

## D'' discontinuity in the northwestern edge of the Pacific Large Low-Velocity Province detected by NECESSArray and F-net

IDEHARA, Koki<sup>1\*</sup>, TANAKA, Satoru<sup>2</sup>, TAKEUCHI, Nozomu<sup>1</sup>, KAWAKATSU, Hitoshi<sup>1</sup>, OBAYASHI, Masayuki<sup>2</sup>, Koji Miyakawa<sup>1</sup>, TONEGAWA, Takashi<sup>2</sup>, IRITANI, Ryohei<sup>1</sup>, NECESSArray Project Team<sup>1</sup>

<sup>1</sup>Earthquake Research Institute, University of Tokyo, <sup>2</sup>IFREE, JAMSTEC

Broadband seismic recordings from the stations of NECESSArray and F-net are analyzed to investigate the shear-wave velocity discontinuity at the top of D'' layer across the northwestern edge of the Pacific Large Low-Shear-Velocity Province (LLSVP). In this study, we focus on the nature of the D'' discontinuity across the edge of the LLSVP by detecting a precursor to ScS phase at epicentral distances of 650 to 850. Transverse component seismograms from earthquakes occurred in the Kermadec, Fiji, and Vanuatu regions are assembled and analyzed. Employing linear and phase-weighted vespagram (Schimmel and Paulssen, 1997), we identified a clear arrival with an arrival time and slowness between the S and ScS waves, indicating a reflected S wave from the D'' discontinuity.

Keywords: D'' discontinuity, LLSVP, lowermost mantle, ScS-wave, array analysis, Northwest Pacific