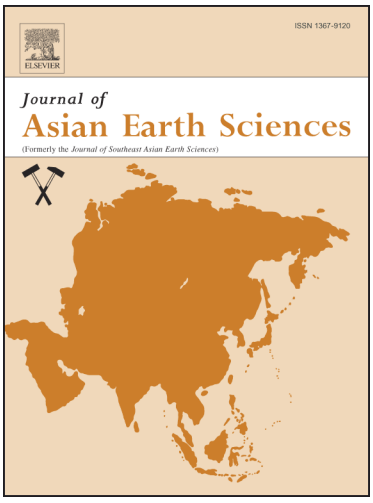

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The arcuate fold-and-thrust belt of northern Taiwan: results of a two-stage rotation revealed from a paleomagnetic study

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Abstract

The Taiwan orogen is the result of the collision of the Luzon Volcanic Arc pushed northwestward by the Philippine Sea Plate against the Chinese Continental Margin since the Late Miocene and is still uplifting nowadays. The fold-and-thrust belt in northern Taiwan shows an arcuate shape from SW to NE: the strike of the main tectonic structures changes from N0°E to N70°E. Such curvature has not yet been properly interpreted so far. In this study we used paleomagnetic analyses to decipher the tectonic evolution along the fold-and-thrust belt in northern Taiwan, which reveals complex magnetization patterns both in ante-folding and post-folding formations. We also interpret that the fold-and-thrust belt in northern Taiwan has experienced two main rotational events: a $30-60\pm14°$ clockwise rotation followed by a $30\pm7°$ counterclockwise rotation during the ages of 4.6-1.5 Ma.

Keywords: Salient, Fold-and-thrust belt, Rotation, Paleomagnetism, North Taiwan

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