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The Effectiveness of Automatic Seismic Phase Picking and Detection Capabilities of Deep Learning Methods for Local On- and Offshore Seismic Data: The Case of the Terceira Rift, Azores, Portugal

LIGHTNING TALK

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- In this research, we evaluate the effectiveness of deep learning methods, particularly **PickBlue** and **EQT**, for phase picking and event detection. We applied the models to OBS and land seismic data from the Azores, Portugal.

- Preliminary results suggest that deep learning methods can substantially improve the accuracy and precision of hypocentral locations.

Two key aspects stand out:

1. **Classification probability thresholds cannot be assumed a priori**, as they critically affect model performance.

2. **The combination of EQT (land) and PickBlue (OBS) for event detection and phase identification, together with PyOcto for phase association, provides an effective and robust processing pipeline.**

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