Review of "Evaluating the diurnal cycle in cloud top temperature from SEVIRI" by Sarah Taylor et al.

Using the CLAAS-2 dataset, the authors characterize the diurnal cycle of cloud top temperature for several regions within the SEVERI's observation disk. Retrievals from SEVERI are compared to CTT inferred from collocated CALIPSO observations in terms of bias and variability. As cloud top temperature is a frequently used quantity in radiative balance and cloud microphysics studies, I feel this is a useful contribution to the literature. I recommend that this study be published after the following minor comments are addressed.

> **NB:** Page and line numbers refer to location in the difference file, rather than the revised manuscript.

Specific Comments:

P3, L17: "... images such as SEVERI observe the radiometric height of the cloud." Perhaps it would be helpful to briefly expand upon what is meant by "radiometric height" in the context of a weighting function.

> P3, L35: A brief discussion of weighting functions and their relation to radiometric height has been added to the text.

P9, L12: CALIOP doesn't observe the CTT, rather it is inferred from CTH measured by the instrument. Please phrase this differently.

> P11, L27: We have rephrased the text to clarify the method by which CTT are obtained from CALIOP.

P12, L32-34: This statement does not make sense to me. Why would a region with a lower surface albedo heat up more slowly? Could this be a consequence of a decreased sensible heat flux in Central Africa due to evapotranspiration?

> P15, L23: We thank the reviewer for their comment on this point. We revised our arguments and agree with the reviewer that the facts do not support this claim. For this reason, we have dropped this line of argument and leave the investigation of this feature to future studies. We have retained a discussion of the differences in the diurnal cycle between these two regions, and highlighted the lack of a robust explanation for the difference.

P14, L12-13: While not incorrect, "temporal distance" seems like an unusual way of expressing this, especially since it is primarily a term used in psychology. Perhaps phrasing it as something like "within ±30 minutes of CALIOP observation" may be clearer.

> P17, L9: We have amended the text to "within ±30 minutes of a CALIOP overpass", in order to clarify our meaning here.

Technical Corrections:

P2, L4: "cloud" should be plural

We have amended the text as suggested.

P9, L20: "night time" should be "nighttime".

We have amended the text as suggested.