SnT 2025
CTBT: SCIENCE AND TECHNOLOGY CONFERENCE

8 SEPTEMBER
ONLINE DAY
9 TO 12 SEPTEMBER
AT HOFBURG PALACE, VIENNA & ONLINE

LIGHTNING TALK

P4.1-206

Characterizing Seismic Stations' Detection Capabilities with Supervised Learning

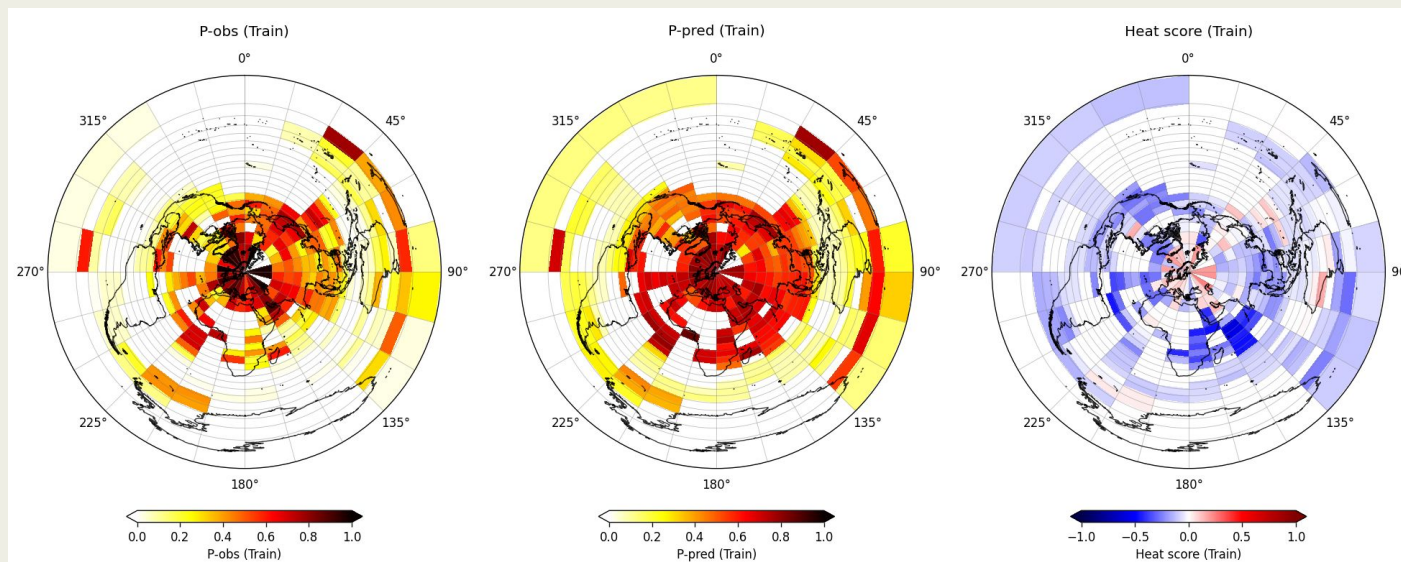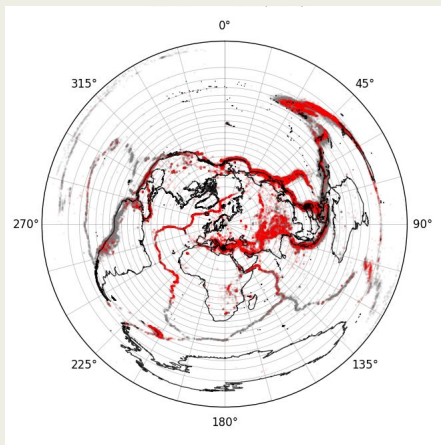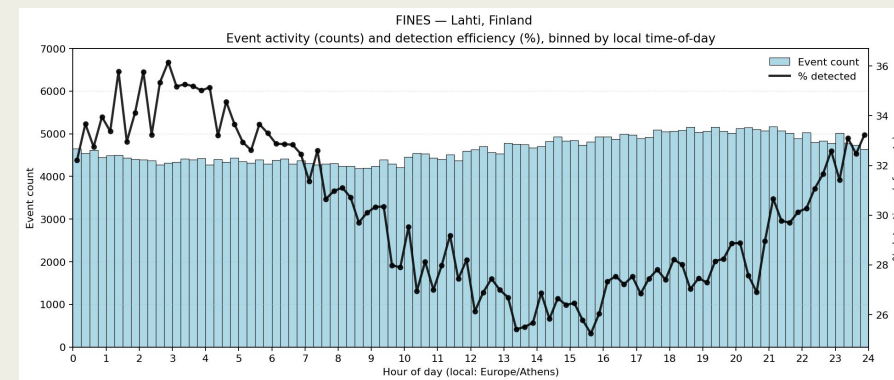Dorian Golriz, David M. Steinberg, Yochai Ben-Horin and Yael Radzyner

- **Motivation:** Which station–event factors control detection?

- **Approach:** Baseline ML model (mag, dist, depth) vs. new model with Heat Score

  - **Findings:** Heat Score adds modest but consistent skill. Local time-of-day also matters.

- **Implication:** Provides a framework to evaluate stations and guide strategies to strengthen network performance.

FINES — Lahti, Finland
Event activity (counts) and detection efficiency (%), binned by local time-of-day

P-obs (Train)

P-pred (Train)

Heat score (Train)

SOREQ — Soreq Nuclear Research Center

TEL AVIV UNIVERSITY