
JOURNAL CLUB

Thirty Years of Polar Cap Aeronomy From Svalbard

by

Charles Deehr

Professor Emeritus, Physics Dept., GI

ABSTRACT

Observatories on the Svalbard Archipelago are afforded a unique view of the aurora and the high latitude upper atmosphere. During the day, in particular, the magnetospheric geometry is less complex and extensive than that of the nightside, allowing a more satisfactory interpretation of the relationship between the magnetosphere and its ionospheric signatures. We have evidence, for example, that discrete auroral arcs are generated both on field lines that are open to the solar wind or of the closed dipolar type. The signatures of energy flux to the upper atmosphere from below have also been of interest. A twenty year sequence of the wildly varying winter mesopause temperatures is surprisingly constant, on average. Even more surprising is that the variations appear to be distantly generated. This exposition is not intended as a tedious review, but as a non-ruminative survey of events leading up to and including some significant contemporary questions. For those who are of a more rigorous scientific bent, actual data will be presented, including, but of course not restricted to, active infragigaHertz electromagnetic probes.

Friday, November 15
Elvey Bldg. Globe Room
3:45 pm