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Short-term Slow Slip Events Detected Automatically by the Strainmeters

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In order to predict the anticipated Tokai earthquake, Japan Meteorological Agency (JMA) have been watching the strainmeters at Tokai region for 24 hours. JMA observed short-term slow slip events in July 2005 at Tokai region, but now cannot detect the events by the strainmeters unless there are low-frequency earthquakes. We investigated the method for the automatic detection of the short-term slow slip events by the strainmeters only.
As a result, we can detect short-term slow slip events by the strainmeters by (1) optimizing tidal response and trend every month, (2) and using more small threshold of the 24 hours difference, (3) and starting a pre-slip estimate tool and confirm possibility of the slip on the plate boundary when it is reached the threshold at more than three stations.
We would detect pre-slips more fast and certainly with the possibility to appear as an phenomenon of Tokai earthquake by applying the technique of automatic detection of short-term slow slip events to the monitor of Tokai earthquake.
But this technique is limited for a period without the rainfall because the rainfall revision of the strainmeters is not perfect. Examination of perfect rainfall revision is a future problem to have appropriate monitor in the rainfall period.

Keywords: Short-term Slow Slip Events, Strainmeters