

Long-term changes in strong geomagnetic disturbances

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Long-term variations in strong geomagnetic storms are analyzed in this work in connection to electric fields induced on Earth. In fact, geomagnetic disturbances generate electric fields that drive currents in the Earth which may have significant effects on electrical systems and pipelines as well. The present study will be carried out using physics-based models of the magnetosphere, ionosphere, Earth conductivity and the distributed source transmission (DSTL) theory.