Active geodynamics of the Hengchun Penisula from UAS HR DTM, GPS and ALOS PS-InSAR time series (Southern Taiwan)

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Abstract

To locate, to characterize and to quantify active faults are major concern in Taiwan following so many major earthquakes (*e.g.:*Chichi earthquake of september 21st, 1999).
As it is situated in between the Taiwan slate belt and the Metamorphic Central Range to the north, and the northern tip of the summit of the accretionary prism of the Manila subduction zone to the south, the Hengchun Peninsula is a key area to better understand the Taiwan geodynamics. It is tectonically active as it was struckked recently by a major earthquake (Dec. 26th, 2006, depth: 44km, M: 7.0). Despite field studies and due to the muddy turbiditic Mutan and Maanshan formations and the Kenting Mélanges which are all so bad microtectonic markers, the complexe Hengchun Peninsula remains still "misunderstood" in a geodynamic point of view.
It is needed to get a detailed "bird's eye view" to reach the whole set of the active deformation. Consequently, we settled an Unmanned Aircraft System (UAS) survey in order to get a High Resolution Digital Terrain Model (HR DTM) of that area (

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