THE IMPACT OF A RELATIVISTIC ELECTRON PRECIPITATION EVENT ON THE STRATOSPHERE

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The flux and spectra of a relativistic electron precipitation (REP) event observed in the GOMOS NO2 data during February 2004 is investigated using the Sodankylä Ion and Neutral Chemistry model. We put the solar wind and magnetospheric conditions that lead up to the precipitation event into the context of other precipitation events that have been observed during the latter half of solar cycle 23. We also compare the atmospheric impact of the REP event with that of the descent of thermospheric NOX in January 2004. Ultimately the combined NOX descent caused spring-time ozone destruction in the stratophere. How the NOX was generated, and in what proportions, will be summarised.

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