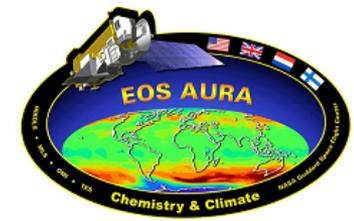




High Resolution Dynamics Limb Sounder



TC-HIR-1962

Originator: Rashid Khosravi

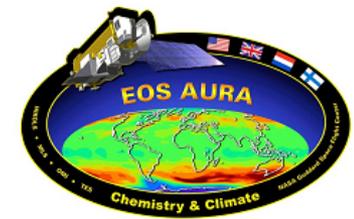
Date: May 20, 2010

Subject / Title: Effect of Using CLCMLS Data for Contaminants in the Retrievals

Description/Summary/Contents:

Keywords: retrievals, contaminants, CLCMLS

Purpose of this Document: Information presented at kapton meeting.

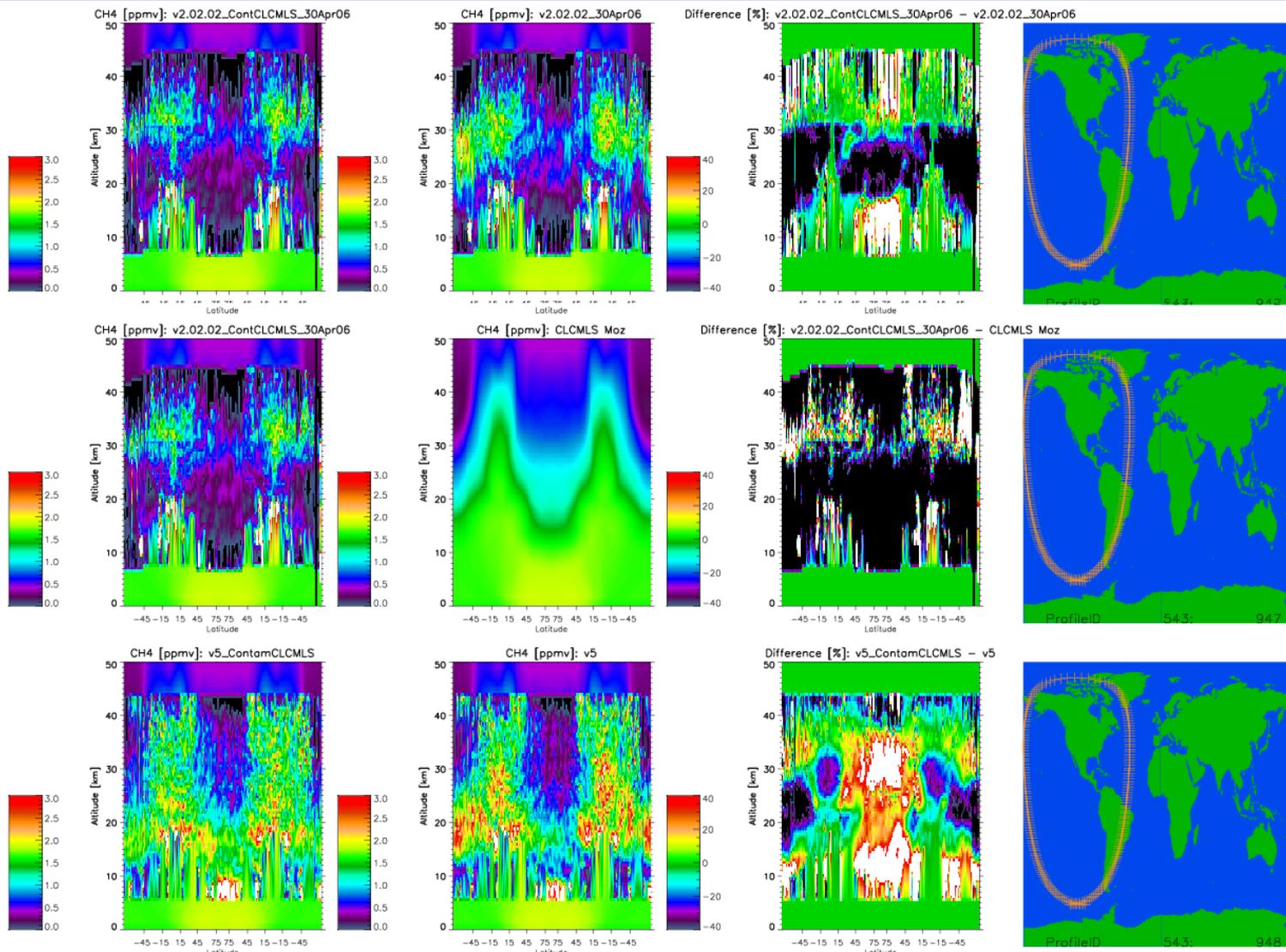
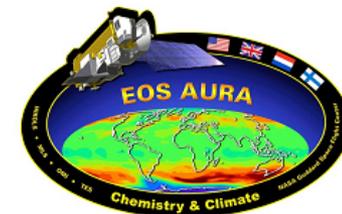


Effect of Using CLCMLS Data for Contaminants in the Retrievals

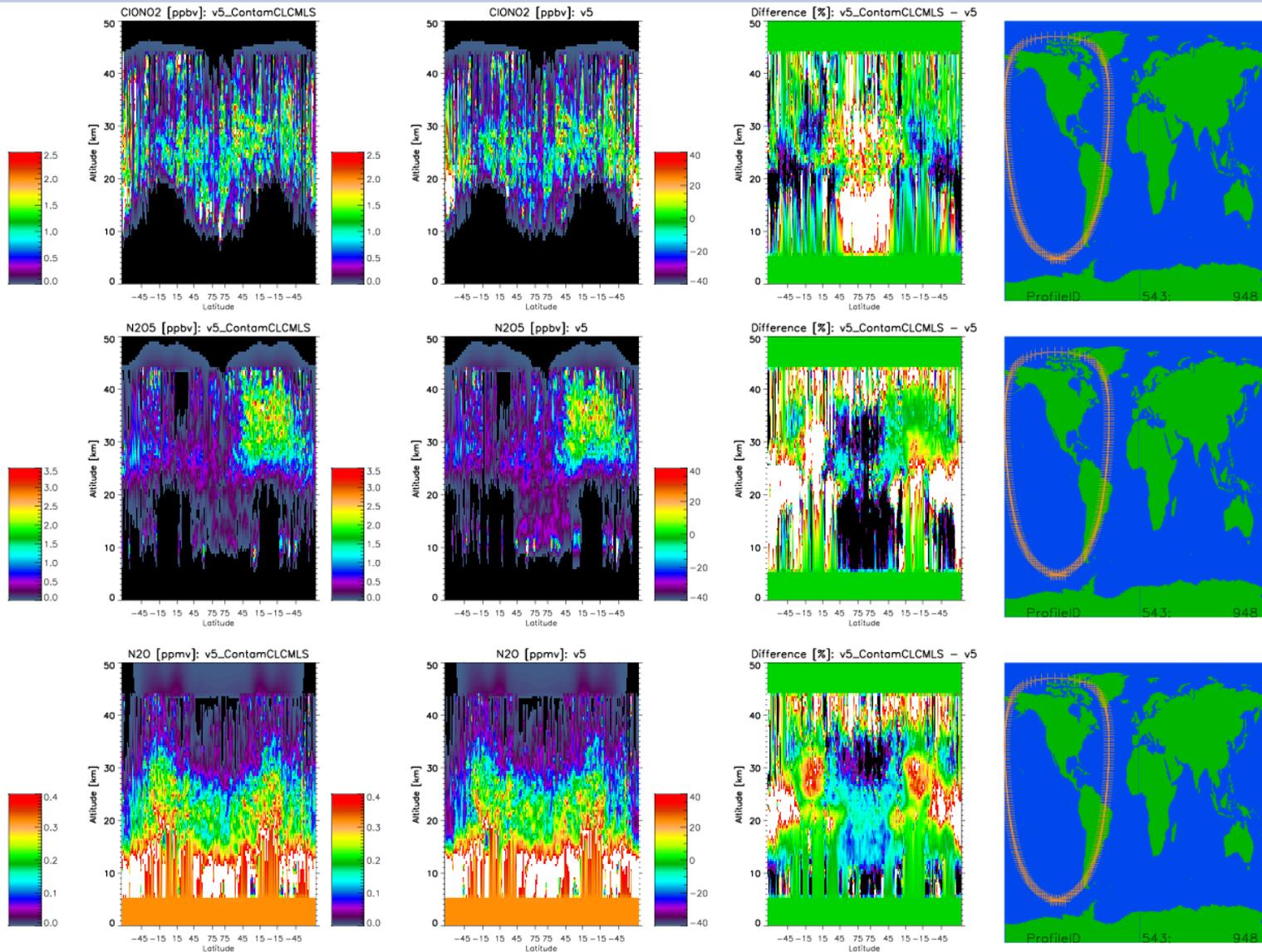
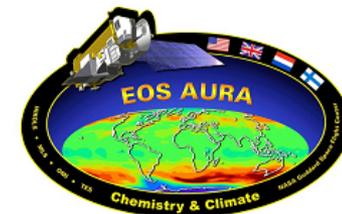
Rashid Khosravi

5/20/2010

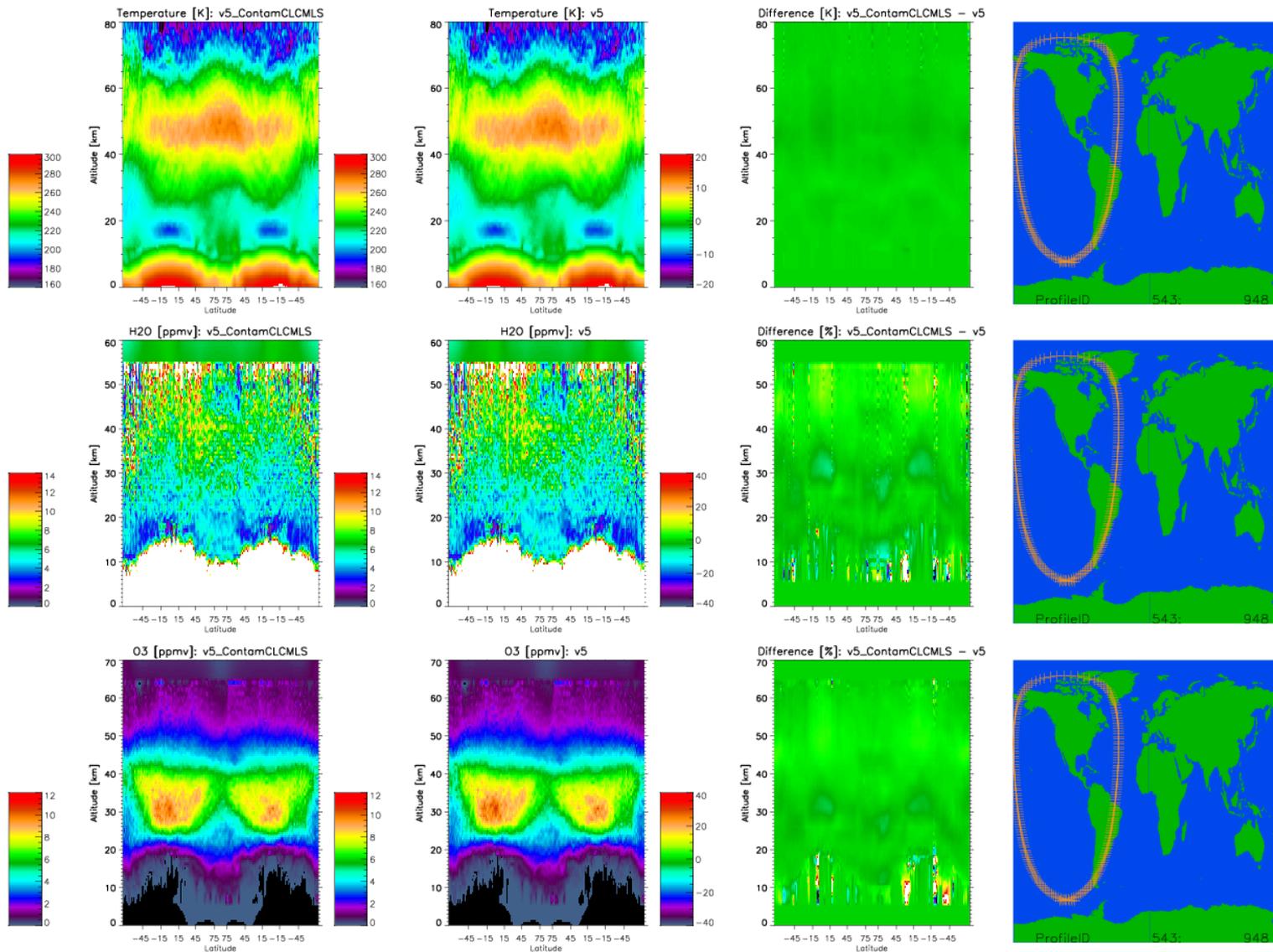
Effect on CH₄, v2.02.02 and v5; April 30, 2006



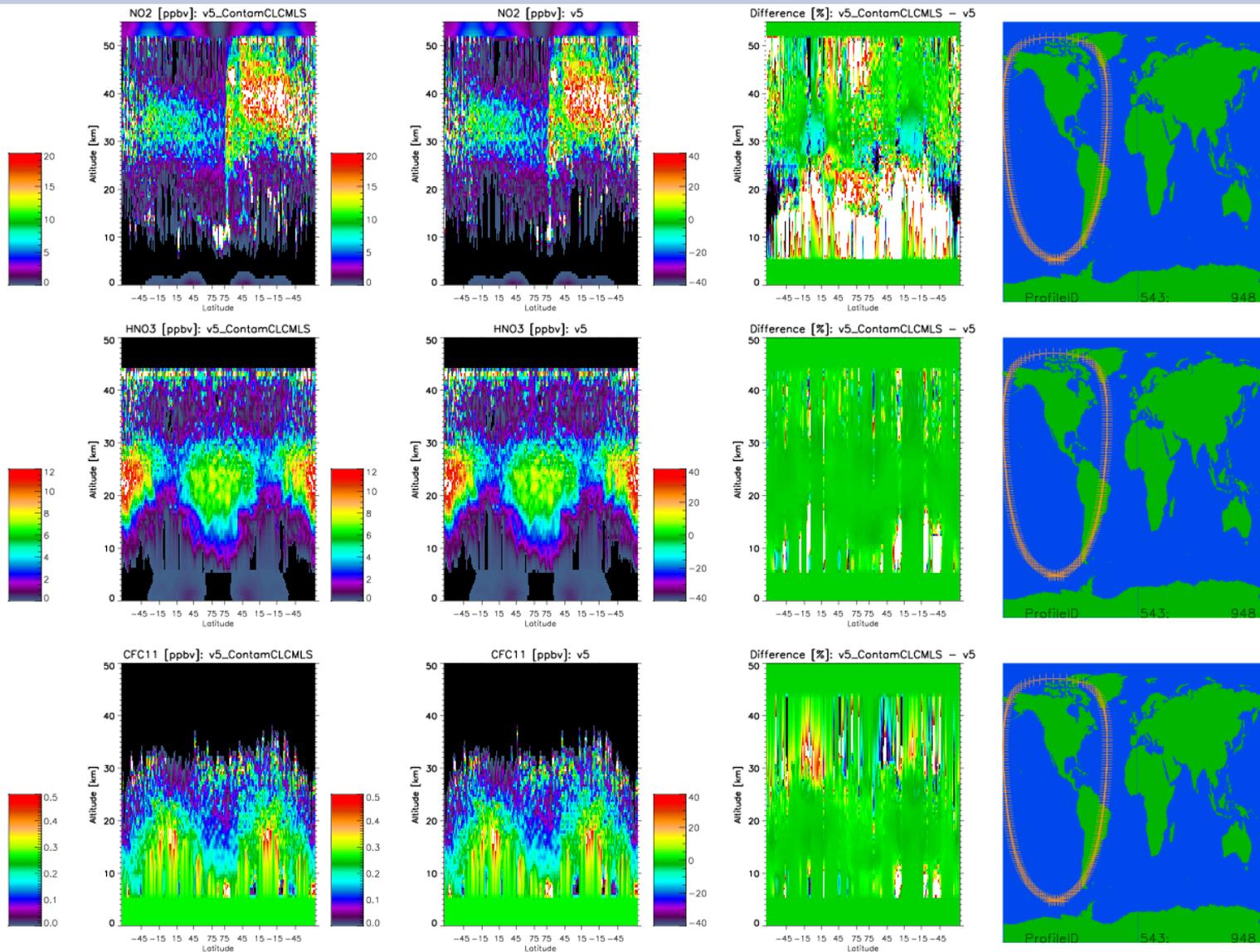
CIONO₂, N₂O₅, N₂O



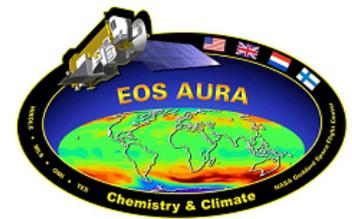
T, H₂O, O₃



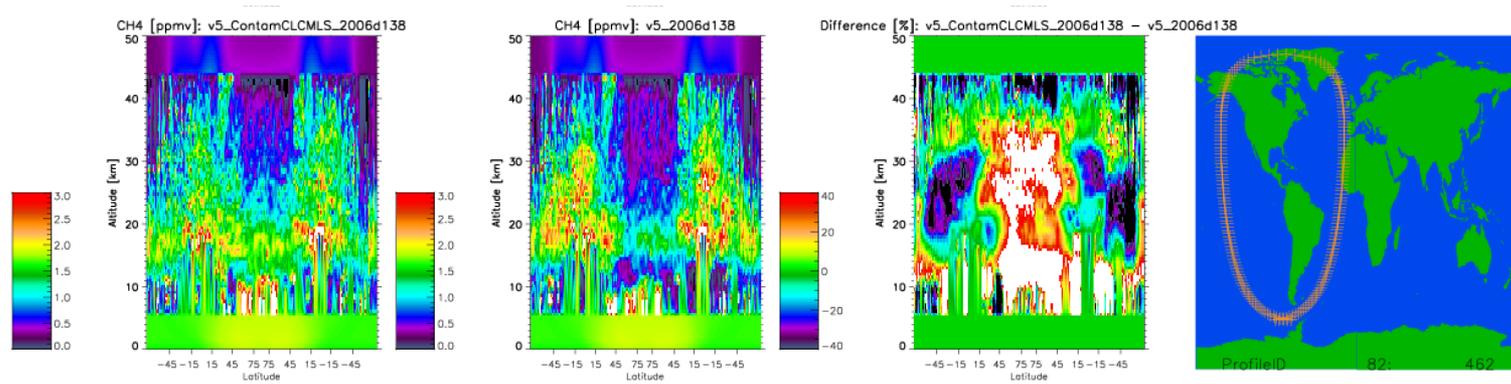
NO₂, HNO₃, CFC11



CH₄, 2006d138

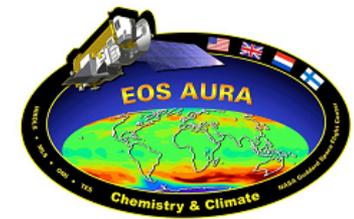


Some degradation in CH₄ for 2006d138; Effects depend on day of year





Conclusions



Effect is most pronounced and good for CH₄

HNO₃ absorption is broad and strong in channel 17

Improved radiances: degrading effect in v2.02.02

There are some degrading effects; e.g., O₃, CH₄ for 2006d138

Should use the best data set for contaminants. Are MLS data appropriate to use?

Bias in v2.2 HNO₃, artifact in v2.2 H₂O

Screening the MLS data for their recommended quality flags substantially reduces coverage (e.g., HNO₃, N₂O), which needs to be filled, leads to validity issues

Even with CLCMLS for contaminants, we get no significant improvements in other products

Improving radiance accuracy is most important for getting accurate retrievals