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Stratospheric hydrogen peroxide (H_2O_2) retrievals from MIPAS/ENVISAT for the episode of the October/November 2003 solar proton event

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In October/November 2003 one of the strongest Solar Proton Events (SPE) of the last four decades occured. During SPEs, precipitation of energetic protons into the polar atmosphere produces ions in the middle atmosphere which form, partly via ion-cluster-reactions, odd hydrogen (HO_x) and odd nitrogen (NO_x). Increased levels of HO_x and NO_x, in turn, depletes the ozone in the polar stratosphere and mesosphere. We present first results of our retrievals of H_2O_2 from MIPAS spectral data covering the solar proton event in Oct/Nov 2003. We use H_2O_2 to estimate the HO_x concentration after the SPE and compare our results with model simulations.