# Upper mantle anisotropy beneath western Tibet revealed by shear wave splitting measurements

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We analyze seismic waveforms recorded by the Y2 array (IRIS) through shear wave splitting (SWS) technique to investigate the upper mantle deformation beneath western Tibetan Plateau. First, STA/LTA method and time frequency analysis are adopted to detect clear SKS wave and determine the frequency band of filtering, respectively. Second, cluster analysis method is selected to determine the optimal time window. Third, an automatic minimum transverse energy method is applied to calculate the fast polarization directions and delay times of the SKS waves. Finally, visual checking is used to ensure the reliability of the results.
After calculating the SWS parameters for every event, we analyze the results for each single station and decide if the SWS can be depicted by a two-layer model or not. Our results indicate the relationship between the upper mantle deformation of western Tibetan Plateau and Indian plate subduction beneath Tibetan Plateau.

Keywords: shear wave splitting, western Tibet, upper mantle anisotropy

 