

## Effects of geomagnetically induced current on power grids

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It is known that power grids are affected by geomagnetically induced current (GIC) at the moment of intense geomagnetic storms. Power blackout occurred in Quebec, Canada in March, 1989 associated with the largest geomagnetic storm by value of Dst index since 1957. After this event, many studies on effect of GIC to power grids started in the United States, Canada, and countries of northern Europe. In the United States, a case study is carried out on the effect of an extreme geomagnetic storm, such as the Carrington storm in 1859. Moreover, measurement of GIC to power grids is made in geomagnetically low latitude countries, such as Brazil, South Africa, and Australia. In Japan, GIC of the power grid was measured in Memanbetsu, Hokkaido between 2005 and 2007 by cooperation with the Hokkaido Electric Power Co., Inc. We will report latest research on GIC in this presentation.

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