

## ***Interactive comment on “Observation of the exhaust plume from the space shuttle main engine using the Microwave Limb Sounder” by H. C. Pumphrey et al.***

### **Anonymous Referee #4**

Received and published: 22 October 2010

This paper does a very nice job of showing the MLS sensitivity to water vapor from shuttle launches. I have just a few minor comments.

“This dataset has the advantage that it is easy to obtain and to work with but the trade-off made between noise and vertical resolution has resulted in very low vertical resolution in the upper mesosphere, making interpretation of the profiles less than straightforward.” - An extra comment somewhere in here would be nice.

Figure 1 caption - “The measurement location passes through 27° N heading southwards near the left-hand side, at the centre and near the right-hand side.” Rather than

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“near the left-hand side”, etc., why not just give either the MAF or profile numbers?

Figure 1 caption - “Retrieved profiles do not coincide exactly with limb scans (major frames or MAFs)” –Why wouldn’t a retrieved profile coincide with a limb scan?

Please label the Figure 1 colorbars.

Figure 2 – Is the bottom panel typical, or is it also enhanced?

Figure 4 – “the point near the Caspian sea is a launch from the Baikonur cosmodrome” - To me this looks like 2 points, but their probably 2 successive measurements. Perhaps the authors could give the dates for the Guiana and Baikonur enhancements and if someone else is interested they could find out whether these are associated with launches.

Also, the Figure needs some kind of scale. Are the biggest dots 7 sigma? 10 sigma? 100 sigma?

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Interactive comment on Atmos. Meas. Tech. Discuss., 3, 3971, 2010.

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