

Andalusite-sillimanite transition and partial melting in pelitic metamorphics: Case study in Hidaka and Namaqua metamorphic belts

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Andalusite to sillimanite transition and partial melting features are studied in pelitic metamorphic rocks from the Hidaka belt, Japan, and the Namaqua belt, South Africa. Silica-undersaturated local domains are observed to have formed locally within Al_2SiO_5 minerals in silica-oversaturated rocks. It may be resulted from partial melting of host rocks, because quartz is consumed by partial melting reactions. At the same time, reaction zones may have developed between Al_2SiO_5 minerals and surrounding melts.

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