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# Structure of the central Taiwan thrust belt from new surface mapping

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New surface geological mapping indicates that the structural architecture and kinematics of the central Taiwan thrust belt, from the western part of the Central Range in the east to the frontal Changua thrust in the west, is a complex interaction of structures with varying structural styles. The Western Foothills comprises a west-vergent imbricate stack, with largely monoclinal ramp-related folds and an apparently shallow detachment. However, the Hsuehshan Range appears to be an oblique thrust system that is inverting an Eocene-age extensional basin, resulting in a complex interaction between faults and folds. Field mapping indicates that there is a major out-or-sequence thrust, the Shuili-Keng thrust, between the Eocene and Oligocene rocks of Hsuehshan Range and the Miocene and younger rocks of the Western Foothills. The Shuili-Keng fault cuts through folds within the Hsuehshan Range and appears to be steeply dipping and to extend deep into the crust. The eastern margin of the Hsuehshan Range, the Lishan fault, is a steep ductile shear zone of ambiguous kinematics that separates Early to Middle Eocene rocks to the west from the Middle Miocene Lushan Fm in the western part of the Central Range. The internal structure of the Hsuehshan Range is dominated by a series of roughly NE trending folds with WNW-verging vertical to overturned forelimbs and moderately dipping backlimbs. Oblique and lateral ramps complicate the fold structure. The eastern half of the Hsuehshan Range contains a well-developed, SE-dipping axial planar cleavage that disappears at the Tili thrust system. The structure of the western part of the Central Range is dominated by roughly NE trending, WNW-verging folds with a moderately developed SE-dipping axial planar cleavage. Because of the high topography and lack of access, individual structures are difficult to map over km-scale distances. These cleaved Miocene rocks are overthrust by the Cenozoic or older basement rocks along the moderately E-dipping Chinma Tunnel fault.