Gravitational gradient changes of mega-thrust earthquakes observed by GRACE

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The earthquakes change the gravity, which means the gravitational gradient is also changed. Gravity Recovery And Climate Experiment (GRACE) have been providing insight into the gravity changes by earthquakes and the data can also be used to reveal the gravitational gradient changes. For example, Wang et al. [2012] reported gravitational gradiet changes following the 2004 Sumatra-Andaman earthquake on the GRACE CSR RL04 data. In this presentation, I will introduce the co- and postseismic gravitational gradient changes by four huge earthquakes, i.e., the 2004 Sumatra-Andaman earthquake, the 2010 Maule earthquake, the 2011 Tohoku-Oki earhquake, and the 2012 Indiean Sea earthquake observed by GRACE, comparing to the gravity changes and the gravitational gradient changes of the Tohoku-Oki earthquake observed by GOCE.

