SnT 2025
CTBT: SCIENCE AND TECHNOLOGY CONFERENCE
8 SEPTEMBER ONLINE DAY
9 TO 12 SEPTEMBER AT HOFBURG PALACE, VIENNA & ONLINE

Comparative analysis of recent and historic low-frequency acoustic propagation from the island of Kauai to hydrophones at Wake Island: implications for accurate localization of impulsive signals

LIGHTNING TALK

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P1.3-815

- This poster presents climatic fluctuations in travel time over 3 years of transmissions from a source near the Island of Kauai (the Kauai Beacon) to the IMS hydrophones at Wake Island
- These measurements show a ~0.05% change in propagation time, which maps similarly to a 0.05% range uncertainty when referencing static environmental state estimates (Ocean Atlases)
- The ARGO float program has been measuring temperature of the global deep ocean since the early 2000s. These data show the multiple climatic events and multi-year cycles occurring over the past 25 years (including the most recent 2+ years of received transmissions)
- The travel time uncertainty is correlated to these climatic events, owing to the increase in sound velocity with temperature and thus reduction in travel time. Conversely, travel time measurements on the IMS network can improve deep ocean temperature state estimates
- If you want to find out more, come over for a chat in front of our poster

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