

The Cryosphere Discuss., referee comment RC1
<https://doi.org/10.5194/tc-2020-360-RC1>, 2021
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Reviewer comments on Bergfeld et al. (2021)

Philipp Rosendahl (Referee)

Referee comment on "Dynamic crack propagation in weak snowpack layers: Insights from high-resolution, high-speed photography" by Bastian Bergfeld et al., The Cryosphere Discuss., <https://doi.org/10.5194/tc-2020-360-RC1>, 2021

The manuscript presents a methodology for full-field measurements of snowpack displacements using digital image correlation. The work opens numerous possibilities for the extraction of snowpack properties. Among these, the authors discuss ways to obtain an effective homogenized elastic modulus of the slab, the weak layer fracture toughness and the speed of cracks running in the weak layer. The study focuses on the comparison of different methodologies using three representative examples.

Please consult the supplemented PDF file for a detailed review of the article.

Please also note the supplement to this comment:

<https://tc.copernicus.org/preprints/tc-2020-360/tc-2020-360-RC1-supplement.pdf>