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Deep crustal flow, deformation styles and melt transfer in high-T orogens

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The rheology of high-temperature (roughly T >800 degrees C at the Moho) orogens and the development of their topography in time are to a large extent controlled by the flow properties of partially melted lithospheric segments, with a key role for portions of the middle and lower crust of high melt fertility. This gives high priority to tectonic and petrological research in migmatites and granulites.
This paper will give examples of the deformation styles and melt transfer mechanisms operating in migmatites and granulites, with emphasis on volume loss in melt-depleted granulites, and chaotic flow and poorly correlatable structures in migmatites. Case studies with many field examples will be presented from Pan-African Gondwana and Palaeoproterozoic Fennoscandia.