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SIT040-P03

Room:Convention Hall

Time:May 23 10:30-13:00

Waveform inversion for S-velocity structure in the lowermost mantle beneath the Southern Pacific

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We conduct waveform inversion for the vertical profile of shear velocity in the D'' layer beneath the Southern Pacific. We use the transverse component of relatively long period broadband waveforms (20-200s), obtained from IRIS for earthquakes from 1993 to 2010. We find lower S-velocity relative to PREM in the depth range from 0-150km above the core-mantle boundary (CMB), and higher S-velocity relative to PREM in the depth range from 150-300km above the CMB. This is consistent with a phase transition from perovskite to post-perovskite. The average S-velocity in D'' is the same as or slightly faster than PREM, which is roughly consistent with previous global D'' velocity models.