## Crustal structure of southwest Japan derived from seismic explosion and natural earthquakes data

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In this study, we estimated the 3-D P and S wave velocity structure, Poisson's Ratio, crack density and saturation rate in southwest Japan used the tomographic method of Zhao et al. (1992, 1999).

Our results are the followings. (1) The resolution of tomographic images near the surface can be well improved by combining natural earthquake data and seismic explosion data. (2) The mainshock hypocenter of the 2000 Western Tottori earthquake is located near the border of high and low velocity anomalies. Poisson's Ratio and saturation rate are also found to be higher in the mainshock hypocenter. (3) Most of the microearthquakes occurred adjacent to areas with high crack density and high saturation rate. (4) Large crustal earthquakes which occurred during the last 110 years are located near the border of high and low P and S wave velocity anomalies, and in areas where crack density and saturation rate change.