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

Survey in Deep Learning Approaches for Local to Teleseismic Earthquake Detection

LIGHTNING TALK

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P3.5-792

- Our poster focuses on deep learning models for earthquake detection with a focus on how training data diversity and model architecture influence performance
- I'll discuss the generalization matters for applications like global seismic monitoring, especially in regions without local training data.
- We construct a global dataset spanning local to teleseismic events for training and testing deep learning methods.
- Benchmark deep model architectures—U-Net, CNN-RNN, and transformers—were trained and tested on held-out regions and distance ranges.
- Our results show that when trained on distance-balanced data from a diverse set of geographical region, deep learning models maintain robust detection performance across distances and unseen regions. Increased model complexity was not necessarily proportional to performance gains

Bayesian Logic Inc.