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

Maya Liu Abdel Rehem, Nimar Arora
Bayesian Logic Linc.

P3.5-792

- Our poster focuses on deep learning models for earthquake detection and their limitations in generalizing across different geographic regions.
- 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.
- We found deep learning models, while accurate across event distances, fail to generalize to new regions—classic methods like STA/LTA can even outperform them in these cases.

Bayesian Logic Inc.