

W-phase analysis with 1Hz GNSS data

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The Japan Meteorological Agency analyze W-phase inversion solution and CMT solution when big earthquakes occur. Now we can analyze W-phase solution with broadband seismograms in Japan after 6 minutes of earthquake occurrence. These W-phase solution are one of information for performing grade changes or cancel of TSUNAMI warning.

Broadband seismic records is used by integrating for W-phase analysis. Because when big earthquake occur, the waveform data recorded at near site from source area may be unstable, it might be difficult for analyzing W-phase solution. On the other hand, the GNSS data to be recorded directly displacement, it can be used as a stable displacement.

In this study, using 1Hz GNSS data of Geospatial Information Authority of Japan(GSI), we analyzed W-phase solutions of Great Tohoku earthquake in 2011, its aftershock, and Tokachi-oki earthquake in 2003.

Keywords: W-phase analysis, 1Hz GNSS data, Great Tohoku earthquake