



On Developing a European First Principles Geomagnetically Induced Current Forecasting System

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Geomagnetically induced currents (GIC) during space storms pose a risk to power transmission grids across the globe. As part of the European Risk from Geomagnetically Induced Currents (EURISGIC) EU/FP7 project the Finnish Meteorological Institute is developing a first principles based GIC forecasting and warning system. The system is given as input the solar wind plasma parameters measured by the ACE spacecraft and the final output consists of the ground electric field and GIC in a simplified model of European high-voltage power grids. We present the different steps involved in obtaining the final GIC solution and implementation of the required software components.