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# T1.1-P09. Fusion of Infrasound with Hydro-Acoustic and Seismic Data in NET-VISA

NET-VISA (Network Processing Vertically Integrated Seismic Analysis) is a probabilistic generative model that describes the geophysics of event formation, the propagation of energy along multiple mediums, the generation of noise, and the performance of detectors. In this work we extend the previous models for seismic and hydro-acoustic mediums to include infrasound as well. Unlike other mediums, the travel time prediction in infrasound is a complex issue due to constantly changing weather conditions which lead to large variations in the atmosphere. In fact the travel time uncertainties for a global infrasound network are even larger than the average interval between noise arrivals. Consequently, one of the biggest challenges in infrasound is the discrimination between noise and signal. Along these lines we present various attributes of infrasound signals that help differentiate them from noise. In the long term, we expect that the integration of real time meteorological specifications will help the model accuracy. For the present we will show results demonstrating the extent to which infrasound-only events can be statistically justified with existing parametric data.

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