

## Ring faults topographically discovered in the Tono-Kurihashi granitic plutonic masses by using a constant vertical exaggeration stereoscopic map of slope, Kitakami massif

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The Tono-Kurihashi granitic plutonic masses, the largest pluton in the Kitakami massif, were surveyed topographically by using a constant vertical exaggeration stereoscopic map of slope (CVES map) in scale 1/100,000 which was published by Yokoyama *et al.* (2012). Three ring fault systems about 11-13 km in diameter were found out from Tono and Kurihashi plutonic masses. A granite porphyry intruded along the RF in the northern Tono plutonic mass. The ring fault system shows the deep structure of cauldron. The northern Tono plutonic mass was composed of two granitic plutonic masses with different age (Nishimura *et al.*, 1999). They have the different topographic features of plateau and hill, respectively, with steep slope and knick points between them. The old plutonic mass became hard because of recrystallization by the intrusion of new pluton, and remained as a plateau. Many parallel faults, which were not extension into the Paleozoic wall rocks and the new plutonic mass, were also found out in the Tono-Kurihashi plutonic masses. Therefore, it was estimated that there was a long time between the old and new plutonic intrusions.

Keywords: Tono-Kurihashi granitic plutonic masses, CVES map, ring fault, parallel fault, knick point, cauldron