Geophysical Research Abstracts
Vol. 15, EGU2013-4715-1, 2013
EGU General Assembly 2013

Effects of the Chernobyl and Fukushima nuclear accidents on atmospheric electricity parameters recorded at Polish observation stations

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We analyse the atmospheric electricity parameters, measured at Polish geophysical stations in Swider, Poland, and Hornsund, Spitsbergen, in connection with the radioactive incident in Fukushima, Japan, beginning on 11 March 2011, following the 9.0 earthquake and tsunami. We compare our results with the situation during and after the Chernobyl disaster on April 26, 1986, when the radioactive fallout detected at Swider increased in the last week of April 1986, from 4.111 to 238.7 Bq/m^2 and up to 967.0 Bq/m^2 in the second week of May 1986 - what was more than 235 times greater than the values measured prior to that accident. Besides the electric field especially the electric conductivity is very sensitive to the radioactive contamination of the air. Thus we postulate that these two measurements should be run at geophysical stations over the world and used as a relatively simple and low-cost tool for continuous monitoring of possible hazard caused by nuclear power plant accidents.