



## **Atmospheric electricity by the radioactive aerosol after the Fukushima nuclear accident: an overview**

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The vertical (downward) component of the DC atmospheric electric field, or potential gradient (PG) at Kakioka, that is located 150 km southwest of the Fukushima Dai-ichi Nuclear Power Plant (FNPP1), was highly affected by the radionuclides from the FNPP1 accident. We summarize the observed effects both under clear sky and under electrified clouds. The effect by floating radionuclide (including re-suspension) continued first 40-50 days for both weather conditions, while the effect by the settled radionuclide continued a longer period. The unique features on this event that have not been detected in previous accidents/experiments are: (a) PG value recovered shortly after the initial deposition, indicating a dry deposition and blow up; (b) daily variation after the wet deposition, indicating re-suspension, and (c) short time scale for PG peaks that are relevant to cloud electricity, indicating electrostatic shielding effect by extra ions.