

Outcrop data of geological structure associated with active thrust zone along western margin of Yamagata basin around Murayama city, NE Japan

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We describe deformation of Plio-Pleistocene strata and late Pleistocene terrace deposits associated with the active thrust zone along western margin of the Yamagata basin, which is composed of a complex faults and folds, based on observation of new outcrops. Outcrops along the foot of the mountain show monocline fold of steeply dipping Plio-Pleistocene strata, and growth strata on an angular unconformity. This structure is continuous along the foot of the mountain, and most large scale in the active thrust zone. Outcrop around Takamoriyama hill shows the steeply dipping middle Pleistocene Hayama mudflow and late Pleistocene fluvial terrace deposits over the back limb of the asymmetric fold, and decreasing dips upward in the terrace deposit (growth strata). Outcrops around Kawashimayama hill, where frontal deformation of the active thrust zone, show flexure, faults and folds of Hayama mudflow and terrace deposits. These deformations of the terraces around Kawashimayama hill suggest cumulative thrust fault slip. These results propose an active structure key to understanding profile across the complex active thrust zone.

Keywords: active thrust zone, active structure, growth strata