



Airborne observations of total alkyl nitrates during BORTAS campaign: analysis of the impact of forest fire emission on the Ox budget

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During BORTAS campaign (Canada, summer 2011), observations of total alkyl nitrates ($\sum\text{ANs}$, $\sum\text{RONO}_2$) on board the British FAAM BAe 146 research aircraft were carried out using a Thermal Dissociation Laser Induce Fluorescence (TD-LIF) system. $\sum\text{ANs}$ are produced by a minor branch of the reactions (RO_2+NO) that produces O_3 , therefore $\sum\text{ANs}$ are a good proxy to identify the impact of forest fire emissions on the O_3 production. Analysis of simultaneous observations of $\sum\text{ANs}$, CO , O_3 and NO_2 show flights where $\sum\text{ANs}$ formation suppresses peak ozone production at the rate of less than 15 Ox production for each $\sum\text{AN}$. Other flights, where CO and CH_4 are the feedstock for Ox formation, more than 100 Ox per $\sum\text{AN}$ produced are observed.