



Peroxy radical measurements at Halley, Antarctica during CHABLIS

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Measurements of peroxy radicals (HO_2 and ΣRO_2) were made using the PERCA method during the 2005 Summertime CHABLIS campaign at the Clean Air Sector Laboratory, Halley, Antarctica. Peroxy radicals are short-lived radicals that act as intermediates in ozone formation and destruction and are strongly influenced by changes in solar radiation and levels of VOCs and NO_x . Despite the 24 hours of daylight during January, $j(\text{O}^1\text{D})$ showed a distinct diurnal variation that influenced the peroxy radical diurnal profile, leading to higher radical levels at midday than during the night. From a comparison with HO_2 measurements from the FAGE instrument, the $\text{HO}_2/\text{HO}_2+\text{RO}_2$ ratios were nearly always less than 0.5, implying that there were significant organic peroxy radicals in this clean atmosphere. Peroxy radical levels were seen to rise as the temperature drops to below -10°C and their diurnal cycles were clearly influenced from day to day, depending on VOC and NO_x levels.