

Impacts of space weather on power grids and pipelines: gap analysis

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The impacts of space weather on ground infrastructure are well recognised. The research and mitigation concepts progresses significantly, although there are still needs for more detailed understanding of the phenomena, better modelling, higher observational resolution and more reliable forecasts.

The following three types of the estimations of space weather impacts are widely used:

1. Network-specific modelling, based on geomagnetic data
2. Statistical assessment, including extreme value analysis of geomagnetic and geoelectric field variation
3. Forecasts of ground magnetic field, geoelectric field, GIC

Presentation describes these approaches and identify the existing deficiencies and gaps.