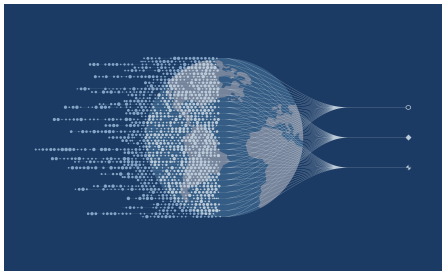

ID: **P3.5-387** Type: **E-poster**

learning based phase picking on seismological IMS stations

We present our work on training and the application of deep learning algorithms for the automated phase picking of body waves on the the IMS network. We train new IMS data based seismic phase pickers from both EQT and PhaseNet architectures. Phase picking is a necessary step before event localization and characterization and deep learning based models have been proven to perform well at this task. PhaseNet and EQTransformer are two prominent state-of-the-art phase picking algorithms that have been retrained on several different datasets. Waveform data from primary and auxiliary stations is used in the training and evaluation. For training we use good quality picks from REB events between 2013 until 2023. We evaluate the performance in comparison with unseen evaluation REB phase picks and manual phase picks. We compare the performance with applying other pre-trained phase pickers to the IMS data to determine if already pre-trained models can be used satisfactory out of the box for seismological IMS data. We also evaluate the generalization ability of the two IMS data trained models by applying them to other non IMS seismological stations.

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Session Classification: P3.5 Analysis of Seismic, Hydroacoustic and Infrasound Monitoring Data

Track Classification: Theme 3. Monitoring and On-Site Inspection Technologies and Techniques: T3.5 Analysis of Seismic, Hydroacoustic and Infrasound Monitoring Data