



## **HO<sub>x</sub> in the Free Troposphere over West Africa**

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As the primary oxidant in the troposphere, the hydroxyl (OH) radical dominates the processing of anthropogenic and biogenic pollution: ~ 80% of global methane is removed in tropical regions, predominantly by OH oxidation. However, measurements of OH in the tropical boundary layer and free troposphere are sparse. The interconversion between OH and hydroperoxy radicals (HO<sub>2</sub>) is fast and ideally both species should be considered together.

During the AMMA project in 2006, the first observations of OH and HO<sub>2</sub> in West Africa were made aboard the UK FAAM BAe-146 aircraft using an airborne Fluorescence Assay by Gas Expansion (FAGE) instrument. The distribution of OH over West Africa is discussed in terms of its spatial and temporal variation, with emphasis given to the differences in concentrations observed in monsoonal, Saharan and anthropogenic air.

Other observations made during the same project are used to constrain a zero-dimensional box model (MCM v3.1). The FAGE HO<sub>x</sub> observations are compared with this constrained box model to investigate the mechanisms controlling the HO<sub>x</sub> concentrations.