

Seismic Structure under the Kanto Plain Derived from Receiver Function Analysis by using Improved Deep Subsurface Model

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The S-wavevector receiver function (SWV-RF) is useful for deep borehole records to image the seismic structures below the stations (Takenaka and Murakoshi, 2010). The SWV-RF is derived by deconvoluting the upgoing S-wave component with the upgoing P-wave component of the records (Reading et al., 2003). The most significant difference between the SWV-RF from deep borehole records and standard receiver function from the ground surface ones is relatively robust to the structure model in the SWV-RF. The SWV-RF can eliminate the free surface response and the first P-pulse entirely and give the complete representation of the converted waveform in principle. Murakoshi and Takenaka (2011) and Murakoshi and Takenaka (2012) applied the SWV-RF from the deep borehole records of the Hi-net (NIED) to obtain the seismic structures under the Kanto Plain, Japan. This method needs the structure model from the surface to the sensor location. In this study, we applied the SWV-RF analysis by using improved deep subsurface model for seismic structure under the Kanto plain.

Keywords: receiver function, Kanto Plain, crustal structure, plate structure, deep borehole