geophysical Institute of Israel at the Sayarim Military Range, in the Southern Negev desert, in the end of January 2011. The experiment is intended to improve the understanding of the infrasound propagation in the atmosphere, under winter conditions, when weather patterns (stratospheric winds) are different from those that prevail in summer, and to provide data for calibration of infrasound stations of the International Monitoring System, located in Europe, Eastern Mediterranean and Asia.

The experiment includes 2 on-surface explosions of 10 tons and 100 tons of ANFO explosives, conducted in different time of the day, that are intended to provide data for infrasound stations at distances up to several thousands km. The experiment was initiated by the PTS CTBTO, Vienna, and is performed in close cooperation of Israel, European countries and the USA. Preliminary results of the experiment are presented here.

In the previous on-surface explosion, of a similar yield that GII conducted at the same Sayarim site in August 2009 under summer weather conditions, clear infrasound signals were recorded at many regional and IMS infrasound stations to the West and North-West, up to a distance 3,500 km, near Paris, France.

The seismo-acoustic data that are collected in this experiment are open to the scientific community and comprise an important element in the scientific research of infrasound propagation in the atmosphere.

The successes of these experiments provide significant contribution to improvements in monitoring capabilities of infrasound stations in the region.