

Geology of granitic mylonites and cataclasites from southern Kuji, Iwate Prefecture, Japan

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Many narrow mylonite and cataclasite zones have been found in the early Cretaceous Kosode granitic body, southern Kuji, Iwate Prefecture, northern Japan. The Kosode granitic body is in contact with Paleogene sedimentary rocks bounded by the Taro Fault. We mainly present field observations and petrographical features of the mylonites, and state changes in structural features from the centers of the mylonite zones to their surrounding original granitic rocks.

Many of the mylonite zones dip gently to the west, though have a variety of attitudes. Two types of spatial mode of mylonitization (transition) between the center and borders of the mylonite zones are distinguished: gradual and discontinuous. In the former type, intensity of mylonitization gradually and symmetrically decreases towards both borders. The mylonitic foliation commences at an angle of 45 ° to the orientation of the mylonite zone, bends into near parallelism with the shear direction (C plane) in the center of the mylonite zone, and shows a sigmoidal arrangement. The latter mylonite zones are in direct contact with non- or very weakly mylonitized wall rocks (tonalites), but not surrounded by weakly-moderately mylonitized tonalites. In the latter type of the mylonite zones, mylonitic textures change not gradually but sharply from the center to borders. Two types of the spatial transition may suggest mechanical differences in mylonitization.