Japan Geoscience Union Meeting 2014
(28 April - 02 May 2014 at Pacifico YOKOHAMA, Kanagawa, Japan)

SSS29-02 Room:416 Time:April 28 14:30-14:45

Estimation of Radiated Seismic Energy from Teleseismic Body Waves

KIUCHI, Ryota[1*] ; MORI, James[1]

[1]Disaster Prevention Research Institute, Kyoto University

Radiated seismic energy is a fundamental parameter for understanding source physics. Using teleseismic P waves, Choy and McGarr (2002) reported that strike-slip earthquakes in the oceanic lithosphere have high apparent stress (rigidity multiplied by the ratio of radiated energy to seismic moment). However, that estimates may have a large variation, because of the large radiation pattern of nodal arrivals. Therefore, we improved that used method to better correct for radiation pattern. From our result, we find that the strike-slip earthquakes have apparent stress values that are 5 to 8 times higher than dip-slip earthquakes with the oceanic events having slightly higher values than continental events. In addition, using our improved methods, we can estimate the apparent stresses for strike-slip earthquakes with more reliability, since the error of radiated seismic energies becomes smaller.

Keywords: Radiated seismic energy, Apparent stress, Strike-slip earthquake