



A 2007-2015 record of global atmospheric dust seen from space

Lieven Clarisse (1), Pierre-François Coheur (1), Juliette Hadji-Lazaro (2), Cathy Clerbaux (2,1)

(1) Spectroscopie de l' Atmosphère, Chimie Quantique et Photophysique CP160/09, Université Libre de Bruxelles (ULB), Brussels, Belgium (lclariss@ulb.ac.be), (2) UPMC Univ. Paris 06; Université Versailles St-Quentin; CNRS/INSU, LATMOS-IPSL, Paris, France

Satellite sounders are ideal for measuring the highly variable global atmospheric aerosol distributions, as they provide daily global coverage. Aeolian dust can particularly well be measured by infrared satellite instruments which can differentiate dust from other aerosol and can measure both during day and night, over land and over ocean. They also have an enhanced sensitivity to coarse mode particles. We start this talk with an overview of the state of the art of satellite measurements of aerosols before moving on to measurements of the advanced hyperspectral infrared sounder IASI. We present an IASI-derived dust product, first through examples, then through global distributions and monthly and seasonal climatologies. A preliminary validation of the measurements is presented, comparing them with collocated Aeronet observations. The measurements are then used to evaluate the state of the art ECMWF-MACC model. In the final part of the talk the 8 year IASI dataset is presented and analysed using timeseries over selected regions, with a focus on seasonal and multi-year trends.