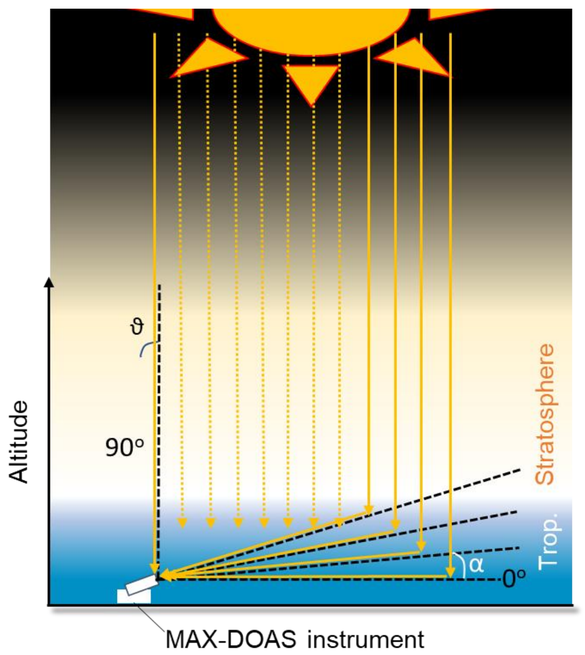
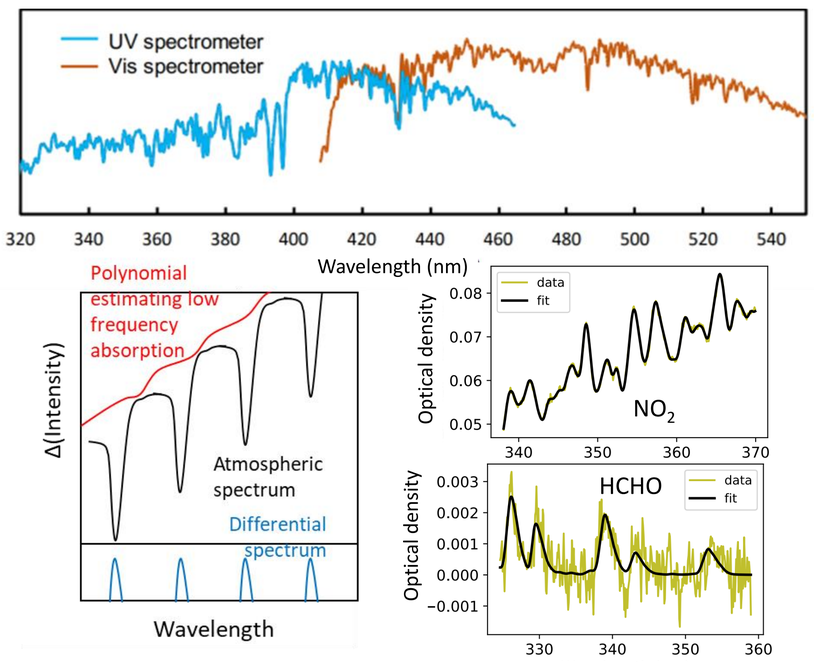
First vertical profile retrievals of NO_2, HCHO and aerosols in Central London

Robert G. Ryan[1], Eloise A. Marais[1], Jan-Peter Muller[2], Neil Humpage[3], Hartmut Boesch[3,4], Robbie Ramsay[5], Jan-Lukas Tirpitz[6], Udo Friess[7]

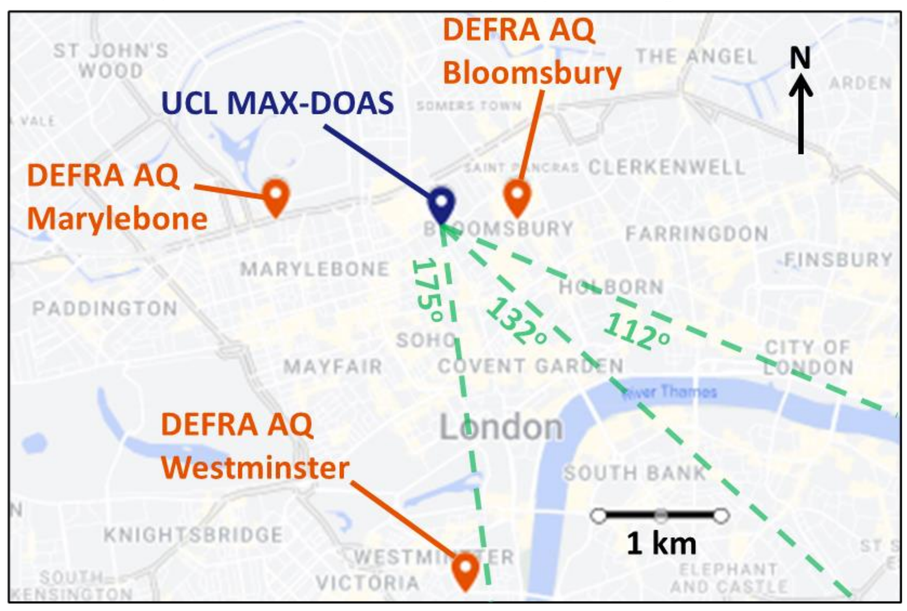
The MAX-DOAS (Multi-Axis Differential Optical Absorption Spectroscopy) technique





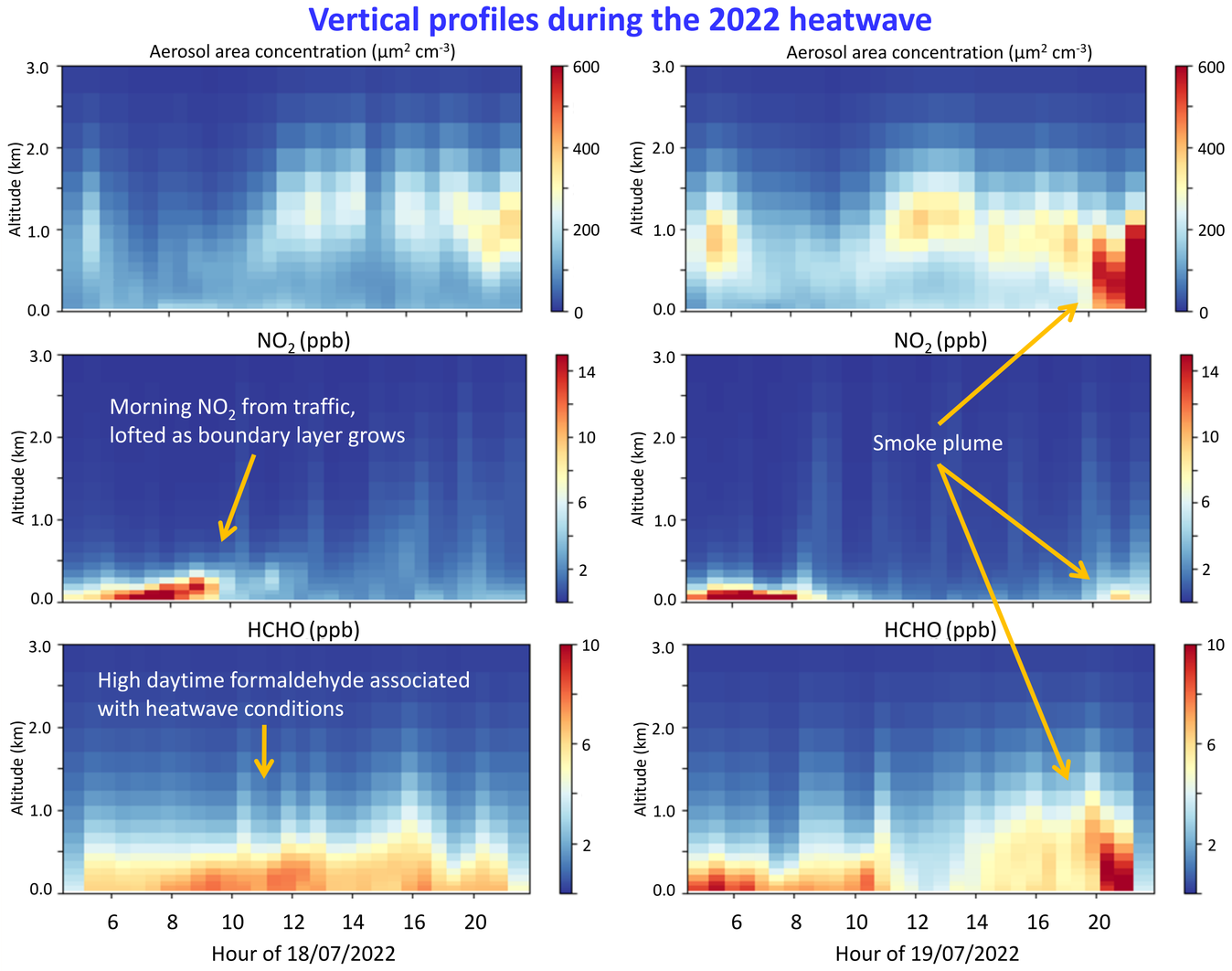
MAX-DOAS Location in Central London

The instrument views three optimized azimuth angles (green) over the city from 60 m altitude, with three DEFRA surface air quality monitoring sites nearby.

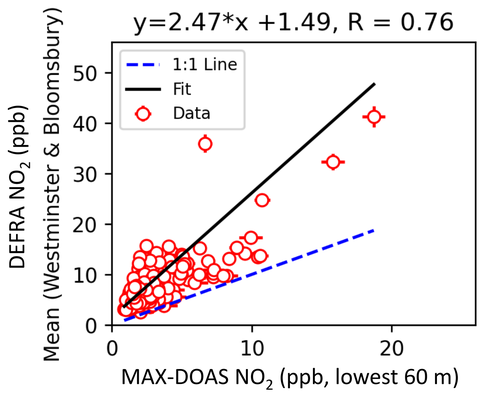


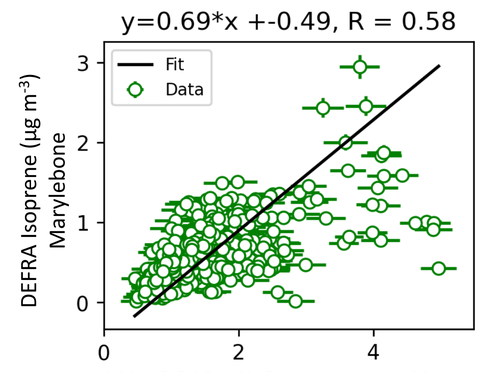
Vertical profiles of aerosol area concentration, NO_2 and formaldehyde (HCHO) mixing ratio indicate development of air pollution plumes during the of 18 and 19 July, including a smoke plume in the evening of 19 July.

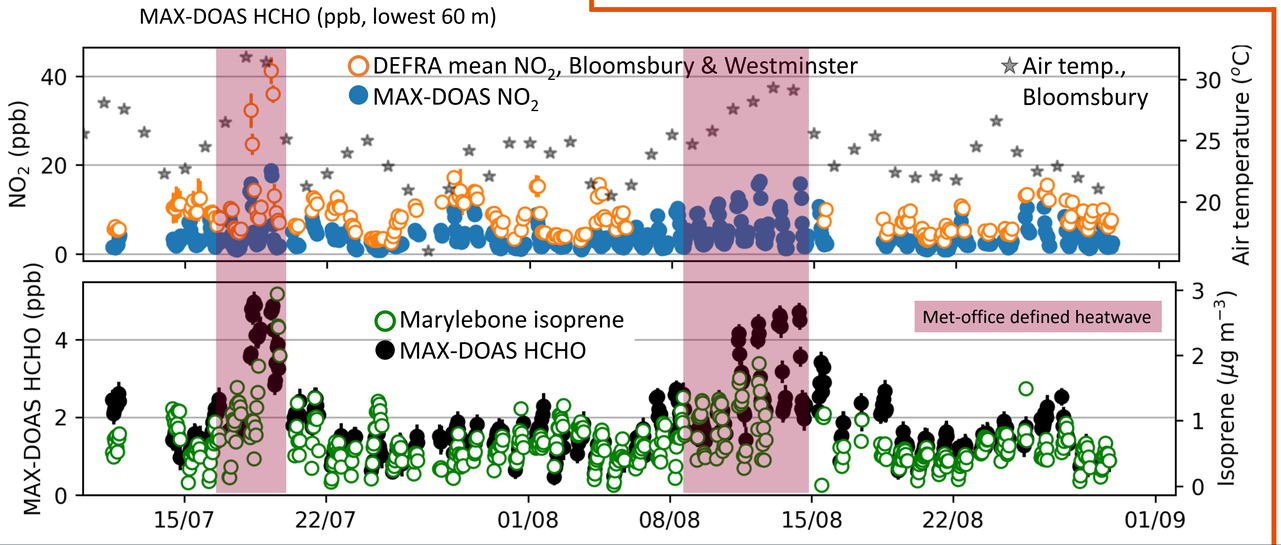
Vertical profiles during the 2022 heatwave



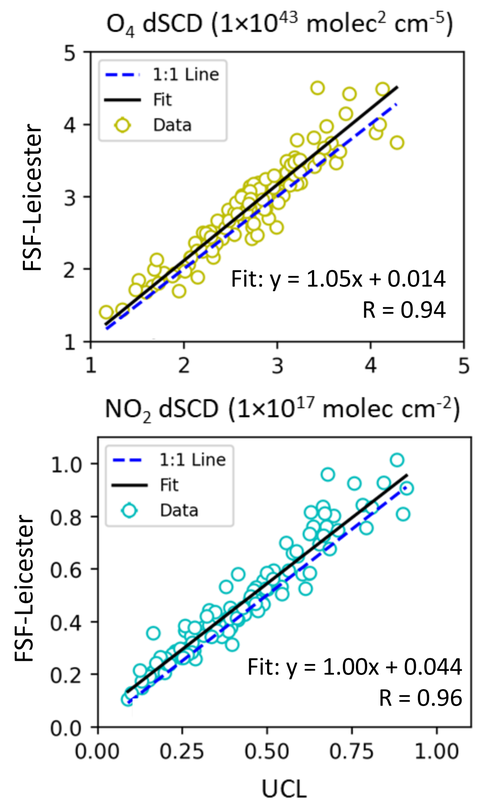
Comparison to surface air quality measurements





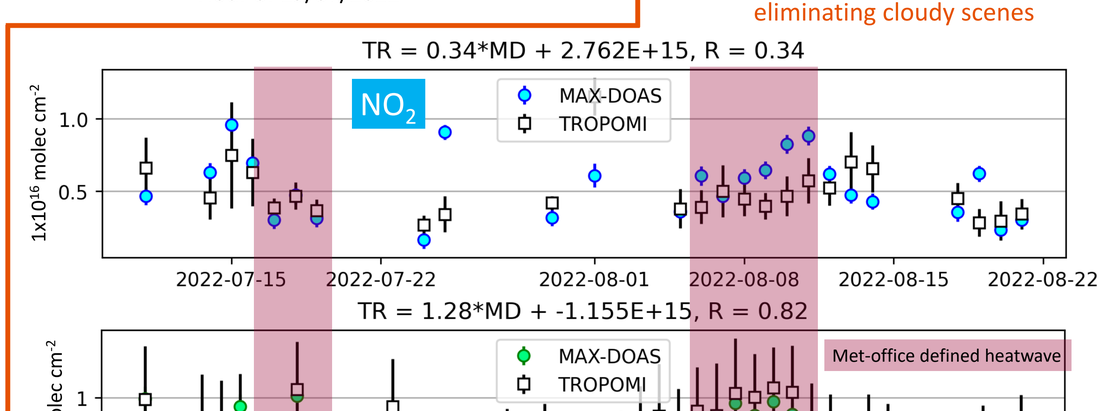


Inter-instrument comparison



Comparison of TROPOMI and MAX-DOAS

TROPOMI pixels sampled within 20 km of the MAX-DOAS and with QA > 0.75, eliminating cloudy scenes



[1]Department of Geography, University College London, London, UK; [2]Mullard Space Science Laboratory, Department of Space and Climate Physics, University College London, Holmbury St Mary, UK; [3]School of Physics & Astronomy, University of Leicester, Leicester, UK; [4]National Centre for Earth Observation, University of Leicester, Leicester, UK; [5]NERC Field Spectroscopy Facility, Edinburgh, UK; [6]AirYX GmbH, Eppelheim, Germany; [7]Institute of Environmental Physics, Heidelberg, Germany

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