

Observations of a Coherent Signal in the High-Frequency Range of IMS Hydrophones (105-108Hz) at Station HA08, Diego Garcia, Indian Ocean

Observations are made of signals with frequency peaks around 105 to 110 Hz in the spectra of the Diego Garcia IMS hydroacoustic monitoring station. The data were acquired on 1st January 2003 at two hydrophone triads that belong to CTBTO's IMS hydroacoustic network. These are situated at North-West (H08N) and South-East (H08S) of the Diego Garcia atoll in the Indian Ocean. The IMS hydroacoustic stations are ideal to passively monitor the oceans because the hydrophones are moored in the deep sound fixing and ranging (SOFAR) channel. Sound travels over large distances in the SOFAR channel, which acts as a natural duct that prevents the sound from scattering off the seafloor and also from scattering at the sea surface in most cases. Methods are presented to study the peaks, their coherence within each of the two hydrophone triads of the station and the direction from which they likely originate. The signals were assessed by analysis of the signal itself (shape, frequency, duration), statistical methods and geographical constraints. Their possible origin is explored and is inferred to likely be biological, such as marine mammals.

Primary author: LE BRAS, Ronan (CTBTO Preparatory Commission)

Presenter: LE BRAS, Ronan (CTBTO Preparatory Commission)

Track Classification: 1. The Earth as a complex system