

## The progressive development of microfabrics from initial deposition to slump deformation on the Nankai prism

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The progressive development of microfabrics from initial deposition to slump deformation and then a submarine slide was investigated in an active subduction zone using cores recovered during the Integrated Ocean Drilling Program Expedition 333 (Kuranaga et al., 2018; J. Geol. Soc.). A Pleistocene–Holocene sequence was recovered at Site C0018A, which was located on a slope basin on the footwall of the megasplay fault in the Nankai Trough, SW Japan. Six mass-transport-deposit units intercalated with coherent intervals were recovered from the upper 190 m of the drilled succession. The initial microfabrics in the undeformed hemipelagic sediments were characterized by random and porous fabrics composed predominantly of clay aggregations and connectors. The initial fabrics were cardhouse fabrics, which consist of clay flakes with edge-to-edge (E–E) and/or edge-to-face (E–F) contacts. These initial microfabrics developed into compacted microfabrics, which are random and consolidated fabrics (bookhouse fabrics) that consist of clay flakes with E–F and/or face-to-face (F–F) contacts and develop during burial as a pure shear deformation. During slumping, these fabrics were then deformed under simple shear to become predominantly F–F contacts and form clay chains. Thus, the microfabrics in these submarine slides are an sedimentary mélange that developed locally into a preferred clay orientation with F–F contacts.

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