Japan Geoscience Union Meeting 2013

(May 19-24 2013 at Makuhari, Chiba, Japan)

©2013. Japan Geoscience Union. All Rights Reserved.

MIS30-10 会場:301B

時間:5月21日17:00-17:15

## Seismo-ionospheric precursors of the total electron content associated with M?6.0 earthquakes in Japan Seismo-ionospheric precursors of the total electron content associated with M?6.0 earthquakes in Japan

Jann-Yenq Liu<sup>1\*</sup>, Koichi Chen<sup>2</sup>, Ho-Fang Tsai<sup>3</sup>, Katsumi Hattori<sup>4</sup> Jann-Yenq Liu<sup>1\*</sup>, Koichi Chen<sup>2</sup>, Ho-Fang Tsai<sup>3</sup>, Katsumi Hattori<sup>4</sup>

<sup>1</sup>Institute of Space Science, National Central University, TAIWAN, <sup>2</sup>Department of Earth Science, National Cheng Kung University, TAIWAN, <sup>3</sup>GPS Science and Application Research Center, National Central University, TAIWAN, <sup>4</sup>Department of Earth Sciences, Graduate School of Science, Chiba University, JAPAN

<sup>1</sup>Institute of Space Science, National Central University, TAIWAN, <sup>2</sup>Department of Earth Science, National Cheng Kung University, TAIWAN, <sup>3</sup>GPS Science and Application Research Center, National Central University, TAIWAN, <sup>4</sup>Department of Earth Sciences, Graduate School of Science, Chiba University, JAPAN

This paper reports statistical results of seismo-ionospheric precursors (SIPs) of the total electron content (TEC) in the global ionosphere map (GIM) associated with 132 earthquakes with magnitude 6 and/or greater in Japan during 1 May 1998 ? 10 March 2011. To detect SIP, a quartile-based (i.e. median-based) process is performed. The earthquakes without being led by magnetic storms are further isolated and investigated to confirm the SIP existence. Results show that the SIP mainly is the TEC significantly increase in the afternoon period 1-5 days before the earthquakes in Japan. Finally, the SIP of the GPS TEC associated with the 11 March 2011 M9.0 Tohoku earthquake is presented and discussed.

 $\neq - \nabla - \beta$ : seismo-ionospheric precursors, GPS, total electron content, M9.0 Tohoku earthquake Keywords: seismo-ionospheric precursors, GPS, total electron content, M9.0 Tohoku earthquake