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| Title: | Modelling atmospheric OH-reactivity in a boreal forest ecosystem, |
| Authors: | Sinha, V. (/jspui/browse?type=author&value=Sinha%2C+V.) |
| Issue Date: | 2011 |
| Citation: | Atmos. Chem. Phys., 11, pp.,9709-9719 |
| Abstract: | We have modelled the total atmospheric OH- reactivity in a boreal forest and investigated the individual contributions from gas phase inorganic species, isoprene, monoterpenes, and methane along with other important VOCs. Daily and seasonal variation in OH-reactivity for the year 2008 was examined as well as the vertical OH- reactivity profile. We have used SOSA; a one dimensional vertical chemistry-transport model (Boy et al., 2011a) together with measurements from Hyytiälä, SMEAR II station, at Southern Finland, conducted in August 2008. Model simulations only account for ~30–50 % of the total measured OH sink, and in our opinion, the reason for missing OH- reactivity is due to unmeasured unknown BVOCs, and limitations in our knowledge of atmospheric chemistry including uncertainties in rate constants. Furthermore, we found that the OH-reactivity correlates with both organic and inorganic compounds and increases during summer. The summertime canopy level OH-reactivity peaks during night and the vertical OH-reactivity decreases with height. |
| Description: | Only IISERM authors are available in the record. |
| URI: | http://www.atmos-chem-phys.net/11/9709/2011/acp-11-9709-2011.html (http://www.atmos-chem-phys.net/11/9709/2011/acp-11-9709-2011.html) |
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