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Compilation of Ground Truth Events in Australia

We have compiled ground truth seismic events for the period of 2007-2024 that occurred within Australia. These events originated from either natural seismicity or mining-induced seismicity and mining blasts. Each event has been assessed on individual criteria, including the surface rupture, satellite imagery, temporary seismic installations or aftershock kits. GT events range from GT-1 to GT-10. Given the sparsity of existing seismic networks, either IMS or non-IMS, in the Australian continent and the low level of seismicity, it is critical to have ground truth seismic events to calibrate velocity models across the continent. The magnitude of events ranges from Mw 3.7 to 6 and have been well recorded across multiple networks, including IMS, AU, Australian School Station network S1, II and IU and local, or temporary seismic networks. We have provided the source parameters and seismic arrival times for P and S waves. The source parameters and arrivals will help constrain 3-D tomography models.

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