

Referee #3

We thank Prof. Korolev for his review and the really helpful comments.

Report #2

The responses to my comments are generally fine. However, the fact that the Phillips parameterisation is now re-fitted to match their data in Figure 11 is presented in a rather obscure way. More clarity is needed here.

That the parameterization is re-fitted and match the data in Figs. 11 and 14, is now written in a more detailed way in lines 300 to 306, as well as from line 383 to 387. Also some text regarding the match between the experimental data and the parameterization has been added to Conclusion.

The authors need to clearly state in the caption of Figure 11 (and any other figures) that the line plotted that fits well all the data is actually a re-fitting of the Phillips et al. formulation (their new equation 2).

We added the corresponding text to the captions of Fig. 11 and Fig. 14.

A table with the new coefficients for this fit is needed. The fact that the formulation fits the data well after re-fitting (Fig. 11) needs to be stated clearly in the conclusion section. Other readers will want to apply this re-fitted version of the Phillips formulation and this needs to be made as easy as possible with transparency in the concluding section.

We added Table 3 to Conclusion that contains all the fit parameters for graupel-graupel and graupel snowflake collisions.

The re-fitting of this formulation to the new data needs to be mentioned in the Abstract, because it is a salient feature of the paper. It enables modellers to apply the lab results shown in the paper to all collisions generally. Otherwise the lab results would simply be an empirical curiosity. Instead, at the moment, the only mention of the Phillips formulation in the concluding section seems to be a negative comment.

We added the required text to the Abstract. We also expressed in Conclusion that the Phillips formulation describes our experimental data well.