

Application of the Seismic Reflection Survey to an Active Fault Imaging

Authors : Nomin-Erdene Erdenetsogt, Tseedulam Khuut, Batsaikhan Tserenpil, Bayarsaikhan Enkhee

Abstract : As the framework of 60 years of development of Astronomical and Geophysical science in modern Mongolia, various geophysical methods (electrical tomography, ground-penetrating radar, and high-resolution reflection seismic profiles) were used to image an active fault in-depth range between few decimeters to few tens meters. An active fault was fractured by an earthquake magnitude 7.6 during 1967. After geophysical investigations, trench excavations were done at the sites to expose the fault surfaces. The complex geophysical survey in the Mogod fault, Bulgan region of central Mongolia shows an interpretable reflection arrivals range of < 5 m to 50 m with the potential for increased resolution. Reflection profiles were used to help interpret the significance of neotectonic surface deformation at earthquake active fault. The interpreted profiles show a range of shallow fault structures and provide subsurface evidence with support of paleoseismologic trenching photos, electrical surveys.

Keywords : Mogod fault, geophysics, seismic processing, seismic reflection survey

Conference Title : ICEGGM 2020 : International Conference on Exploration Geology and Geophysical Methods

Conference Location : Vienna, Austria

Conference Dates : June 18-19, 2020