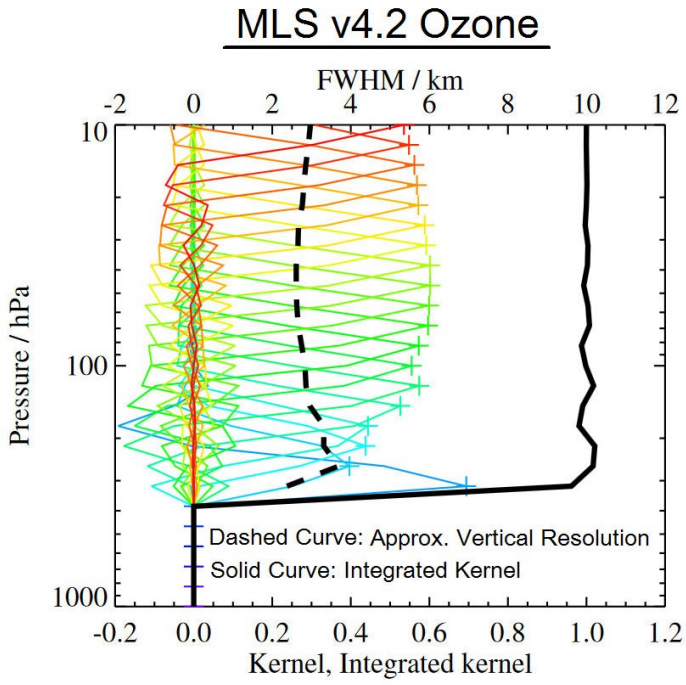
The authors generally did a good job responding to my previous comments. I only have the following minor comments (the page numbers refer to the version with highlighted changes):

- Page 14, last paragraph before section 3: The vertical resolution issue is very likely a systematic issue, and will not cancel out if a large number of measurements are averaged. The reason is that there will essentially always be a large increase in O3 above the tropopause, i.e. O3 will be "smeared into" the troposphere by the MLS inversion procedure and lead to an overestimation of O3 below the thermal tropopause.

This is a good point that you mention regarding the vertical resolution of MLS. We have added extra text in the revision in section 2 to discuss this issue further. The smearing of retrieved ozone between troposphere and stratosphere is really a main reason that we use MLS.

Below is a key figure from the MLS v4.2 ozone data quality document. The integrated AKs (thick solid curve) and FWHM estimated vertical resolution (thick dashed curve) attest to the exceptional ability of MLS to derive stratospheric ozone columns. About the tropopausee MLS has an estimated vertical resolution of ~3 km in this figure. This resolution is very good when compared to other current instruments for isolating stratospheric columns, particularly the nadir profilers like SBUV (or TES, IASI, etc.) that have vertical resolution about the tropopause ~10 km or larger. There may indeed be a systematic bias in the OMI/MLS cloud ozone due to the MLS uncertainty about the tropopause, but we can't quantify this number even if it does indeed exist (although we would certainly correct for it if we could first identify it). We mention all of this now in the revision including the possibility of several DU systematic error in the cloud-ozone measurements.



(This figure is from the MLS v4.2 ozone data quality document)

- Page 18, section 5, line 5: "between 250 hPa and 550 hPa"
Why is only such a limited range of OCP used for the analysis? Are there issues if OCP values outside this range are used? Please comment on this in the paper.

Thanks for pointing this out… In the revision in section 5 we now discuss our choice of using 250 hPa < OCP < 550 hPa. In principle this range for OCP helps ensure high deep convective clouds with physical cloud tops generally at or near tropopause level (relates to the OCP results including Figure 12 of Vasilkov et al., 2008).

- Caption Fig. 8, last line: "include" -> "included"

Thanks - done.