ATMOSPHERIC ELECTRICITY INVESTIGATIONS AT IRF, KIRUNA, SWEDEN

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A study of atmospheric electricity is closely related to study of solar influence on the lower atmosphere and climate, and to climate change issues. Some scientists consider it to be a missed link between solar variability and climate or a natural indicator of climate change.
At IRF there are instruments for air-earth current (AEC) and atmospheric electric field measurements. Three components of the electric field are measured in-situ by balloon-borne probes, and fair-weather electric current is monitored on the ground at Esrange (68° N, 21° E) by a long-wire antenna. The latter observations have been established since August 1998.
An analysis of the electric field measurements during 14 balloon flights from August 1998 to December 2000 is underway. Some results related to AEC (e.g. the effect of geomagnetic substorm, diurnal variation) will be presented. Future plans concerning atmospheric electricity investigations at IRF in Kiruna, Sweden will be discussed.