



## **Seismo-ionospheric precursors of December 26, 2004 Indonesian earthquake**

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It is known, the abnormal variations of the nearground atmospheric electrical field arising from a few days to a few hours up to earthquake in a zone of its preparation are registered. To connect the ionosphere variations with the coming earthquake it is essential to know all features of regional ionosphere behavior in the considered geographical zone in the quiet and disturbed conditions.

The large interest represents the research of the seismic origin electrical fields influence on the equatorial ionosphere. It is known, that the equatorial anomaly very sensitively reacts to any changes of any origin electrical fields. In the course of the equatorial earthquake preparatory stadium there is a penetration of abnormal electric fields of seismogenic origin on the ionospheric heights which strengthens or weakens the natural field of equatorial electrojet, it modulates ExB-drift process and by that spatial distribution of electron concentration not only above magnetic equator but also in all region which is taking place under action "fountain-effect".

In this paper the ionosphere variability at low latitudes associated with seismic activity in the island Sumatra region on December 26, 2004 (00.58 UT) on the basis of the analysis of the TEC maps which obtained with using the permanent observations of the GPS-IGS network was investigated. The magnitude of the earthquake was 9.0, the epicenter was located at 3,32N, 95,86E.

The modification of equatorial anomaly associated with seismic activity had various character and was observed from ~3 day and down to several hours up to the earthquake moment. At the final stage of the earthquake preparation it was revealed 2 mod-

ifications in the TEC distribution. For 2 days before it was the positive effect as the day time amplification of equatorial anomaly. Maximal enhancement in crests reached 20 TECU (70 %) relative to the non-disturbed state. In previous day in evening and night hours of local time the specific transformation of the TEC distribution with the abnormal trough occurrence.