

The Cryosphere Discuss., referee comment RC2
<https://doi.org/10.5194/tc-2021-54-RC2>, 2021
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Comment on tc-2021-54

Anonymous Referee #2

Referee comment on "Brief communication: Growth and decay of an ice stupa in alpine conditions – a simple model driven by energy-flux observations over a glacier surface" by Johannes Oerlemans et al., The Cryosphere Discuss.,
<https://doi.org/10.5194/tc-2021-54-RC2>, 2021

This is a nice study. I make just a request for clarification:

When calculating the SW radiation flux in equation 5a, the impinging direct SW is calculated from the area of the stupa base. Because the sun in winter is always below vertical, this is a systematic (and perhaps fairly large) underestimate. Is it in fact negligible?

On a similar theme, the direct and diffuse downward SW fractions are assumed to be equal ($q=0.5$). Is there any particular reason to assume this?

Finally, line 96 has a spurious apostrophe in "stupa's".