



Investigating the upper mantle anisotropy beneath NW Mindoro by measurements of shear wave splitting

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Mindoro island on the southern termination of the Manila trench is a result of the collision between the Palawan Continental Block and the Philippine Mobile Belt since early Miocene. Results of 3-D numerical modeling on the impacts of continent collision/subduction revealed the changing patterns of asthenospheric flow by the occurrence of slab tearing. Using five broadband stations deployed on NW Mindoro, we investigated receiver-side mantle anisotropy by measuring splitting of teleseismic SKS and SKKS phases. The fast directions and delayed times were obtained by Minimum Energy Method. Preliminary results showed that the fast direction of mantle anisotropy beneath Mindoro are dominated by two main trends, NE-SW and NW-SE. While those with back azimuths to the west and to the ESE exhibit consistent NE-SW trend, those to the SSE consistent NW-SE trend. On the other hand, those with back azimuths to the ENE co-exist with both trends. How the observed anisotropy relates to the direction of plate collision and potentially to slab tearing remains to be studied.