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Room:Convention Hall

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Tilt records prior to the 2011 Off the Pacific Coast of Tohoku Earthquake

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The Off the Pacific Coast of Tohoku Earthquake on March 11, 2011 is an unexpected megathrust event with magnitude 9.0 along the Japan trench. I examine Hi-net tilt records prior to the great earthquake in order to see whether a precursory tilt change is observed for a short-term (days) and a medium-term (about a month) for confirming a preslip hypothesis and the effectiveness of an earthquake prediction method based on the hypothesis. For a quantitative reference to the observation, the detectability of the tilt observation for interplate slip on the subducting Pacific plate is also evaluated. In this study, no clear signal of preseismic tilt change or preslip is found in the records. This means that there is no preslip larger than moment magnitude (M_w) 6.2 on the deeper extension of the earthquake source area on the plate interface or larger than M_w 7.3 near the hypocenter.

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Keywords: The 2011 Off the Pacific Coast of Tohoku Earthquake, Preseismic crustal deformation, preslip, earthquake prediction, NIED Hi-net high-sensitivity accelerometers