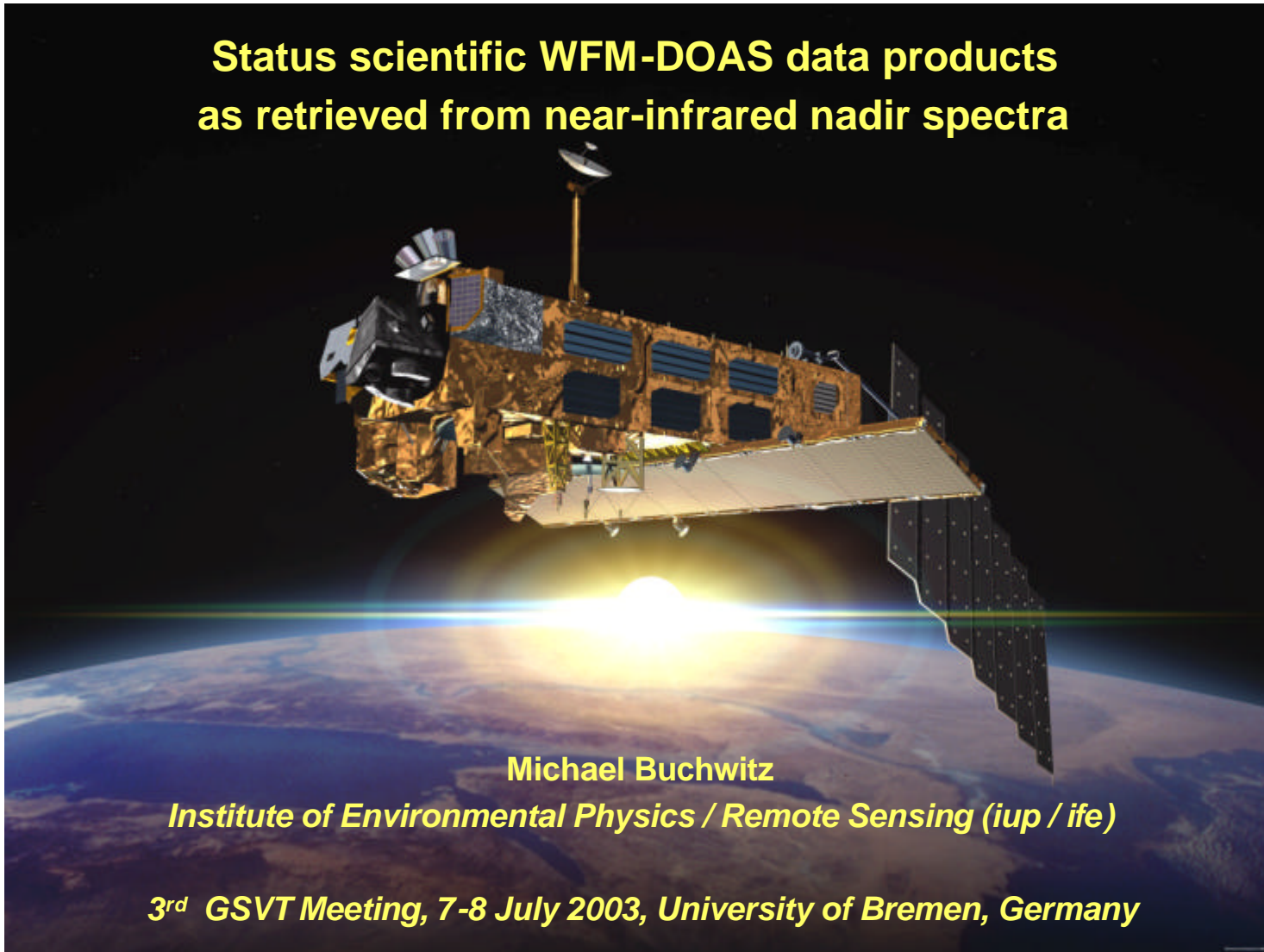


SCIAMACHY/ENVISAT

Status scientific WFM-DOAS data products
as retrieved from near-infrared nadir spectra



Michael Buchwitz

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3rd GSVT Meeting, 7-8 July 2003, University of Bremen, Germany

WFM-DOAS products from SCIA

Goal: Vertical columns of („line absorbers“)

CH₄, CO₂, CO, H₂O, O₂, and N₂O

Status: Buchwitz and Burrows [2003] (submitted for SPIE conf.):

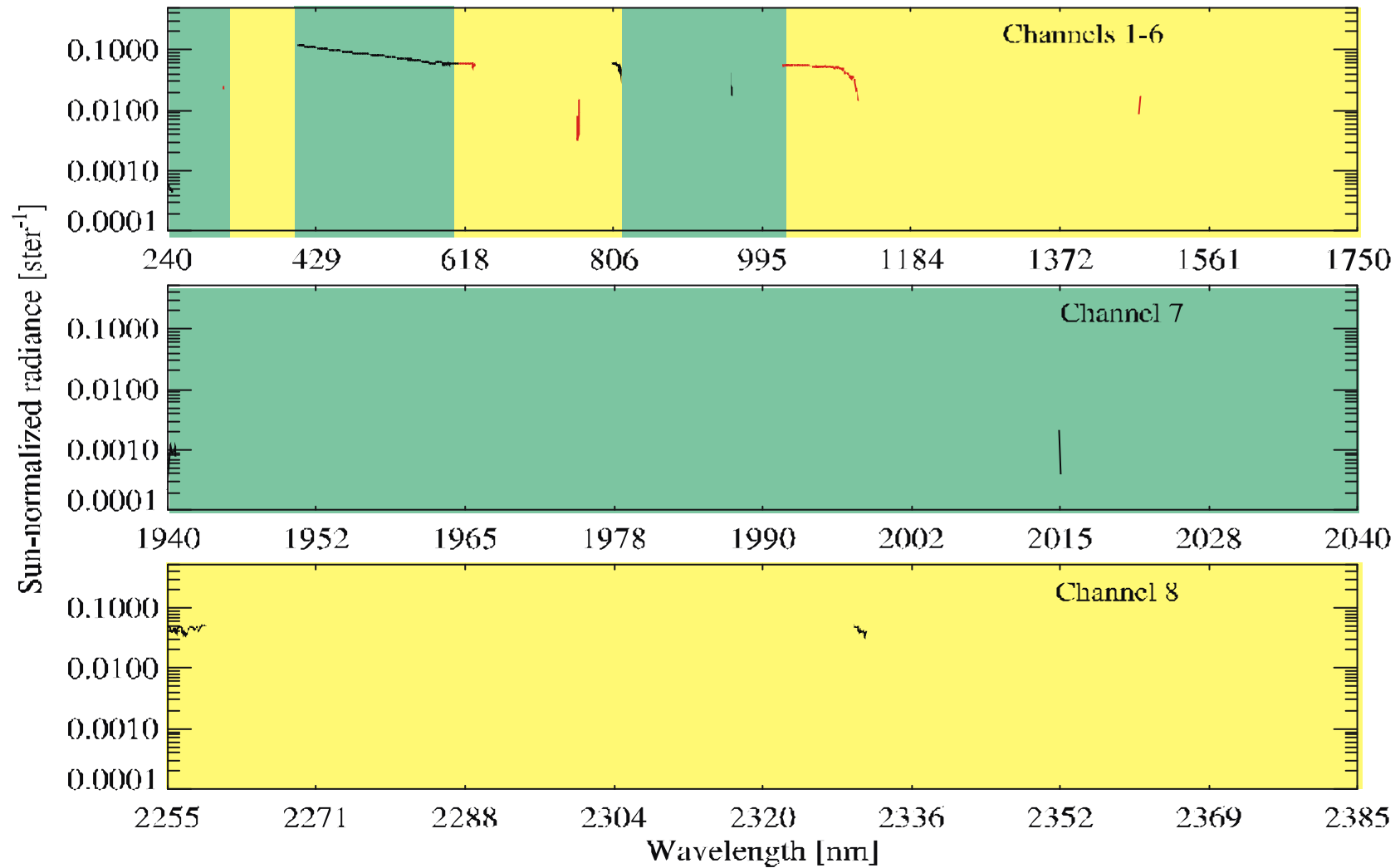
http://www.iup.physik.uni-bremen.de/sciamachy/NIR_NADIR_WFM_DOAS/

In the following some of the results will be shown (details: see Paper)

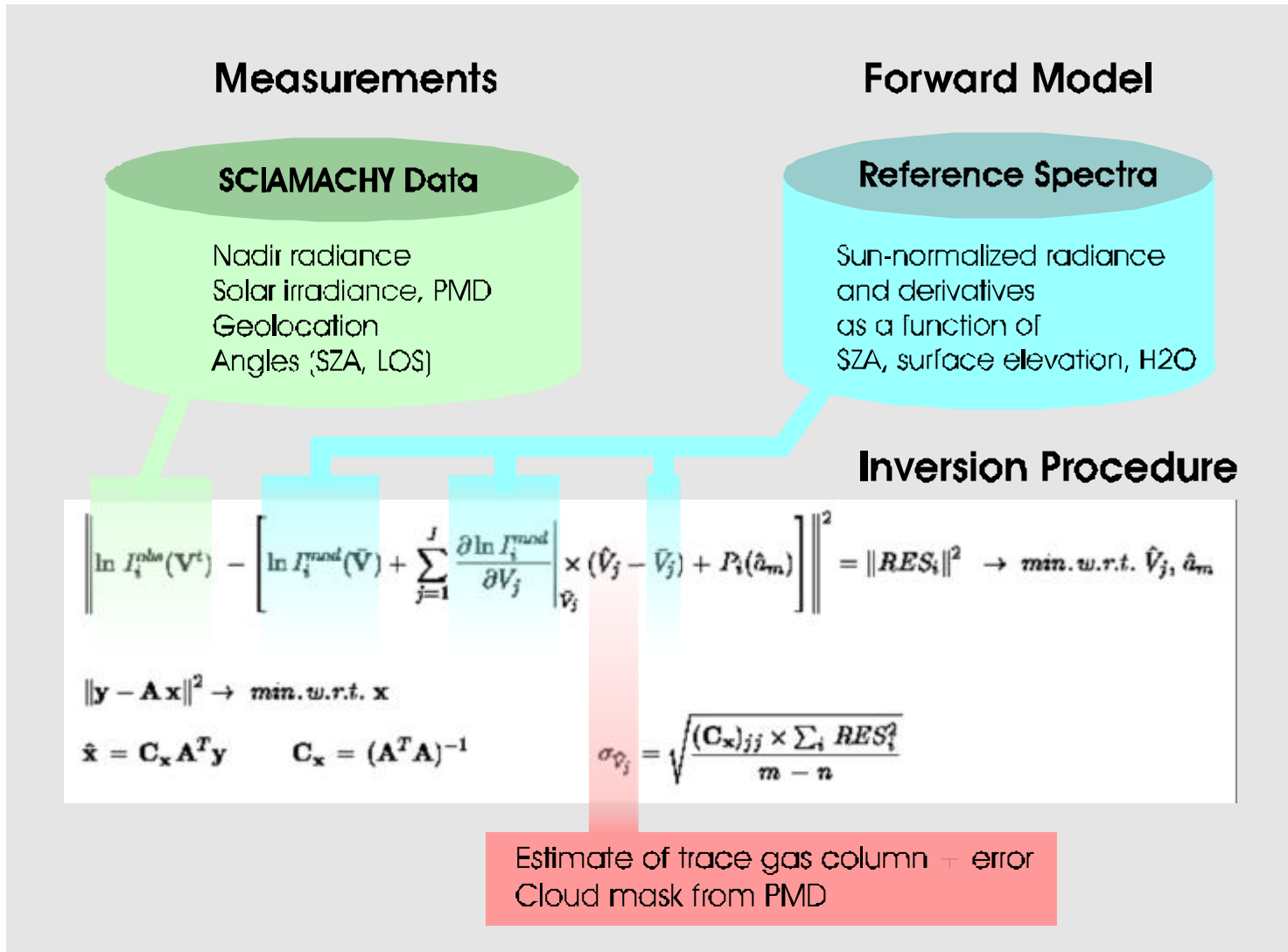
Corresponding data products: CH₄, CO₂, CO, O₂ columns and CH₄ and CO₂ to O₂ ratios („XCH₄“ and „XCO₂“):

[./EVERGREEN Products EIRO 001/](#)

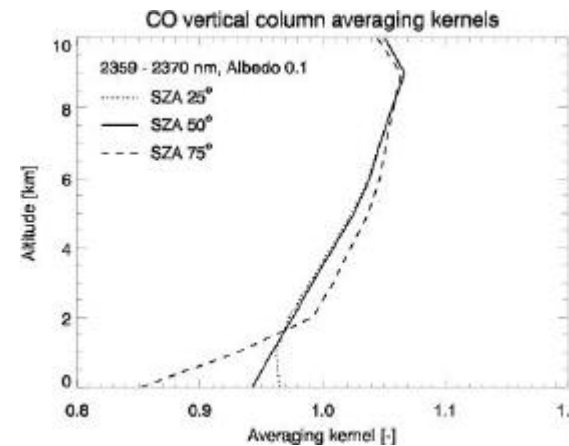
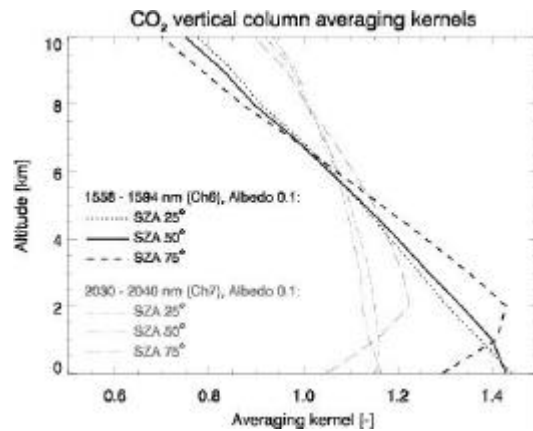
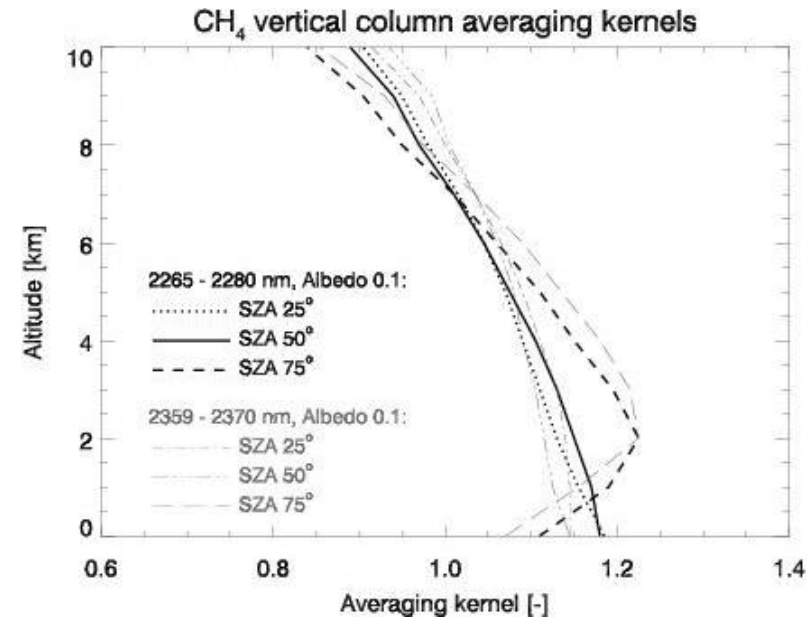
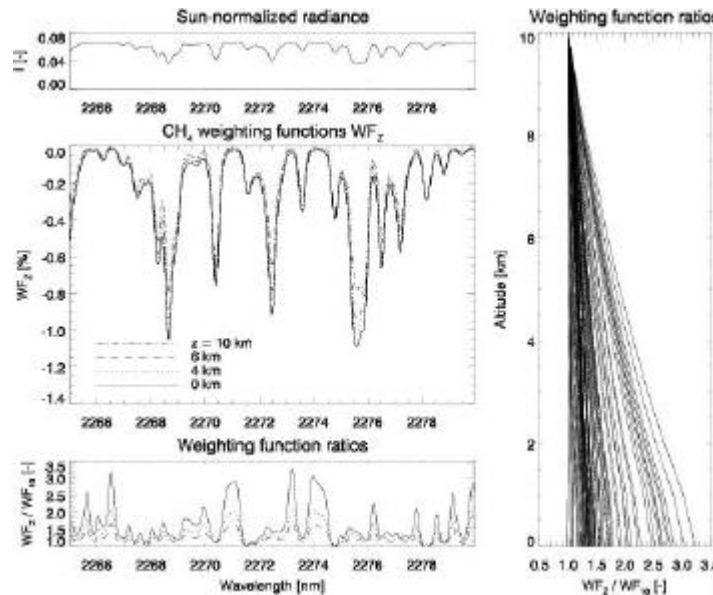
SCIAMACHY nadir spectrum



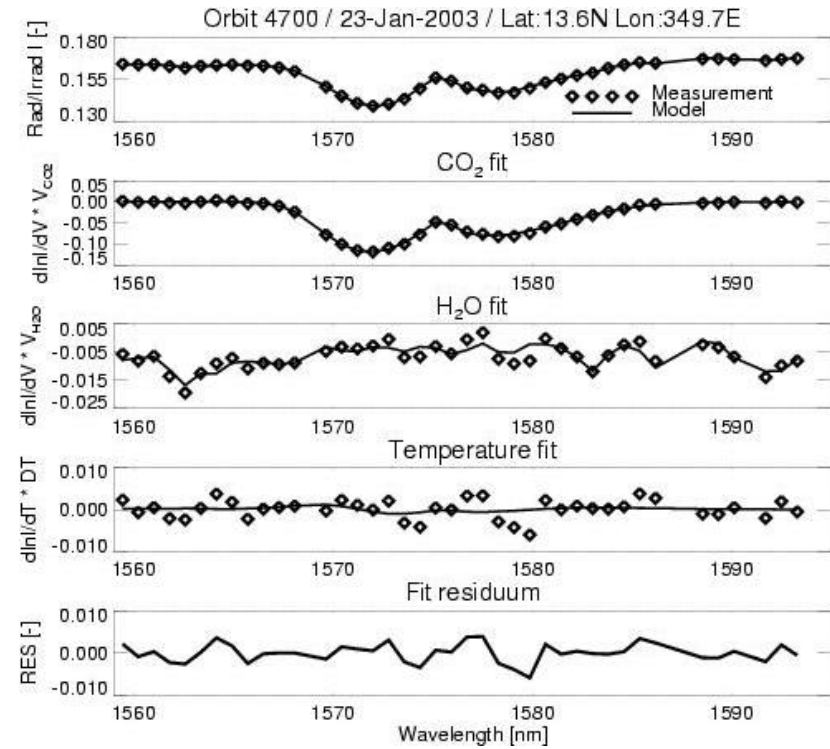
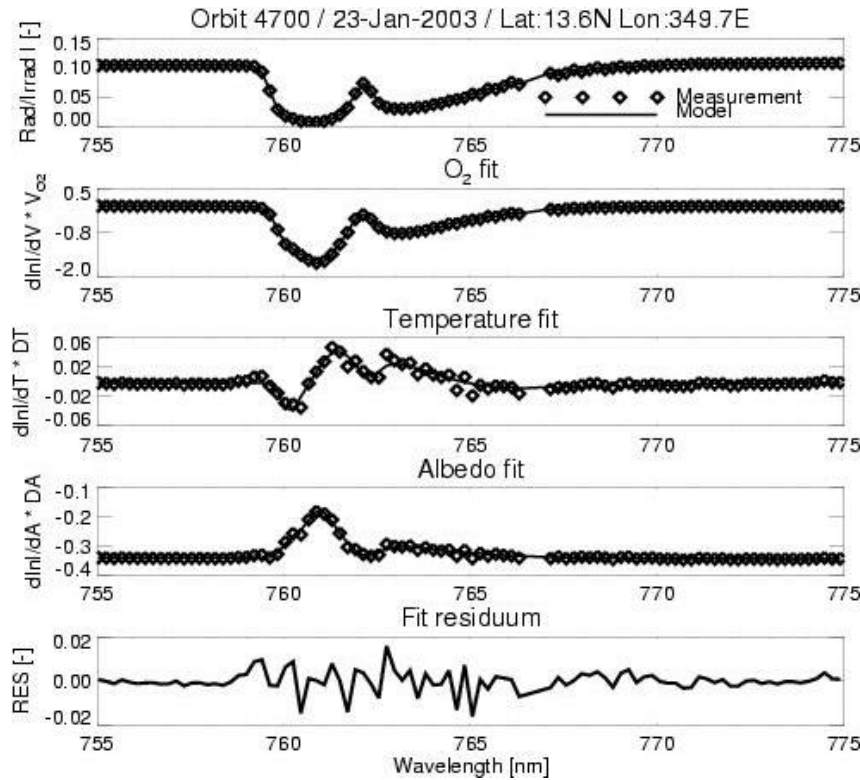
WFM-DOAS algorithm



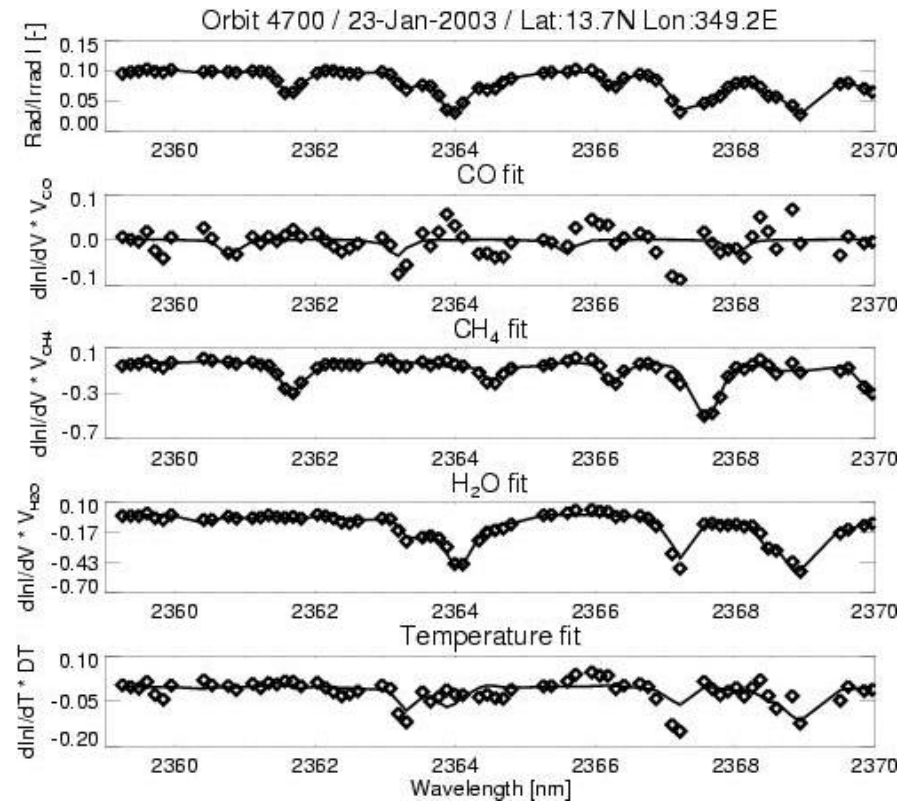
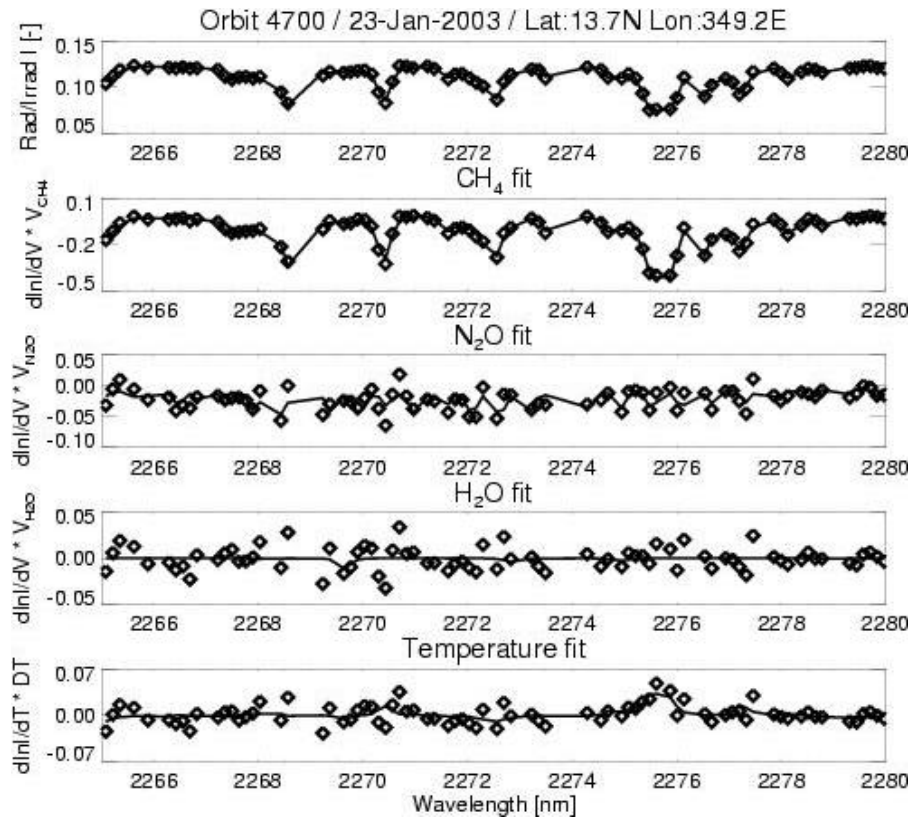
Weighting functions and averaging kernels



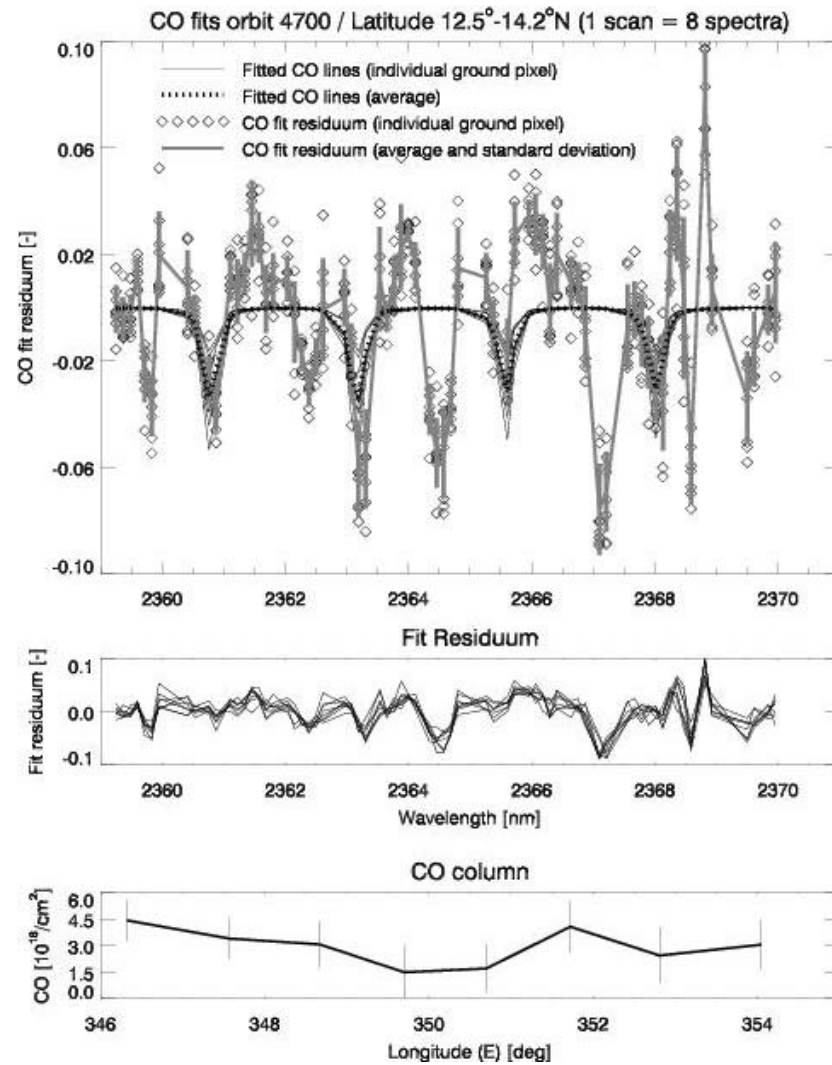
Spectral fits: O2 and CO2



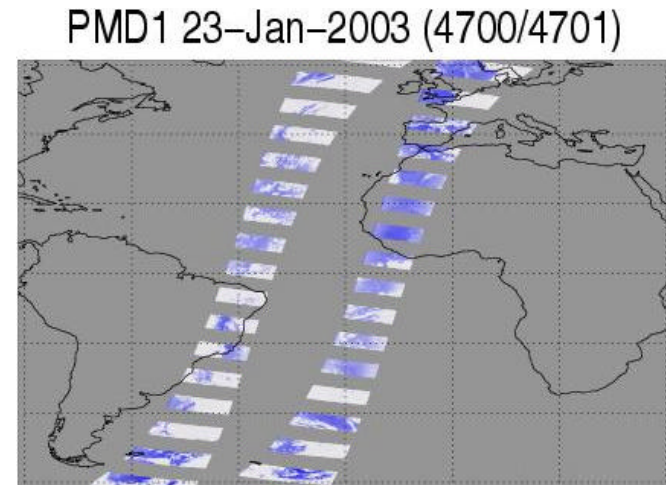
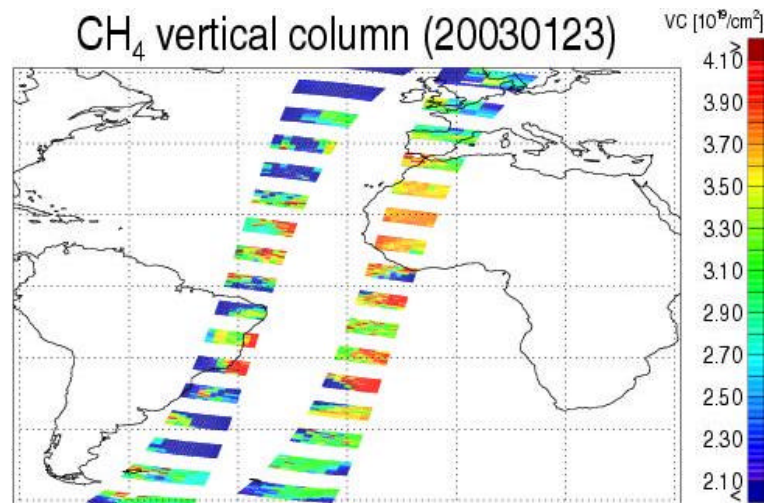
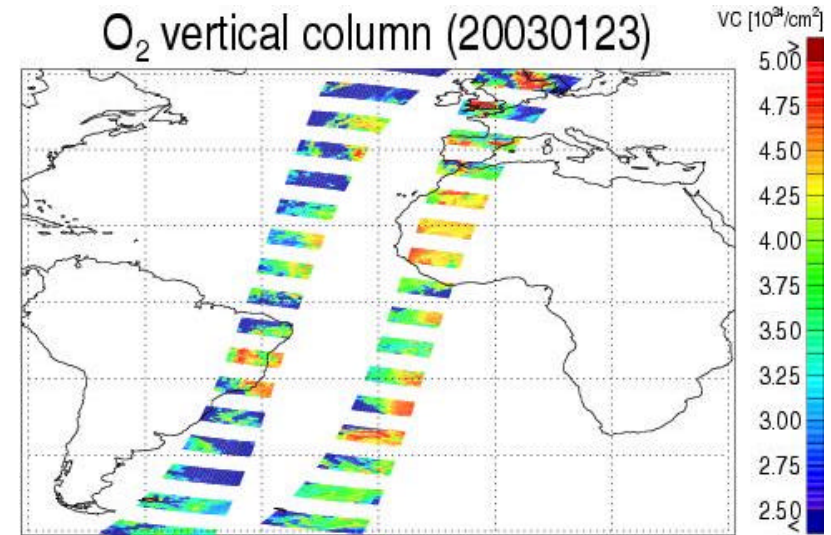
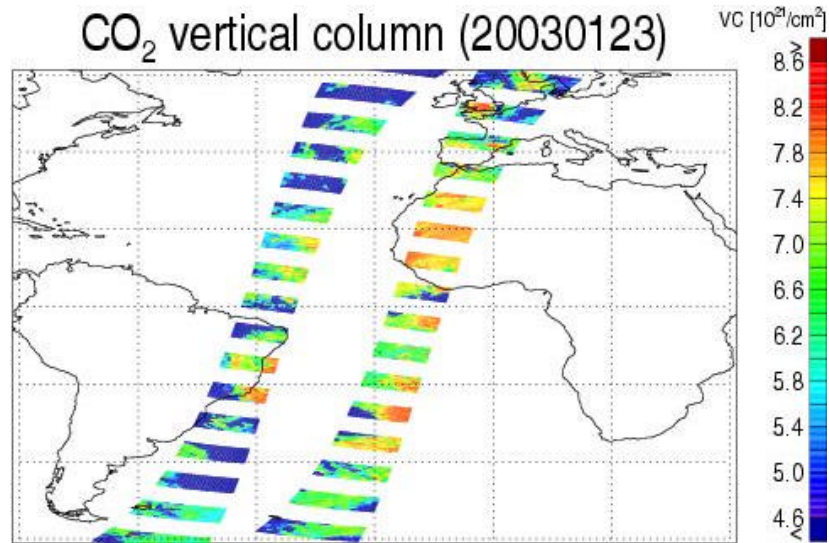
Spectral fits: CH4 and CO



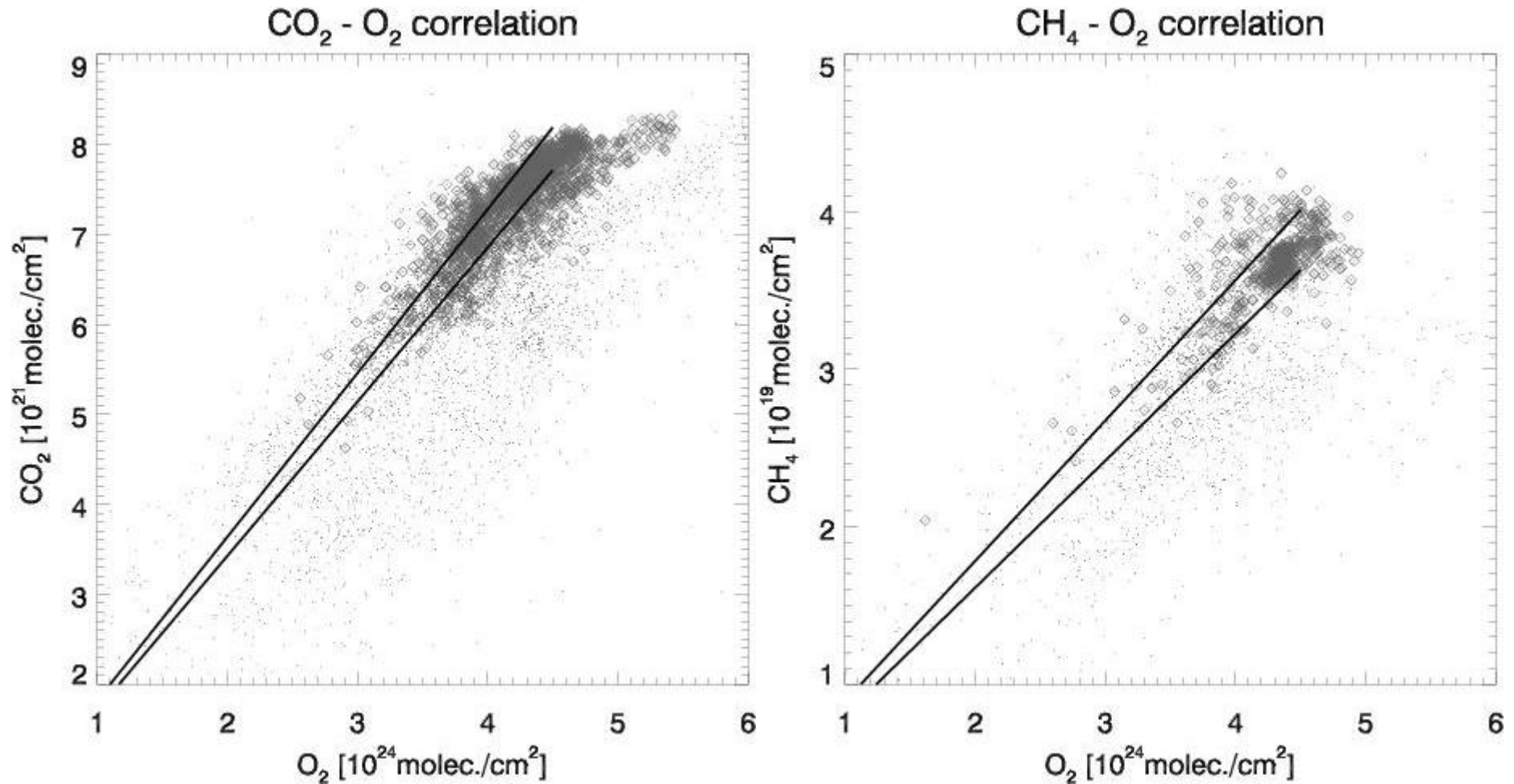
Spectral fits: CO



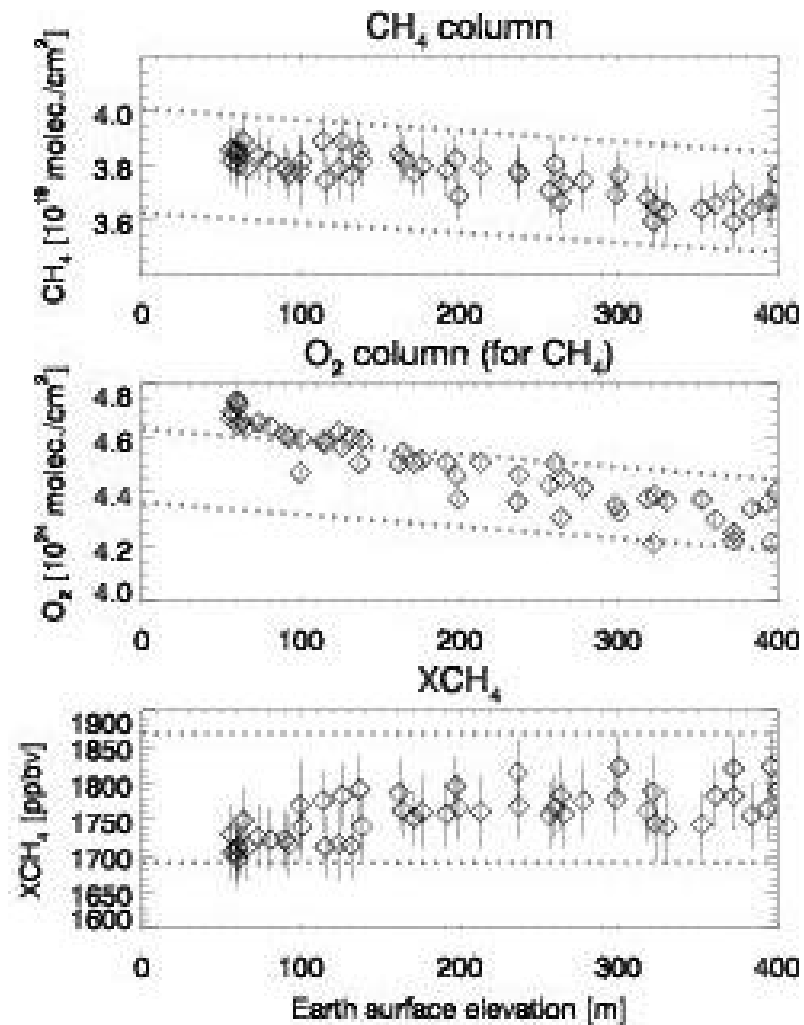
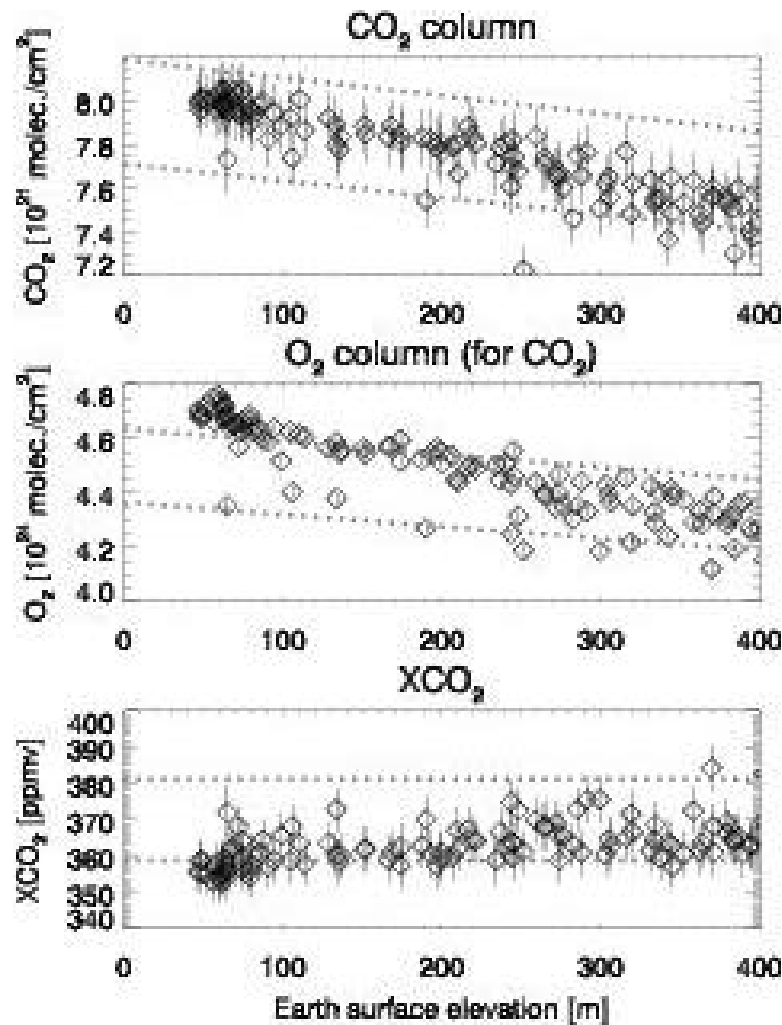
Retrieved columns



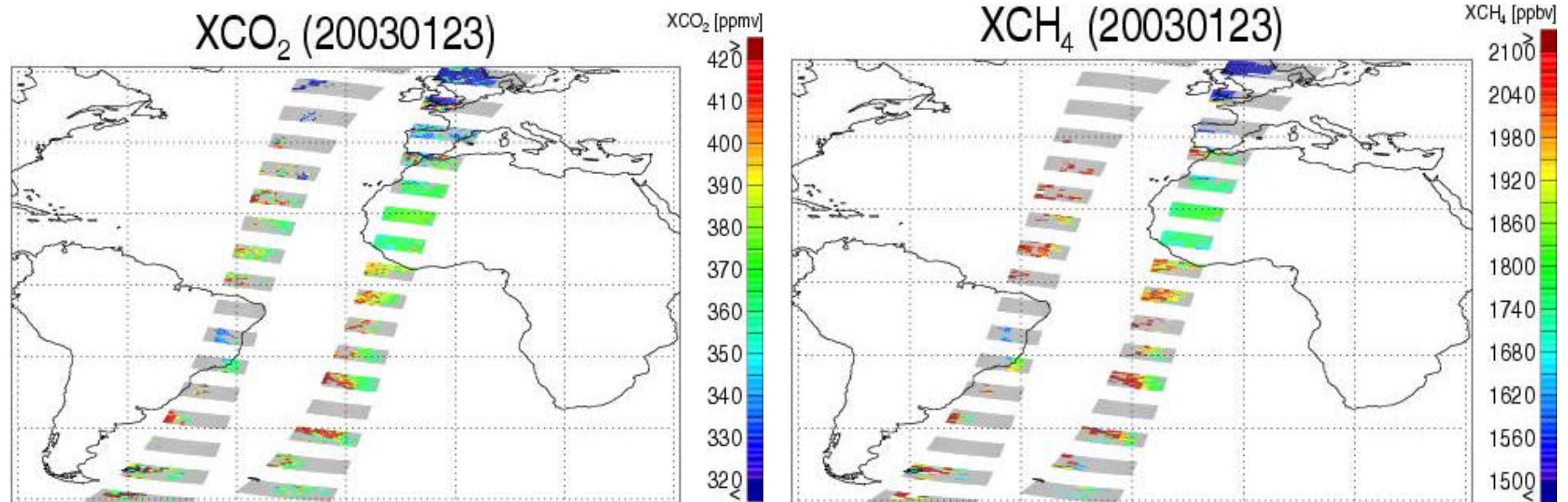
CO₂ / CH₄ correlation with O₂



Correlation with surface elevation



Dry air column averaged mixing ratios X_{CO_2} and X_{CH_4}



XCO₂, XCH₄, CO

