

Aerosol optical depth retrieval with MODIS data and comparison with Microtops II sunphotometer network and CIMEL/AERONET during MILAGRO 2006 Campaign

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Monitoring the air quality in megacities around the world and understanding the impact of the emitted pollutants on the local and global climate is a challenge for the scientific community. The air quality monitoring system in megacities is based on ground stations networks. The satellite can be used as a complementary tool to the ground based stations providing aerosol properties with a finer spatial resolution in a systematic way. In this work aerosol optical depth (AOD) is retrieved from MODIS with 1.5 km spatial resolution over Mexico City, during MILAGRO Campaign in March 2006. The AOD product was validated with a 5 Microtops II sunphotometers network and with a CIMEL from Aerosol Robotic Network (AERONET). The preliminary results shows that the MODIS fine resolution AOD product presents a very good correlation coefficient ($R^2=0.8$). The AOD product was compared with fine particulate mass concentration $PM_{2.5}$ measured from the local ambient air monitoring station (RAMA). Some correlation ($R^2=0.4$) between these data was observed, that motivate to a deeply discussion on a potential use of the satellite as a complementary tool to the ground based stations especially in remote areas where the ground based network doesn't reach.