ID: Type: **Poster**

semi-automatic method for extraction and interpretation of reflection Green's Functions from ambient noise and signal, for IMS seismic station crustal reflector characterization

Seismic interferometry is applied, for the first time, to extract reflector Green's Functions (GFs) at PDAR, Pinedale, Wyoming, USA, a well-calibrated IMS primary seismic array. For improved event location, a semi-automatic method is developed to extract and interpret crustal reflector structure beneath each station. To address challenges related to phase identification, we use synthetic waveform modelling, an F-statistic detector and Cepstral analysis. High frequency loss by extracting GFs from stacks of years of continuous waveform autocorrelations is addressed by extraction of reflections with higher frequency content (and thus, improved resolution) when applying the same method to several days of high teleseismic activity. We discuss promising results, when compared to existing geophysical information beneath PDAR, and the possibility of deep mantle observations.

Primary author: TIBULEAC, Ileana (Air Force Technical Application Center (AFTAC))

Presenter: TIBULEAC, Ileana (Air Force Technical Application Center (AFTAC))

Track Classification: Theme 3. Verification Technologies and Technique Application