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Recent Advances in Automated and Event-of-Interest Analysis of Infrasonic Events

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Detection, localization, and characterization of energetic events in the atmosphere and at shallow depth of burial using infrasonic signals is often performed via an automated pipeline framework with refinement using interactive tools for an identified event-of-interest. Recent updates to the InfraPy signal analysis software suite authored and maintained by infrasound experts at Los Alamos National Laboratory include expanded command line and graphical user interfaces that enable such analysis using an adaptive detection algorithm as well as Bayesian event identification, localization, and characterization methods. Further, recent investigations of a machine learning based approach for infrasound signal detection and classification have demonstrated highly accurate identification of transient and persistent signals. An overview of the InfraPy software suite, in-development machine learning based methods, and example analysis of recent events-of-interest using the software will be presented.

E-mail

pblom@lanl.gov

Promotional text

Open-source signal analysis software for infrasound supports collaboration in the international explosion monitoring community and provides LANL researchers with feedback on algorithm performance.

Oral preference format

Primary author: BLOM, Philip (Los Alamos National Laboratory (LANL))

Co-authors: Mr WEBSTER, Jeremy (Los Alamos National Laboratory (LANL)); BISHOP, Jordan (University of Alaska, Fairbanks)

Presenter: BLOM, Philip (Los Alamos National Laboratory (LANL))

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