

IMS Regional Infrasound Network to Monitor Atmospheric Explosion Events Detection

Monitoring the atmosphere and shallow underground phenomenon for low frequency acoustic waves is the CTBT's infrasound sensors deployed to detect any nuclear explosion signatures anywhere by anyone around the planet. This network also monitors and detects infrasound signals from non-verification-related explosion events either from man-made or natural sources. Such a data has been of immense benefit to society through its wide spread civil and scientific applications. Atmospheric explosion events detection from 2007 - 2010 at the IMS infrasound stations (I11CV, I17CI, I19DJ, I32KE, I33MG, I35NA, I47ZA and I48TN) which form part of the regional network for Africa were studied using IDC database. These stations commonly detect atmospheric explosion signals from sources such as volcanic eruption, bolide and meteor, supersonic aircrafts, rocket launches and re-entries, microbaroms and explosions (chemical). This study highlights (using the case of detections from volcanic eruption at Mt. Etna in 2007 and rocket launch at KSC, Florida in 2008) the significant capability of the regional IMS infrasound network to detect atmospheric explosion event source(s) at regional and global levels to contribute to the verification regime and its compliance.

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