Review of: "Horizon and curvature"

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Potential competing interests: No potential competing interests to declare.

There are a few ways in which this paper could be improved.

A figure detailing the set up for section 2 would be easy to generate and might help with the understanding of the set up (also in section 2 there is an extra “h” in the word “weather”).

In section 3.2 (proposition 3.1) a figure might be helpful, although it would be more difficult to generate.

Section 3.3 (proposition 3.2) is a little unclear. It seems like the set up involves setting up a convex ngon-like shape with straight segments and sharp corners(where the “slope jumps”), then smoothing the corners in such a way that the resultant convex domain is C infinity. A figure would again help with this set up, as would defining some of the variable names. Another point which I think needs further discussion is the statement that the horizon distance goes to 0 on a summit prior to smoothing. Positive nonzero h above a sharp summit does not denote a unique point, and the some of the points in question would have a view of one or more faces, in which case the horizon would be a nonzero distance. Finally, in the text of the proposition it indicates a bound of 3H0 but in the proof it indicates a bound of 2H0.

In section 3.4, Theorem 3.3 looks good. Corollary 3.4 could maybe use some rewording for clarity.

In conclusion, this paper would be improved if figures or visual aides were added, and section 3.3 was clarified.