

Distribution of deformation mechanisms in an ancient accretionary complex

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Difference in deformation mechanisms in association with difference in deformation stages of accretionary complex is one of the keys to understand physico-chemical processes of subduction to accretion. We observed deformation mechanisms both in outcrop and microscopic scales from the Cretaceous Shimanto Belt in Kii Peninsula, SW Japan. Earlier two stages of deformation are clearly defined in map and outcrop scales; the earliest melange formation in tectonic origin and the secondary duplexing.

Deformation mechanism of the earliest stage is dominantly diffusive mass transfer (pressure solution).

The second stage deformation is characterized by thrust faulting related to map-scale duplexing. The distribution of cataclasis suggests that the lithified melange had elastic characteristic.