

Analysis of hydroacoustic signals associated to the loss of the Argentinian ARA San Juan submarine

Thursday 27 June 2019 11:00 (15 minutes)

On 15 November 2017, the loss of the Argentinian ARA San Juan submarine was detected by three IMS hydrophone stations, ranging from 6,000 km in the Atlantic Ocean to 12,400 km in the Indian Ocean. The great data quality and high signal to noise ratio on the two closest stations allow to identify direct and several reflected paths on different types of bathymetric structures. An original location method will be presented, which jointly utilizes a small subset of arrivals associated to both submarine event and a controlled depth charge realized by the Argentinian Navy close to the last known position of the submarine. Location results and associated uncertainties will be compared to the recovered wreck position. Broadband full waveform modelling and cepstral analysis techniques were also performed to try to separate source and propagation effects.

Primary author: VERGOZ, Julien (CEA/CENTRE Ile-de-France)

Presenter: VERGOZ, Julien (CEA/CENTRE Ile-de-France)

Session Classification: T1.3 Properties of the Ocean

Track Classification: Theme 1. The Earth as a Complex System