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

Focal depth of some South Atlantic earthquakes using teleseismic P-wave and water reverberations

LIGHTNING TALK

Maria Rayla dos Santos[a], Aderson Nascimento[a], George Sand França[b]
[a] Federal University of Rio Grande do Norte, Natal, Brazil / [b] University of São Paulo, São Paulo, Brazil

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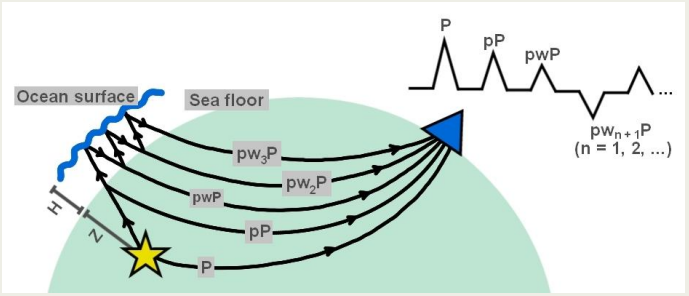
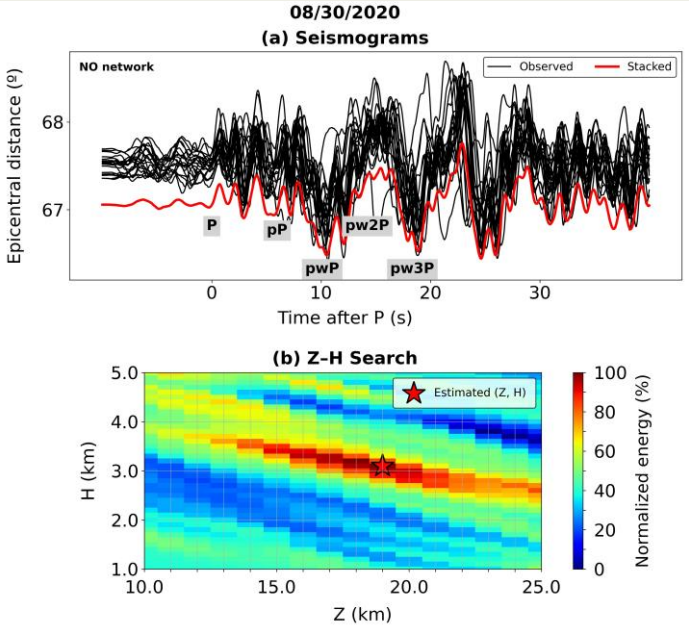


- Our study implemented the methodology described by Huang et al.[1] based on **water reverberations** with a **grid search approach** for simultaneous estimation of focal depth and sea floor depth.



- **Focal depth** is fundamental to characterize the oceanic lithosphere, but estimating it remains a challenge due to an instrument-limited distribution at teleseismic distances.
- The **Z–H grid search** was performed on synthetic seismograms and showed consistent performance, while the application to observed data from event of the South-Equatorial Atlantic demonstrated the potential to improve Z estimates.
- Next steps: to validate focal depth estimates and to integrate additional seismic source parameters using the ISOLA[2,3] software.

[1] Huang, J. et al. Earth Planet. Sci. Lett. 432, 133–141 (2015) / [2] Sokos, E. N. & Zahradnik, J. Comput. Geosci. 34, 967–977 (2008) / [3] Zahradník, J. & Sokos, E. Moment Tensor Solutions, Springer (2018).

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