

Abstract Submitted
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Electron precipitation and ionospheric electric field observations following the solar flare of 20 January 2005 and during the geomagnetic storm of 21 January 2005 EDGAR BERING, University of Houston, BRANDON REDDELL, University of Houston, S. BALE, J.B. BLAKE, A.B. COLLIER, R.H. HOLZWORTH, A.R. HUGHES, M. KOKOROWSKI, E. LAY, R.P. LIN, M.P. MCCARTHY, R.M. MILLAN, H. MORAAL, T.P. O'BRIEN, G.K. PARKS, M. PULUPA, J.G. SAMPLE, D.M. SMITH, P. STOKER, L. WOODGER — The MINIS balloon campaign was successfully conducted in January 2005 to investigate relativistic electron loss mechanisms. An X 7.1 solar flare occurred at 0636 UT on 20 January 2005. A CME from this flare arrived at the Earth 34 hours later. An SSC began at ~ 1650 UT followed by a geomagnetic storm with a Dst perturbation of ~ -100 nT. The AE index shows that the 20 January flare was followed first by 6 hours of deep quiet and then 28 hours of moderate activity. The balloon data contain evidence for two interesting geoelectric responses to the flare. The arrival of the CME initiated an interval of very strong relativistic electron precipitation. The second and third Southern payloads and the first Northern payload made observations in both hemispheres of several extensive relativistic electron precipitation events that occurred from 1700 to 2000 UT on 21 January 2005. Each x-ray burst was preceded by a strong pulse of ionospheric convection.

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