

## The source parameters of intermediate-depth earthquakes in the Pacific slab beneath Japan

# Yohei Nishitsuji[1]; James Mori[2]

[1] Earthsciences, Kyoto Univ.; [2] EQH, DPRI, Kyoto Univ.

Although the studies of source parameters' relationships for shallow earthquakes have been investigated (e.g. Kanamori et al [1993]), those for intermediate-depth earthquakes are much fewer. Our interests are whether the relations of source parameters depend on the depth and the earthquake size.

In this study, we investigated the intermediate-depth earthquakes (Depth:70km-150km,  $M_J$ :4.0-6.0) in the Pacific slab beneath Japan along with attenuation properties such as Q-values. We estimated the **radiation efficiency**, which is considered an important index to express the rupture dynamics. This parameter can be calculated from the **radiated energy ( $E_R$ )** and **the fracture energy ( $E_G$ )**. Furthermore, we investigated the relations between **the static stress drop** and **the seismic moment ( $M_0$ )**.

Our results indicate that the radiation efficiency does not depend on the depth and the earthquake size. The ratios of the radiation energy to the seismic moment are similar to the studies for shallow events reported (e.g. Abercrombie [1995] and Kanamori et al [1993]). These results suggest that the mechanism of the earthquakes does not depend on the depth and its size.