

Structural analysis of Takahama metamorphic rocks, western Kyushu: timing of contact between mylonite unit and crystalline schists

Kazuhiro Arima[1]; Takeshi Ikeda[1]

[1] Earth and Planetary Sci., Kyushu Univ

Takahama metamorphic rocks occurring in Amakusa-Takahama area, western Kyushu, consist of two units that show different metamorphic grade. One is crystalline schists of epidote-glaucophane schist subfacies and the other is mylonite unit metamorphosed under high-pressure granulite facies. In the crystalline schists, two stages of deformation are recognized. The earlier stage involves formation of folds with axial planar schistosity. The later deformation folds the schistosity. At the vicinity of the southern boundary between the mylonite unit and the crystalline schists, amphibolite lenses, a member of the mylonite unit, occur in the layers of the crystalline schists. The amphibolite has a significant schistosity defined by the preferred orientation of actinolite. The orientation of schistosity in the amphibolite coincides with that in the crystalline schists, suggesting that the mylonite unit underwent the earlier stage of deformation. Occurrence of actinolite overgrowing hornblende suggests that the mylonite unit juxtaposed with the crystalline schists in a depth during retrograde metamorphism.