

SGL042-02

Room:202

Time:May 23 16:45-17:00

Folded granite with axial planar foliations, the Cretaceous Kitakami type granite, north-east Japan

Soichi Osozawa^{1*}, John Wakabayashi²

¹Tohoku University, ²California State University, Fresno

The Kitakami type granitic plutons are in the Kitakami zone. The southern and northern Kitakami zones consist of continental and accretionary facies rocks, respectively. All the rocks of the Kitakami zone possess severe pressure-solution cleavages and associated folds formed under sinistral, although lateral component was mild, transpressional stress field, but the most plutons usually have igneous textures only. Therefore deformation is basically thought to predate the plutonic intrusions. The Kesengawa granite, and some other plutons and intrusions are, however, known to have foliations penetrated by the cleavages observed in surrounding sedimentary rocks, unrelated to the outer shape of granitic plutons. We newly found tectonic fold with axial planar foliations in part of the Kesengawa granite. Granite can be folded, and because of association of newly crystallized and aligned amphiboles and biotites, folded granite can be called a gneissose granite. Furthermore, the Kesengawa pluton at least, and the Kitakami rocks, were exhumed as a whole, by giant doming associated with upright folds (associated with asymmetric parasitic folds) and their axial planar cleavages, when subducting Izanagi-Kura ridge strongly compressed the forearc and the following transform faulting overprinted the sinistral deformations. Most plutons are known to be adakitic indicating slab melting, and consequently, contrary to the probable older Kesengawa granite, not well foliated. The tectonic and igneous event is called the Oshima orogeny, and its final expression is a major and unique unconformity.

Keywords: Kitakami granitic pluton, aplite marker, asymmetric fold, axial planar foliation, exhume, ridge subduction