ID: Type: **Oral**

-GPMCC and DTK-DIVA: New duo of software for infrasound monitoring

Detection capability of infrasound arrays is complex to assess. It is dramatically affected by the background noise, the propagation medium, the array configuration, as well as the type of algorithm used. The completion of IDC event bulletins requires that software be tuned to detect wide variety of signals in broad and well separated frequency bands, often buried in the background with low signal-to-noise ratios. Such high-resolution picking and extraction of signal features guarantee optimum use of the sparse IMS network. It also allows handling the frequency-dependent attenuation along different propagation paths and the highly variable noise conditions from one station element to another. In this context, the number of detections produced depends on the coherent background noise, which often dominates with microbaroms, industrial noise... Large number of detections is not problematic for subsequent network processing (global association, source location) as long as these detections are well and accurately characterized. CEA/DASE has recently developed two software dedicated to infrasound monitoring and packaged in the CTBTO NDC-in-a-box. The combined usage of both tools allow to precisely study signals of interest, provide statistics about the station sensitivity to environmental effects (local meteorological conditions, noise sources...) and understand which parameters affect station detectability.

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