



## **Tropospheric trace gas and aerosol profiles derived from MAX-DOAS measurements during the AQABA campaign in late summer 2017**

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During the Air Quality and Climate Change in the Arabian Basin (AQABA) campaign a MAX-DOAS instrument was set up on board of the research vessel Kommandor Iona. The ship route covered a variety of different atmospheric compositions: Clean air in the Mediterranean and the Arabian Sea, anthropogenic air pollution near the oil fields in the Arabian Gulf or in areas of dense ship traffic like the Suez Channel or the dust clouds of the nearby deserts in the Red sea. The measured spectra in the UV/VIS spectral range (302 to 467nm) provide information for the retrieval of aerosol and trace gas profiles. In this study, we present a detailed analysis of aerosol extinction, nitrogen dioxide (NO<sub>2</sub>), sulphur dioxide (SO<sub>2</sub>), nitrous acid (HONO) and formaldehyde (HCHO) using the MAInz Profile Algorithm (MAPA). In addition, evidences of direct nitrous acid emission sources in harbor areas around Jeddah and Kuwait are shown.