COLD DENSE PLASMA SHEET ENTRY IN THE INNER MAGNETOSPHERE FOLLOWING DUAL LOBE RECONNECTION

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We study the evolution of the cold dense plasma circulation following dual lobe reconnection evidenced by SuperDARN and IMAGE FUV observations on 2 and 3 December 2001. We apply the dynamic MODEM to the LANL data, in order to reconstruct the global equatorial proton distribution in the inner magnetosphere. Moreover, we use the single-particle code to compute the trajectories of equatorially trapped protons in the quiet configuration of the T89 magnetic field model and in a dynamic electric field model to show how particles fill the inner magnetosphere following the dual reconnection. The reconstructed proton flux evolution is compared with the IMAGE HENA images.

cold dense plasma sheet, inner magnetosphere, dual lobe reconnection, preconditioning

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