Geophysical Research Abstracts, Vol. 9, 05637, 2007
SRef-ID: 1607-7962/gra/EGU2007-A-05637

Polar patches

John MacDougall (1), P. T. Jayachandran (2)

(1) Dept. Physics, Univ. Western Ontario, London, Ont. Canada, (2) Dept. Physics, Univ. New Brunswick, Fredericton, N. B., Canada

In our recent paper on Polar Patches [MacDougall and Jayachandran, Polar Patches. J. Geophys. Res., in press] we gave indirect evidence that Polar Patches are the additive result of several processes: sunlight ion production, cusp precipitation, precipitation during return convection in the dawn sector, and other less common processes such as flow channels. This paper inferred that precipitation during return convection in the dawn sector appeared to be the major process. This inference was based on published statistical precipitation patterns. In this follow-on study we look at actual measurements of precipitation in the dawn side return convection region and relate these to measured Polar Patches. From these measurements of precipitation we attempt to quantify the relative importance of the various processes that contribute to Polar Patches.