Detection Capabilities and Picking Precision of Deep Learning Methods for Local Seismic Network Processing: The Case of Terceira Rift, Azores, Portugal

P3.5-472

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In this study we evaluated the detection capabilities of DL models (PickBlue & EQT). We integrate OBS and land data to produce high quality event catalog, to help understand surface deformation and ultimately, to inform about regional geodynamics.

In that process, 2 aspects stood out:

1. Cut-off threshold setting: How setting the cut-off threshold can influence the performance of the model;

2. Effective pipeline: Which models to combine for different data type, to achieve more effective processing pipeline.

We found that the combination of PickBlue, EQT as pickers, and PyOCTO as associator provide a potential for an effective processing pipeline.