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High troposphere O_3 filament at mid-latitude: a BORTAS campaign case study

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During a flight (B625, 24 July 2011) of the BORTAS campaign (BOReal forest fires on Tropospheric oxidants over the Atlantic using Aircraft and Satellites, Nova Scotia, Canada, July-August 2011), an increase in the ozone (O_3) concentrations has been observed at high altitude (about 7.5 Km a.s.l.) correlated with a significant growth of total peroxy nitrates ($\sum$PNs), CO, NO_2, NO_y, black carbon (BC), isoprene and other species. We will illustrate the data analysis, the Hysplit back trajectories calculation and the analysis of the meteorological/physical conditions occurred during this case study in order to demonstrate that the O_3 filament measured at high altitude over the Atlantic Ocean (between Nova Scotia and the Gulf of St. Lawrence) is a consequence of boreal biomass burning fires.