

# A study on the distribution of shear wave polarization anisotropy in the Miyazaki Plain and its neighboring areas, Kyushu Island, Japan

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As the fore-arc region of Kyushu Island, Japan, is related to subduction of the Philippine Sea Plate, it is believed that this area has been influenced by slab-related fluid. Previous studies found that the partial distribution of groundwater with the high Li/Cl ratio indicated the influence of upwelling slab-related fluid in the Miyazaki Plain. We performed a shear wave splitting analysis by utilizing seismic waveform data recorded at stations located throughout Miyazaki prefecture. It reveals that many of the stations show the orientation of the faster polarized shear wave parallel to the axes of the maximum horizontal compressional stress, while several stations in the Miyazaki Plain show the orthogonal orientation to that of these stations. Regarding time delays between two split shear waves normalized by the path length, relatively large values are partially distributed in the southern part of the Miyazaki Plain and the area above the low S-wave velocity anomaly estimated in the previous study. However, consideration on the factors that derive polarization anisotropy other than pathways of slab-related deep-seated fluid leaves much to be desired.

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