



## **Intercomparison of Two Hydroxyl Radical Measurement Techniques at the Atmosphere Simulation Chamber SAPHIR**

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The atmosphere simulation chamber SAPHIR in Jülich is a suitable platform for the quality assurance of measurements of different instruments. Laser-Induced Fluorescence Spectroscopy (LIF) and Long-Path Differential Optical Laser Absorption Spectroscopy (DOAS) are installed at SAPHIR for the detection of OH radicals at tropospheric levels. The two different spectroscopic techniques were compared within the controlled environment of SAPHIR based on all simultaneous measurements acquired in 2003 (13 days). During four of these days hydroxyl radicals were scavenged by added CO in order to experimentally check the calculated precisions. LIF measurements have a higher precision and better time resolution, but the DOAS method is regarded as primary standard for comparisons because of its good accuracy. A correlation coefficient of  $r = 0.95$  was found for the whole data set of 908 measurements. However, in the regression analysis we found two groups: One includes three days when the LIF yielded higher OH concentrations than observed by the DOAS instrument. The other group includes six days with unity slope and insignificant offset.