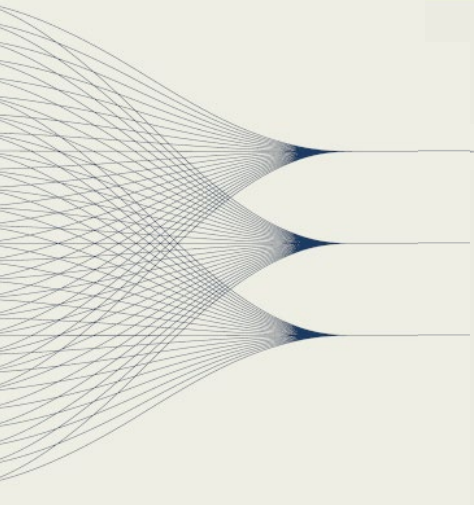


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In this study we show that spectral and arrival time properties of earthquake – generated T-phases can be used as depth indicators (DIs) of crustal vs. subcrustal events. The DIs are sensitive to hypocenter depth variations for a set of earthquakes occurred in Sumatra and Japan at depths up to 600 km.

In addition to confirmation of the T-phase spectral property and arrival time depth dependence, we discuss observations and characteristics of unexpected, unblocked T-phases from very deep earthquakes in and around the Sea of Japan. Our study suggests consideration of these events for the T-phase propagation mapping.

