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Analysis of Vertical Total Electron Content in Ionosphere of Java Region Associated with Yogyakarta Earthquake, May 26, 2006 UTC

Earthquake that struck Jogjakarta on May 27th 2006 (lokal time) gives negative impact to life and it became of no awareness disaster. Previously, there are many researches that developed a system which can give signal to earthquake pre-detection. One of them is Seismo-Ionosperic Coupling. This research, explain phases in Ionospere before and after shock. Electron densities in vertical direction in Ionospere(Vertical Total Electron Content) is selected as parameter. Total Electron Content (TEC) is defined as the amount of electron in vertical column(cylinder) with cross-section of 1 m2 along GPS signal trajectory in Ionospere at arround 350 km of height. There are three times of significant decrease of VTEC value in Java and its surrounding, i.e. at 18, 20, 22 of May 2006. However, after corrected by Dst Index, the decrease VTEC value on May 18 2008 has relationship with magnetic disturbance. The decrease of VTEC value on May 20 and May 22 2006 is indicated as effect of Seismo-Ionosperic Coupling physical process befor shock. This is supported by correction of Dst Index that shows there is no significant magnetic disturbance. Keywords: Seismo-Ionospheric Coupling, VTEC, Dst.Index

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