

anomalous seismoacoustic event offshore northern Honshu, Japan

On 9 April 2019, flight control of the Japanese Air Self-Defense Forces lost contact with a F-35 fighter plane deployed on a training exercise off-coast northern Honshu, Japan. Floating debris recovered during the initial phase of the search and rescue mission suggests that the plane may have crashed, its last known position being communicated as approximately 135 km east of Misawa Airbase, Aomori Prefecture. Here, we investigate an arrival recorded by the hydrophone triplet arrays of IMS station H11, Wake Island, after contact was lost. Both timing and back azimuth of the signal distinctly match the location and source time of an anomalous seismic event that was registered by cabled seafloor seismometers in the vicinity of the presumed crash site, and that might be linked to the impact of the plane onto the sea surface. In addition to signal localization, we investigate the spectral composition and source-receiver paths to relate seismic and hydroacoustic recordings. Alternative source mechanisms will be discussed. Our findings show that the detection of small-scale events relevant to the CTBT verification regime is possible even over megameter distances, and that the capabilities of the IMS network extend beyond the realm of test-ban treaty monitoring.

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