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Current closure and generator regions as observed by Cluster in the plasma sheet

M. Hamrin (1), G. Stenberg (1,2), O. Marghitu (3, 4), S. Buchert (2), A. Fazakerley (5)

(1) Physics Department, Umeå University, Umeå, Sweden, (2) Swedish Institute of Space Physics, Uppsala, Sweden, (3) Institute for Space Sciences, Bucharest, Romania, (4) Max-Planck-Institut fur extraterrestrische Physik, Garching, Germany, (5) MSSL, University College, London, UK

Recent observations suggest that concentrated generator regions (CGR) powering the aurora exist within the plasma sheet. We investigate the small scale structure of a CGR observed by the Cluster satellites. During our event Cluster is in the southern hemisphere close to apogee where it probes the plasma sheet and lobe at an altitude of about 18 Earth radii. To investigate the current closure through the generator, we study the current signatures associated with the CGR. At the edges of the CGR we observe field-aligned currents which are expected to connect to more distant loads.