



A Study of Crustal Deformation of Taiwan by Finite-Element Method

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Taiwan is located in an oblique convergent zone between the Eurasian plate (EUP) and the Philippine Sea plate (PSP). The convergent rate is about 7-8 cm/year. We use a finite-element model (FEM) to investigate displacement and stress fields generated by the convergent between the two plates. The velocity structures are incorporated into numerical model to estimate the elastic modulus. Several main faults in Taiwan will also be constructed in the model and the effects of friction are also studied. Finally, the estimated interseismic displacement fields are compared with the GPS observations and the stress fields are compared with earthquake distribution in 2000-2008.