

## Stress field and fault reactivation in Mid-Niigata earthquake area: Can we recognize frictional property?

# Atsuki Kubo[1]

[1] KSO

Geometrical fault reactivation condition between stress and fault alignments (friction) is examined for Chuetsu Earthquake and its aftershocks. In this activity, many fault planes with opposite dips are activated. Features of this activity are attractive for the discussion of fault reactivation analysis to discuss friction. 1) pre-existing faults are formed by extensional scheme. 2) In some other earthquakes along eastern margin of Japan Sea, major fault planes are clearly recognized with a certain dip direction. We could expect such kind of fault selection is now ongoing beneath Chuetsu area. 3) Since the number of the aftershocks is large, we could expect to examine the scale dependency of the friction. As a first step to discuss fault reactivation, we estimate stress field of this area using F-net moment tensor solutions by stress tensor inversion technique (Michael et al., 1987). Stress regime of reverse fault with N120degE compressive direction is estimated. Since the focal mechanisms distribution doesn't show bi-modal distribution of P-axis plunge, the possibility of homogeneously higher frictional coefficient (about 0.6). For major fault slips of M6 events, angle between fault slip and maximum compressive stress direction are about 45 degree or larger excepting 10/26 10:40 (JST) event occurred in southeastern fault. Most of the fault planes we should discuss case for small frictional coefficient. But for southeastern fault with dipping southeast, friction may be larger 8 0.6 or so). By judging real fault planes from focal mechanisms and hypocenter distribution for smaller earthquakes, we will discuss frictional property of each fault plane and its scale dependency.