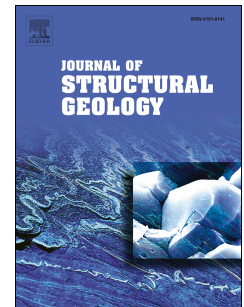


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Fault-zone structure and weakening processes in basin-scale reverse faults: the Moonlight Fault Zone, South Island, New Zealand

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Keywords: Basin inversion, reverse fault, fault reactivation, fault-zone structure, fault zone weakening, pseudotachylytes, foliated cataclasite, phyllosilicates, mechanical anisotropy

Highlights:

- 1) Rare field opportunity to study basin-scale normal fault zone reactivated in compression
- 2) Fault-zone structure in basement controlled mainly by host rock lithology and anisotropy
- 3) Hanging-wall laced by networks of steeply-dipping pseudotachylytes
- 4) Fault core contains progressively foliated fault rocks rich in chlorite and muscovite
- 5) Frictionally weak core facilitated steep reverse faulting and acted as hydrological barrier

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