Some specific comments to:

bg-2016-12

No tropospheric ozone impact on the carbon uptake by a Belgian pine forest

By I. Trebs

In general, O_3 with the unit ppb should be referred to as mixing ratio instead of concentration. This should be changed throughout the manuscript.

It is unclear to the referee, why the aerodynamic conductance could not be calculated from the data retrieved by the eddy covariance measurements (e.g., u_*)? I think a multi-layer approach that considers all conductances of the canopy layers (also the in-canopy aerodynamic conductance) would be more appropriate than a big-leaf approach, but therefore a measured or known vertical profile of the O_3 mixing ratio (and wind speed) has to be known.

Equation 3: Please introduce a symbol for the molar density of air.

Line 195 should read: where **κ is the von Kármán** constant (replace K with the Greek letter also in the formula)

Line 197: molar density of air → at which temperature (and pressure)?

Line 203: Non-stomatal conductance was assumed to be constant over the canopy and was set to 0.16**…units are missing here (mol m^{-2} s^{-1})**.

Text and Figures: please double check especially the figures, units of O_3 flux density must be **nmol m^{-2} s^{-1}** and not mol m^{-2} s^{-1}.

Information of the canopy height is missing.

APPENDIX C, equation C3:

This equation appears to be wrong. The mixing ratio of O_3 is multiplied by a dimensionless factor given by a ratio of conductances. The resulting unit would be a mixing ratio and not a flux density with the unit nmol m^{-2} s^{-1}.

The conventional equation to retrieve F_{st} is (e.g. Gerosa et al., 2005):

$$F_{st} = g_{st} \cdot O_3(canopy)$$

Here, O_3 (canopy) is the O_3 mixing ratio just above the canopy top or at the zero plane displacement height. Note, that this mixing ratio should not be identical to the one used in equation C2 (which is the O_3 mixing ratio at the measurement height).

Obviously, the overall results of the manuscript have to be revised if equation C3 was indeed used to derive F_{st}. The conclusions may change accordingly.