

## 1. Comments from referees

**RC1: *Interactive comment on “Designing global climate and atmospheric chemistry simulations for 1 km and 10, diameter asteroid impacts using the properties of ejecta from the K-Pg impact” by Owen B. Toon et al.***

### **C. Covey (Referee)**

As a (minor) coauthor of the Toon et al. 1997 paper, I'm pleased to see Toon's group return to this subject. Unfortunately I have neither participated nor closely observed progress in this field since 1997, so I'm unable to comment in detail. I do have the general impression that (1) some scenarios are quite robust despite the 65 million years that have passed since the K-Pg impact, e.g. lots of soot, and (2) the authors have done a thorough job laying out the initial conditions for a numerical weather / climate simulation. The initial conditions will serve not only the authors' future work but potentially a large number of groups around the world that can perform such simulations. Hence this manuscript deserves publication in ACP.

## 2. Authors' response

We appreciate the time that the reviewers spent reading our manuscript and providing valuable suggestions for improving the paper.

Reviewer RC1, Curt Covey. Thank you for the comments. It does not appear that changes to the manuscript are needed.