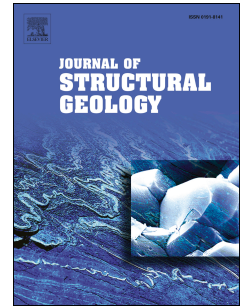


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Microstructural and rheological evolution of calcite mylonites during shear zone thinning: Constraints from the Mount Irene shear zone, Fiordland, New Zealand

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9 Keywords: Calcite mylonite, shear zone, stresses, strain rates, Mount Irene, Fiordland

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11 Highlights:

12 1) Microstructural study of the Mount Irene calc-mylonite shear zone, Fiordland, New Zealand

13 2) Non-steady-state stresses and strain rates during shear zone thinning at constant P-T

14 3) Zone thinning caused increase in stress and strain rate, rotation recrystallization and then GBS

15 4) Concomitant dislocation creep and grain-boundary sliding controlled rheology

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