Japan Geoscience Union Meeting 2010
(May 23-28 2010 at Makuhari, Chiba, Japan)

SSS021-P08 Room: Convention Hall Time: May 26 17:15-18:45

Mylonitization and softening mechanism of the Nihonkoku Mylonite Zone, Niigata, northern Japan

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We investigate mylonitization and softening mechanism of the Nihonkoku Mylonite Zone, Niigata, northern Japan. Plastic deformation was concentrated in quartz- and K-feldspar-rich lithologies in the Mylonite Zone. Myrmekite-forming reaction was promoted during the progressive mylonitization. A combination of geometric and reaction softening processes leads to a concentration of deformation in ultramylonite zones in the Mylonite Zone.

Keywords: Nihonkoku Mylonite Zone, granitic mylonite, plastic strain concentration, reaction softening, K-feldspar, cataclasite