Waveform Analysis of the DPRK September 2017 event and comparison with previous DPRK events.

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According to the analysis result with IMS (CTBTO International Monitoring System) seismic data, the hypocenter of DPRK September 2017 event was located close to those of previous DPRK Nuclear Tests in 2006, 2009, 2013, January 2016 and September 2016. The seismic waveform shapes of IMS stations near the hypocenter were quite similar with those of previous 5 times NTs. The seismic signals from this event indicated some features of explosion and the event scale was biggest (mb = 6.0) in the past NTs.

Japan NDC-1 (National Data Centre-1) tried to discriminate this event. The indexes, such as regional P/S ratio, P/S Spectral Ratio and mb:Ms, also indicated features of explosion. As for infrasonic analysis with I30JP and I45RU observation data, I45RU could detect infrasonic signal from this explosive event. After this biggest 2017 NT event, several earthquakes were occurred near the test site. Analyzing waveform data of these induced events, S-wave amplitude of waveform at close IMS stations is larger than that of P-wave and the feature of these events is presumed to be natural earthquake rather than man-made explosion.

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