

Detection of Seismic Velocity Change using arrival time data of high-sampling local earthquake observation network

Shigeki Horiuchi[1], Shoji Sekiguchi[1], Kaori Takai[1], Yoshihisa Iio[2]

[1] NIED, [2] ERI

A temporary seismic observation is made at the western part of Nagano Prefecture with setting 48 stations whose sampling frequency is 10 KHz. We checked the accuracy to detect P wave travel time change against time with using data of this network. We picked only P wave arrival times of which onset times are measured with accuracy of 1msec.

We calculate the difference of hypocenter locations and origin times for each pair of two events among 100 events by the use of P wave arrival time differences for each pair of two events. The average values of P wave travel time residuals are 2,3 and 4 m sec for event pairs with distances less than 300m, 1km and 2km, respectively.