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CTBT: SCIENCE AND TECHNOLOGY CONFERENCE

Interpretation of whales diving behaviour in the vicinity of IMS hydrophone triplet.

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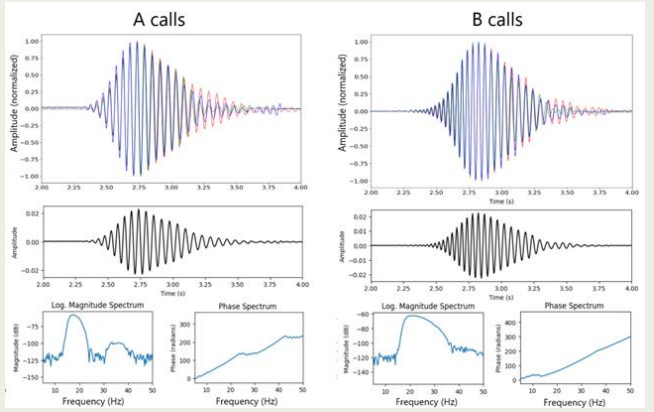
Analysis of an interesting sequence of fin whale calls at the southern triplet of IMS hydroacoustic station HA11 allows to obtain the following results:

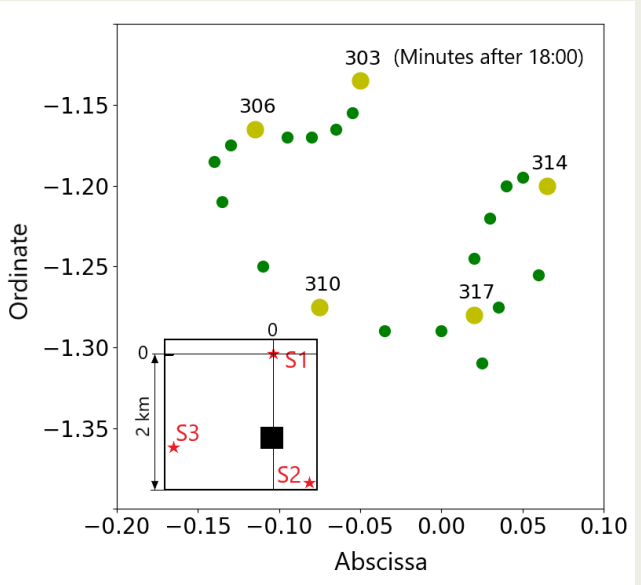
- It is well known that fin whales, among other forms of acoustic emissions emit two distinct types of low frequency (15-50 Hz) signals. They are designated as types A and B calls. The B calls have a broader frequency content and higher centre frequency than the A calls. Previous work have suggested that the A and B calls may be emitted by two different animals. **This work shows that given the proximity of the tracks computed from the A and B calls, it is likely that they are emitted by the same animal.**

- Under the assumption that the calls in a call-sequence are all very similar, stacking techniques applied to a multiple calls allow to eliminate multiple reflections and **extract the source wavelets for the A and B calls (figure on the side, top)**.

- The high quality and continuous character of the hydroacoustic data recorded at the IMS underwater stations allow **precise tracking of whales** passing in their neighbourhood (figure on the side, bottom)

- Extracting the source wavelet of signal emitted by fin whales allows for **precise identification of arrival multiple reflected arrivals from the bottom and sea surfaces**.





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