Matched Filter Method implemented as a semi-automatic hypocenter location system
- Application to the 2016 Kumamoto Earthquake –

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Seismic activity of the 2016 Kumamaoto Earthquake was analyzed by using the Matched Filter Method (MFM). In this analysis, MFM was implemented as a semi-automatic hypocenter relocation system. Since the hypocenters are scattered in wide area, we have to select template earthquake to match each earthquake cluster. For this purpose, we selected template earthquakes using the conventional automatic hypocenter location system using STA/LTA ratio. During one week since the start of the activity, we automatically selected about 300 templates. We inspected these templates one by one manually and scanned the continuous data. We could detect more than 6,400 events in this time range. One problem raised is that the performance of this 'modified MFM method' depends on the performance of the conventional automatic relocation system to select templates. Seismicity pattern obtained by this method is similar to that from manually inspected catalogue by JMA. We suppose MFM is one of the powerful tools to semi-automatically obtain preliminary results for the seismic activity

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