**Geomagnetic dynamics during super substorms**

Marchuk R.A.1, Yu.Yu. Klibanova2, V.V. Mishin1 and Yu.V. Penskih1

*1Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences, Irkutsk, Russia*

*2Federal State Budgetary Educational Institution of Higher Education «Irkutsk State Agrarian University named after A.A. Ezhevsky», Irkutsk, Russia*

The dynamics of field-aligned currents and ionospheric current systems, geomagnetic variations and broadband burst pulsations during a series of super substorms in 2015 are studied. Based on data from the global network of ground-based magnetometers SuperMag, time series of maps of field-aligned and ionospheric currents were constructed using the ISTP SB RAS magnetogram inversion technique. It is shown that during strong substorms, features are observed in the distribution of geomagnetic field variations that may be associated with the development of high-latitude additional electrojets.