

## **data analysis of earthquake signals received on the newly installed HA04 hydro-acoustic station of the CTBTO International Monitoring System.**

During December 2016, the Comprehensive Nuclear-Test-Ban-Treaty Organization (CTBTO) re-established the hydro-acoustic station HA04 close to the Crozet Islands in the Indian Ocean as part of the International Monitoring System's (IMS) world-wide, multi-technology sensor network. The station is composed of two triads of hydrophones located to the north and south of Possession Island. High quality hydro-acoustic data are being received continuously at CTBTO since the deployment of the station where signals from whale calls, earthquakes and anthropogenic sources have been detected. In this poster, emphasis is given to signals generated by earthquake events located on the Indian Ocean Ridge at relatively close distance to the north of the HA04 station. Preliminary analysis of the propagation paths and received signal levels from the events to the station has been performed considering the complex local bathymetry and spatio-temporal variations in the water column sound speed. An assessment will be performed, to the extent possible, concerning the impact of these environmental factors on the propagation in this particular scenario with the aim of examining potential improvements to the International Data Centre's (IDC) automatic processing algorithms.

**Primary author:** NIELSEN, Peter Lourcing (CTBTO Preparatory Commission)

**Presenter:** NIELSEN, Peter Lourcing (CTBTO Preparatory Commission)

**Track Classification:** Signal processing techniques for hydroacoustic event detection and evaluation