



NO₃ and N₂O₅ measurements via Cavity Ring Down Spectroscopy (CRDS) and Differential Optical Absorption Spectroscopy (DOAS) during DOMINO 2008

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The nitrate radical NO₃ and N₂O₅ play an important role in a number of atmospheric chemical processes at night-time, including conversion of NO_x to nitrate and the oxidation of VOC and DMS. During the DOMINO campaign 2008 in southern Spain, NO₃ and N₂O₅ were measured at ground level by CRDS. Long path DOAS was employed to measure NO₃, NO₂ and O₃ at three different heights. During most nights a strong vertical gradient in the NO₃ mixing ratio was observed, with the CRDS and DOAS data sets in reasonable agreement at ground level. Steady state turnover lifetimes of NO₃ were calculated as a function of average height above the ground.