

Signal Before Indonesia's Large Earthquakes 2011 Detected by Superconducting Gravimeter

Superconducting Gravimeter are the most sensitive instrument to measure gravity change's continuously in low frequencies. In Indonesia, there is one Superconducting Gravimeter that installed in Cibinong. Using this SG, we studied gravity changes during Indonesia's large earthquakes event. Global CMT recorded 17 earthquakes in Indonesia that had magnitude moment (M_w) > 6 since January until December 2011. We investigate possible applications of Superconducting Gravimeter to detecting anomalous signal before this earthquakes happened. Using Spectrogram Analysis, we found anomalous signal few hours before earthquakes event. Frequencies of anomalous are between 0.03 Hz up to 0.20 Hz. This frequencies are correlated with stress accumulation of nucleation mainshock. We concluded Superconducting Gravimeter can be use for supporting earthquake early warning system. Keywords : Superconducting Gravimeter, Earthquake, Precursor

Primary author: PRIYAMBADA, Fajar Rachmadi (1. Regional Seismic Center 3 of BMKG Indonesia)

Presenter: PRIYAMBADA, Fajar Rachmadi (1. Regional Seismic Center 3 of BMKG Indonesia)

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