

## **Study on the TEC perturbation related with earthquakes in Indonesia**

SARMOKO SAROSO<sup>1</sup>, J. Y. LIU<sup>2</sup>, and C. H. CHEN<sup>2</sup>

<sup>1</sup>*Space Science Center, LAPAN, Indonesia*

<sup>2</sup>*Institute of Space Science, National Central University, Taiwan*

Indonesia is one of the most seismically active regions of the world, containing numerous active volcanoes and subject to frequent earthquakes with epicenters distributed along the same regions as volcanoes. Regarding Indonesia is a seismically active region we will investigate the possible relation between the ionospheric TEC data and the seismic activity. Perturbation of the TEC in association with earthquakes have been an object of a close attention of scientists. Recently, they have found an apparent reduction in the ionospheric TEC. However, the features of this phenomenon as well as related physical mechanism are not fully understood due to many coupling mechanisms between the lithosphere, atmosphere, and ionosphere. A case study is carried out in this work to investigate the pre-earthquake ionospheric anomalies by the TEC during the Parepare earthquakes of May 21, 1998 and May 4, 2000. It has been found that the ionospheric TEC remarkably decreased within 2-6 days before the earthquakes. Detail of the features and related physical mechanism will be presented.