

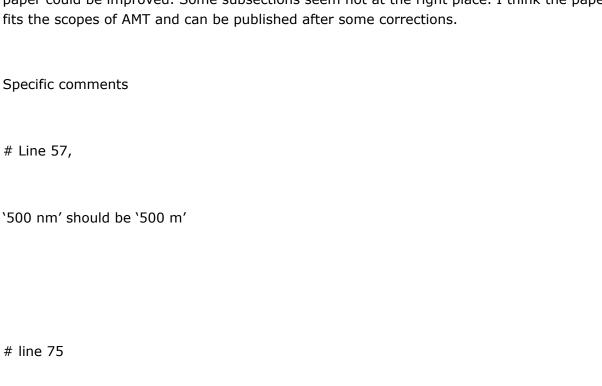
Atmos. Meas. Tech. Discuss., referee comment RC1 https://doi.org/10.5194/amt-2021-351-RC1, 2022 © Author(s) 2022. This work is distributed under the Creative Commons Attribution 4.0 License.

## **Comment on amt-2021-351**

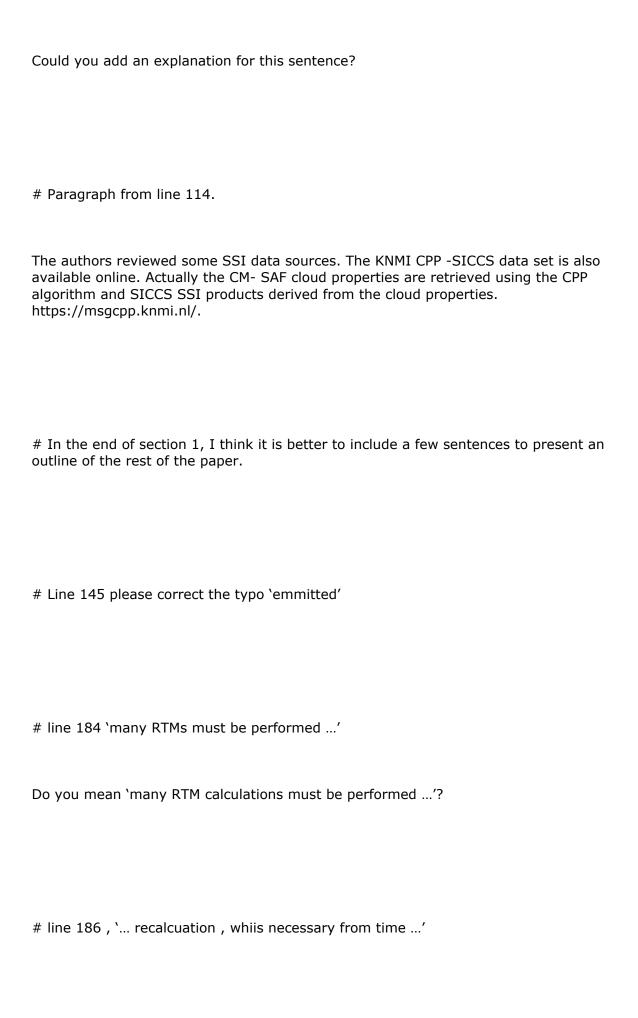
Anonymous Referee #1

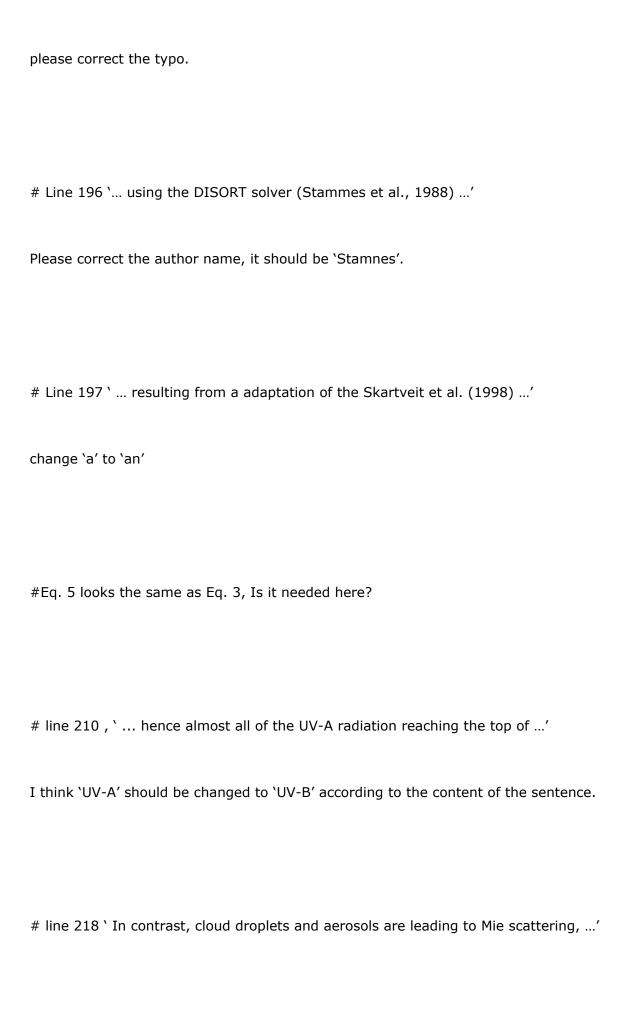
Referee comment on "Remote sensing of solar surface radiation – a reflection of concepts, applications and input data based on experience with the effective cloud albedo" by Richard Müller and Uwe Pfeifroth, Atmos. Meas. Tech. Discuss., https://doi.org/10.5194/amt-2021-351-RC1, 2022

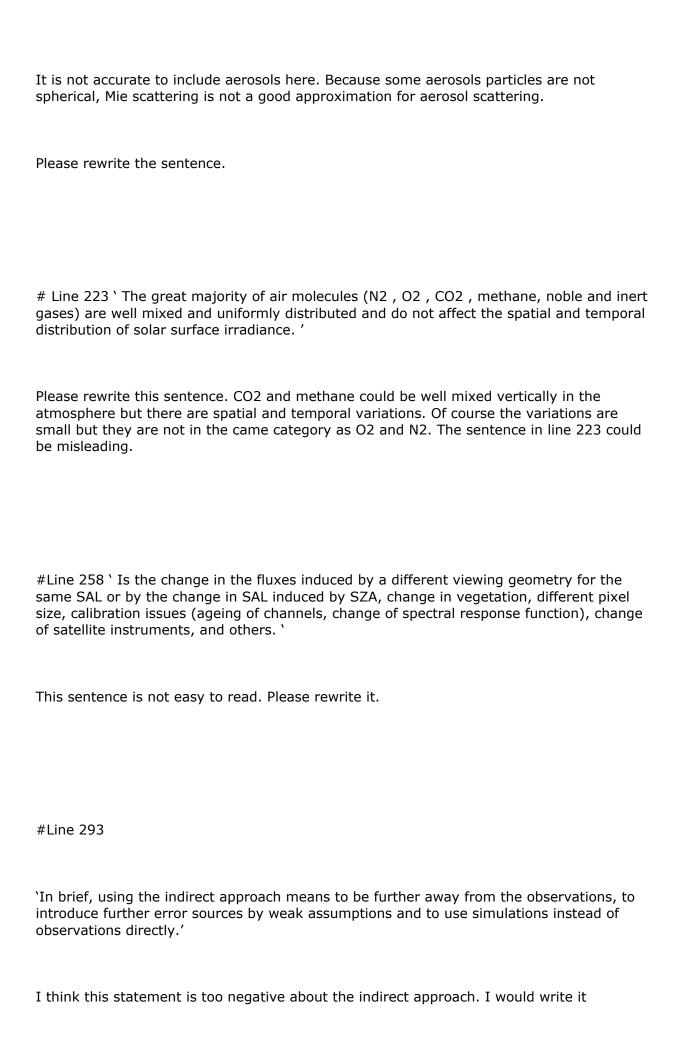
The authors provide an extensive overview about the CM-SAF CAL approach for retrieving the SSI from satellite measurements. In the introduction, the authors also mentioned other methods to derive the SSI and referred to many publications. Then the authors mainly explained the CM-SAF SSI algorithm with new development and ideas. It is amazing that the authors could include so many topics in one paper. The structure of the paper could be improved. Some subsections seem not at the right place. I think the paper fits the scopes of AMT and can be published after some corrections.

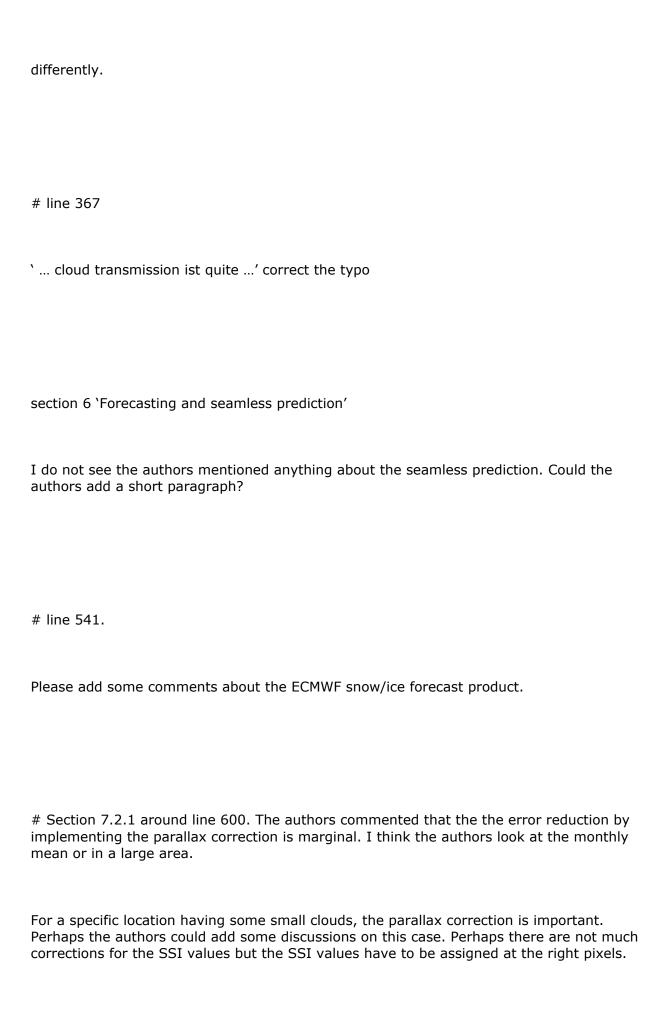


'The value of satellite data is further increased due to the automation of ground based networks.'









# 7.2.3 Deep learning
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I think this deep learning section does not belong to 7.2. It could be a new subsection, 7.3 or 7.4.
# 7.3.1 Ozone
The discussion of impact of ozone is only on the broadband SSI. Since the authors also discussed the spectral resolved irradiance, the readers may want to know the impact of ozone on the SSI in the UV wavelengths.
# 7.3.4. Aerosols
Could you comment on the CAMS aerosol forecast product?
# Line 774 `The effective cloud albedo CAL, also reffered to as cloud index ore effective cloud fraction'
I think the OMI SSI product using the effective cloud fraction and its references can be referred to . (https://www.temis.nl/ssi/).
Please correct the typos.