

## Relationships between mylonitization and subsequent pseudotachylyte generation in the upper part of the Hidaka metamorphic belt

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Many thin mylonite zones are widespread in the middle tonalites and the lower part of the upper metamorphic sequence of the Hidaka metamorphic belt, Hokkaido, northern Japan (Toyoshima et al., 2004). These mylonite zones have been formed in the brittle-plastic transition zone, or the lowermost part of the upper crust (Shimada et al., 2004; Toyoshima et al., 2004; Wada, 2006MS). The mylonite zones in the southern part of the metamorphic belt are associated with pseudotachylyte veins parallel to their mylonitic foliation. However, layer-parallel pseudotachylytes have hardly been found in the thin mylonite zones of the Satsunai-gawa River area. This indicates that seismic slip with pseudotachylyte generation had not taken place in and along the thin mylonite zone of the Satsunai-gawa River area, unlike those of the southern part. We discuss why seismic slip with frictional melting did not occur in and along the mylonite zones.

Keywords: thin mylonite zone, pseudotachylyte, seismic slip, frictional melting