



## **Characterization of dust coarse mode aerosols in the infrared from IASI and comparison with PARASOL and AERONET observations over the tropics (sea and land).**

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Infrared Atmospheric Sounder Interferometer (IASI) observations covering the period from July 2007 to December 2012 have been interpreted in terms of monthly mean,  $1^{\circ} \times 1^{\circ}$ ,  $10 \mu\text{m}$  dust Aerosol Optical Depth (AOD), mean altitude and coarse mode effective radius. The method developed relies on the construction of Look-Up-Tables computed for a large selection of atmospheric situations and observing conditions. Originally developed for retrievals over sea, the method has been recently updated and may now be applied to observations over land and in particular over desert. For this new development, surface temperature and emissivity have to be taken into account carefully. Comparisons will be presented between IASI  $10 \mu\text{m}$  AOD and visible dust coarse mode optical depth retrieved from AERONET and PARASOL. Comparisons are done at local scale, around several AERONET tropical sites, close or far from the dust sources with a special focus on Sahara. Satisfactory agreement is found between IASI and the visible coarse mode AODs and the differences between these products are analysed. IASI-retrieved dust layer mean altitudes also compare well with CALIOP/CALIPSO aerosol altitudes and comparisons between IASI dust coarse mode effective radius and retrievals from AERONET at the sites studied lead to a satisfactory agreement apart from an almost systematic bias of about  $+0.35 \mu\text{m}$  (IASI-AERONET) not yet fully understood.