Shear-wave splitting analysis of the upper mantle at a back-arc basin using sScS-waves

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Study of the elastic anisotropy is important to reveal the mantle dynamics. In this study, ScS and sScS waves are used for detection of the anisotropy at the upper mantle. The Lau basin is an active basin. Previous study was difficult to detect anisotropy at the central part of the Lau basin because of source-station geometry. We used sScS-wave, which is a reflected wave at the surface of the central part of the Lau basin. A comparison of ScS and sScS suggests that the shear-wave splitting at the upper mantle of the center part of the back arc basin. Polarization direction was obtained to be WNW-ESE direction with a time difference of several seconds. It might be related to the some magmatisms of the active back arc basin.