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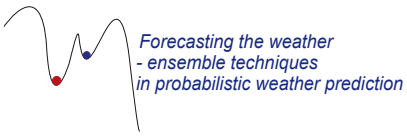

Efficacies of inividual components contributing to aviation climate impact

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Aviation climate impact consists of a number of quite different indivdual components, with non-CO_2 contributions being at least as important as the contribution of CO_2 emissions from fuel burning. Usually, the components have been quantified in terms of their radiative forcing (RF), or by climate impact metrics derived from RF, like the global warming potential. However, it has to be ensured that all the components have the same, or at least a similar, efficacy before such a RF based intercompararison can be taken as appropriate for determining the sum of effects or tradeoffs between the various effects or assessing mitigation measures that limit one component at the expense of another one.

In this paper the results of individual equlibrium climate change simulation dedicated to the contributing RFs are presented and the respective efficacy parameters are discussed. Physical reasons are given to explain the differences in efficacy of, e.g., the CO_2 impact and the contrail impact.