

Interactive comment on “Dependence of cloud fraction and cloud top height on surface temperature derived from spectrally resolved UV/vis satellite observations” by T. Wagner et al.

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1. I was confused by the title. The way it is currently worded suggests that surface temperature was derived from UV/Vis.
2. The authors devote much discussion to the cloud parameters. More description of the surface temperatures should be given as well as the method of comparison. For example, were monthly means used for both data sets? There should be enough description so that others may be able to reproduce the results. The GISS data consist of near-surface measurements and satellite data (skin temperature) over ocean. The satellite skin temperature measurement cannot be made in the presence of clouds, so

an analysis is made (Reynolds).

3. The authors state that O₂ absorption is not much affected by instrument degradation. While this may be true, the interpretation of the O₂ absorption is certainly affected by degradation. As the authors point out, it is sensitive to cloud and surface albedo as well as cloud fraction (that is derived by measurements that are sensitive to degradation). I find the interpretation of the O₂ absorption to be difficult as it involves a combination of factors. The analyses with CTH and CF are more easily interpreted.

4. The authors mention that the CTH as well as CF are in good agreement with ISCCP. For CTH, much more important than sampling times, etc. is the fact that two different quantities are being measured; the O₂ A-band is sensitive to the cloud vertical structure including geometrical thickness, whereas the IR observations used in ISCCP are not. Therefore, to avoid confusion, the CTH comparison should not be mentioned.

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