ID: Type: **Oral**

1.1-O1. A global view on the coherent infrasound field: Re-processing of the full IMS infrasound data

In this study we are going to present preliminary results of global coherent infrasound measured at IMS infrasound stations and its correlation with atmospheric dynamics. A new implementation of the Progressive Multi-Channel Correlation (PMCC) algorithm enables characterization, with a single processing run, of coherent noise in log-spaced frequency bands from ~0.01 to 5 Hz. Such a new array processing algorithm enables a better characterization of all received signals in their wave parameter space (e.g., frequency-azimuth space, frequency-trace-velocity space). This, in-turn, enables more accurate signal discrimination, and source and propagation studies. For instance, we are using the processing in microbarom source and propagation studies, in global studies related to the occurrence of sudden stratospheric warming events, and in volcanic explosion detection. We are currently performing re-processing of the entire previous IMS infrasound database covering the time period from April 2005 to February 2015; whereas the number of stations has increased from 30 to 48. Results so far indicate a continuous spectrum of coherent signals at IMS stations within the 0.02 to 5.0 Hz band. Moreover, these results could be used for estimating network detection capability based on empirical station coherent infrasound noise models.

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