

Exhumation process of the Himalayan metamorphic belt on the basis of ^{40}Ar - ^{39}Ar dating of the metamorphic nappe

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We performed ^{40}Ar - ^{39}Ar dating of mica collected from gneiss and schist, which is comprising of southern margin of the Himalayan metamorphic nappe in eastern Nepal. Garnet-biotite gneiss from the basal part of the nappe above the MCT showed about 19Ma, and biotite from sillimanite-two mica gneiss from the middle part yielded a plateau age of about 20Ma. They are interpreted to show cooling age of early stage of exhumation of the metamorphic belt. On the other hand, granitic gneiss yielded cooling ages of about 14-15 Ma (muscovite) and 15-16 Ma (biotite). We discuss on the tectonic significances of the cooling ages in the exhumation process.