Response to Jens-Uwe Groß – Key drivers of ozone change and its radiative forcing over the 21st century

We are grateful for the feedback of Jens-Uwe Groß. We hope his comments and concerns are addressed below. Our responses (i.e. changes and information) follow each comment in blue.

Specific comments:

a) In the abstract you mention the different contributions to O3 RF numbered by (1) (2), and (3) for (1) you mention "with and without lightning feedback" but you give only one number [corresponding to the sum of the first two lines of table3]. EITHER you may leave out the info "with and without lightning feedback" (the interplay between lightning-produced ozone and enhanced ozone destruction is explained later) OR you may clarify this point in the abstract.

Response: We agree this is indeed a good observation. We have now left out the "lightning feedback" comment and explained the uncertainty range provided. The sentence has now been rewritten:

“Using year 2100 conditions from the Representative Concentration Pathways 8.5 (RCP8.5) scenario, we quantify the individual contributions to ozone radiative forcing of (1) climate change, (2) reduced concentrations of ozone depleting substances (ODSs), and (3) methane increases. We calculate future ozone radiative forcings and their standard error (associated with interannual variability of ozone) relative to year 2000 of…”

b) Figure 3 caption: you likely mean "black dashed line" for the chemical tropopause.

Response: Fixed thanks.