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Title of Poster Presentation: Ground Truth Seismic Events in Tanzania and Ethiopia

Abstract:
Determining accurate seismic locations with representative uncertainty estimates is of fundamental importance to ground-based nuclear explosion monitoring. In this project, we are developing a catalog of reference events (ground-truth) in the northeast African area where reference event coverage is exceptionally poor due to the limited station coverage by historic networks. The results of this project will enable the seismic monitoring community to enhance their operational capability to monitor for nuclear tests in North Africa and the Middle East by increasing their ability to accurately locate and identify seismic events in these regions.

These events can be located using regression or inverse techniques however the depths of events are hard to constrain. To fix the depth more accurately the orientation of the fault needs to be determined and then modeling of the seismograms by solving the wave equation at different depths can constrain the depth more accurately.