

Method of Selecting Seismometer Installation Sites for Accurate Epicentral Location Estimation of Earthquake Early Warning

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Earthquake disaster prevention systems using early warning seismometers have been introduced to ensure safety during an earthquake for the high-speed railways in Japan. The early warning seismometer estimates the epicentral location and the magnitude just after detecting the arrival of P-wave when an earthquake occurs. Since the seismometers utilize weak initial P-wave information to estimate seismic parameters, it is supposed that the seismometer installation site may affect the estimation accuracy, but this effect is not clear. In this study, we evaluate the relationship between the characteristics of seismic observation sites and the estimation error of epicentral locations. Then we suggest a method of selecting the seismometer installation sites to improve the estimation accuracy of the epicentral location by the seismometers and we confirm its effect.