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IDC Infrasound Pipeline Initiative for Technology Development

The International Data Centre (IDC) of the Comprehensive Nuclear Test Ban Treaty Organization (CTBTO) automatically processes infrasound data later reviewed by interactive analysis; the detected and located events are being systematically included in IDC products. The IDC works on enhancing the automatic system for the identification of valid signals and the optimization of the network detection threshold by identifying ways to refine signal characterization methodology and association criteria. The objective of this study is to reduce the number of associated infrasound arrivals that are rejected from the automatic bulletins when generating the reviewed bulletins. The study is twofold, the first part consist of improving the detection accuracy at the station processing stage by enhancing the infrasound signal detector DFX-PMCC (Detection and Feature eXtraction – Progressive Multi-Channel Correlation). The second part separates infrasound data from other waveform technologies at the automatic network processing stage. Infrasound rules in Global Association (GA) are tuned to pursue a lower ratio of false alarms. Once modifications are tested and validated, the updated algorithms will be implemented in the development area of the IDC for further assessment of their performances in fusion with other waveform technologies.

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