

Earthquake induced crustal movement reevaluated from solutions of GEONET new analysis strategy

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Geographical Survey Institute (GSI) has developed the forth routine analysis strategy of GPS Earth Observation Network System (GEONET) from 2006 in order to overcome several issues appeared in its routine operation. GEONET plays an important role on monitoring crustal movement in Japan. Therefore, it is essential to figure out characteristics of crustal movements detected by the new strategy before starting its routine operation. In this paper, we report on the result of comparative study comparing crustal movements detected by current and new strategies

In the earthquake of the Fukushima Prefecture offing occurred on July 19, 2008, the diastrophism of about one centimeter is observed in the coast region put from Fukushima Prefecture on Miyagi Prefecture. The horizontal deformation vector toward direction of the epicenter of the Yamagata Prefecture northern part expected to be going to compare the analytical result by the F2 solution and the analytical result by the F3 solution in the F2 solution is canceled in the F3 solution. Moreover, the change vector in the region in the coast part heads for the direction of the epicenter or more in the F3 solution, and the case where the result of the more adjustment to the diastrophism model forecast from the mechanism of the hypocenter is shown is obtained.

On the other hand, the F2 solution and the F3 solution are almost corresponding to the diastrophism understood from the scale displayed to compare the earthquake deformation by the old and new analysis result in 2003 Tokachi-oki Earthquake when the amount of the maximum change observed 97 centimeters, and the difference is not admitted. It is thought that this is because the difference of the solution of F2 and F3 relatively becomes small when the amount of diastrophism according to the earthquake is large, and there is no influence in the amount of diastrophism.

-Reference-

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