

An Analysis of Atmospheric Electricity at Syowa Station, Antarctica

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Minamoto and Kadokura(2011) shows criteria for extracting fair-weather data in atmospheric electricity at Syowa Station, Antarctica by using meteorological factors. We extracted fair-weather atmospheric electricity periods from data between February 2009 and January 2012, with that criteria. Amount of the fair-weather periods is 2765 hours, 10 % of the three years. In the fair-weather periods, 171 hours were during geomagnetically active period, which is defined as follows: K-index is more than four.

In order to discuss fluctuations of atmospheric electricity when auroral particles precipitate over Antarctic region, we will show relationship between the data of fair-weather atmospheric electricity, geomagnetic field and Cosmic Noise Absorption which is known to occur when high energy electrons penetrate into the ionosphere.

Keywords: atmospheric electricity, Antarctica, Aurora, Cosmic noise