



On the Radon-related mechanism of the seismo- and volcanogenic geomagnetic anomalies. Experiment and model.

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Statistical study of the noise-like geomagnetic anomalies observed in Tlmacas station (volcano Popocatepel, Mexico), possibly linked to the ionization produced by intensive Radon release, are presented as an experimental part of the study.

The magnetic field perturbations produced by charge spreading currents within the fair weather electric field are considered in the theoretical model. The electric charges are generated by the air ionization due to Radon emanation. The simulations demonstrated that the ionization of the air leads to the magnetic field perturbations of about 0.001 - 0.1 nT in ULF range 10⁻³ - 10⁻¹ Hz. When the Radon emanation occurs in a region with terrain irregularities, magnetic field perturbations can be higher.