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of the Reverse Time Migration Method on Dense Seismo-Acoustic Arrays

We first present location results using the RTM method (Reverse Time Migration, e.g. Walker et al., 2011) applied to explosion events listed in the TAIRED catalogue (TA Infrasound Reference Event Database), recorded by the USArray. We compare our results to the TAIRED solutions (http://www.iris.edu/spud/infrasoundevent). Good agreements between both solutions are found. In a second stage, we analyze data from the Lapnet / Polenet dense seismic network (Kozlovskaya et al., 2008). Detection and location in two-dimensional space and time of infrasound events presumably due to acoustic-to-seismic coupling, during the 2007-2009 period in Europe, are presented. The aim of this work is to integrate near-real time infrasound network performance predictions to improve the RTM detection algorithm at regional scales (automatic selection of the sensors with the highest SNR with daily updated travel time curves). We show that the use of dense seismic networks provides a valuable tool to monitor infrasonic phenomena, since seismic location has recently proved to be more accurate than infrasound locations due to the large number of seismic sensors.

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