

“The influence of surface charge on the coalescence of ice and dust particles in the mesosphere and lower thermosphere” by Joshua Baptiste et al.

The referee suggested to improve the following sentence at line 12 and add references to it:

"While the ablation process produces the brightness associated with meteors, the meteoroid and atmospheric species are heated to evaporation temperatures, where dissociation and diffusion can be accompanied by possible ionisation, subsequently leading to the formation of small condensates, which are then transported through the atmosphere."

Author response: To address the reviewer’s comment we have made the following changes in the text (highlighted in red).

....meteoric smoke particles (MSP) (Megner et al., 2006; Rapp et al., 2012). **MSP are formed by an ablation process, whereby meteoroids colliding with atmospheric particles experience strong deceleration and are heated to evaporation temperatures. Meteoric and atmospheric species form an expanding column of partially ionised gas behind the meteoroid, which is observed as meteor, see e.g. (Mann et al., 2011). Part of the meteoroid material vaporises, and the released small solid particles and gaseous species are incorporated into the atmosphere where they grow further to form MSP, see e.g. (Megner et al., 2006; Brooke et al., 2017).**

We believe that all concerns of the reviewers have been fully addressed now, and we are looking forward to hearing your decision on publication.