



## **MAX-DOAS observation of HCHO and CHOCHO over Athens and Nairobi**

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Formaldehyde (HCHO) is the most abundant among the carbonyls, while glyoxal (CHOCHO) is the most predominant of the alpha dicarbonyls in the atmosphere. Both species originate from a wide range of natural and anthropogenic sources. In addition, HCHO and CHOCHO are being emitted during biomass burning and the emitted amounts depending on the type of biomass burned as well as the temperatures of the fire. Due to their short lifetime, CHOCHO and HCHO are used as indicators of photochemical activity and intermediate products of the process of degradation of VOCs. While sources and chemistry of CHOCHO and HCHO are similar in many respects, the variation in production efficiency for different sources can be used to better constrain source attribution of VOCs e.g. by analysing the ratio of HCHO to CHOCHO.

Atmospheric HCHO and CHOCHO columns can be determined by remote sensing using the Differential Optical Absorption Spectroscopy (DOAS) method. The DOAS method allows the determination of atmospheric amounts of trace gases with narrow absorption bands in the ultraviolet and visible.

In this study we report the first HCHO and CHOCHO results from the MAX-DOAS stations in Athens (38N, 24E) and Nairobi (1S, 36E) which are part of the Bremenian DOAS Network for Atmospheric Measurements (BREDOM). The results show higher values of CHOCHO and HCHO in summer than in the winter season. Moreover, analyses of the ratio of HCHO to CHOCHO are presented as well as preliminary comparison of CHOCHO columns with satellite data from GOME-2 and OMI.