

# ***Interactive comment on “Above Cloud Aerosol Optical Depth from airborne observations in the South-East Atlantic” by Samuel E. LeBlanc et al.***

**Samuel E. LeBlanc et al.**

[samuel.leblanc@nasa.gov](mailto:samuel.leblanc@nasa.gov)

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Thank you for your interest in this manuscript.

The relative humidity threshold for the ambient outside value for identifying clouds is set to when it is saturated (near 100%) with some acceptable deviation from 100%, depending on situation, and instrumental error. This saturation liked to couds tends to be very obvious during ascent and descent of the aircraft, therefore the exact relative humidity threshold is not important for these cases.

The same amount of measurements is found at longer wavelengths than the shorter ones. The spectrometers at longer wavelengths have simply a lower sensitivity, therefore lower signal to noise. But large particles, with a similar AOD at low wavelength,

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would disproportionately increase AOd at longer wavelength, giving a larger standard deviation.

Restructured this whole section, which now reads "There is a prevalence of near zero gap extent, while the largest gaps extents are observed not close to coast, as expected, but off-shore near 7° E.". There is no gap distance reported by MOD06ACAERO. This constant geometry of cloud-aerosol distance is now included in the manuscript as possible source of errors, albeit there is no correlation between the divergence of MOD06ACAERO and the aerosol-cloud gap.

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