Universitas Indonesia Library >> UI - Skripsi Membership

Analisis Anisotropi Lapisan Kerak Di Bawah Patahan Baribis Berdasarkan Shear Wave Splitting = The Analysis of Crustal Anisotropy in Baribis Fault Based on Shear Wave Splitting

Nurul Aulya Syafira, author

Deskripsi Lengkap: https://lib.ui.ac.id/detail?id=9999920527206&lokasi=lokal

---

Abstrak

Shear wave splitting merupakan salah satu metode yang digunakan untuk mengetahui anitopropi lapisan bumi. Penelitian ini bertujuan untuk menganalisis shear wave splitting pada patahan Baribis dengan menggunakan metode rotation correlation, minimum energy, dan eigenvalue pada program SplitLab yang dijalankan pada MATLAB environment. Penelitian ini menggunakan data masing masing dua event pada empat stasiun di sekitar patahan Baribis. Keluaran shear wave splitting menghasilkan variabel fast polarization dan delay time. Penelitian ini meneliti arah fast polarization untuk menganalisis arah pergerakan patahan Baribis. Arah fast polarization metode rotation correlation sub parallel dengan patahan Baribis dan mendekati penelitian sebelumnya. Arah fast polarization umumnya searah dengan arah maximum horizontal stress yang merupakan besaran maksimum stress patahan Baribis secara horizontal. Arah maximum horizontal stress ini menunjukkan arah pergerakan patahan Baribis. Selain itu, arah fast polarization—yang menghasilkan arah 61° searah arah jarum—juga sesuai dengan dengan arah pergerakan patahan Baribis yang cenderung bergerak ke arah kanan atau dextral. Hasil penelitian menunjukkan metode rotation correlation menghasilkan variabel shear wave splitting sesuai dengan penelitian sebelumnya yang menganalisis shear wave splitting pada pulau Jawa untuk meneliti anisotropi lapisan mantel atas pulau Jawa.
.....Shear wave splitting is one of the methods used to determine the anisotropy of Earth's layers. This research aims to analyze shear wave splitting on the Baribis fault using the rotation correlation, minimum energy, and eigenvalue methods in the SplitLab program run in the MATLAB environment. The study utilizes data from two events at four stations around the Baribis fault. The output of the shear wave splitting provides the fast polarization and delay time variables. The research examines the direction of fast polarization to analyze the movement direction of the Baribis fault. The fast polarization direction using the rotation correlation method is sub-parallel to the Baribis fault and is consistent with previous studies. The fast polarization direction generally aligns with the direction of maximum horizontal stress, which represents the maximum stress magnitude of the Baribis fault horizontally. This direction indicates the movement of the Baribis fault. Additionally, the fast polarization direction, resulting in a 61° angle in the clockwise direction, corresponds to the right-lateral movement of the Baribis fault. The findings align with previous research that investigated the shear wave splitting on the Java Island to study the anisotropy of the upper mantle layers of Java Island. In conclusion, the rotation correlation method yields shear wave splitting variables consistent with previous studies, which explored shear wave splitting on Java Island to investigate the anisotropy of the upper mantle layers of the island.