

The Cryosphere Discuss., community comment CC1
<https://doi.org/10.5194/tc-2021-163-CC1>, 2021
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Comment on tc-2021-163

Florian Appel

Community comment on "Review article: Performance assessment of radiation-based field sensors for monitoring the water equivalent of snow cover (SWE)" by Alain Royer et al., The Cryosphere Discuss., <https://doi.org/10.5194/tc-2021-163-CC1>, 2021

Comments by Florian Appel, VISTA GmbH. on behalf of the SnowSense team:

Line 101 (table)

GNSSR ... Measures also Snow depth and Liquid Water Content

maybe change to:

Measures also Liquid Water Content and gives estimation of Snow Depth and Snow Density

Line 106 (figure)

e) please remove lines from antenna 2 to antenna 1 and the snow surface to antenn 1, there is no interaction between the antennas. antenna 1 is receiving GNSS signals directly (through atmosphere, antenna 2 is receiving GNSS signals through atmosphere and affected by traveling through the snow. the independent measurement at antenna 1 and antenna 2 are analysed for differences.

Line 351ff:

... one placed under the snow and the other above the snow, both signals that are measured under dry-snow conditions can be compared and SWE derived (Fig. 1e)

Maybe change to:

... one placed under the snow and the other above the snow, carrier phase measurements of both receivers can be compared and SWE derived onboard the measurement hardware (Fig. 1e)

Lines 357ff

This relatively recent and novel approach has been validated (Koch et al., 2019; Apple et al., 2020) and is now commercialized by VISTA Remote Sensing in Geosciences GmbH,

Munich, Germany (SnowSense©, <https://www.vista-geo.de/en/snowsense/>).

maybe changed to:

This relatively recent and novel approach has been developed and validated (Koch et al., 2019; Henkel, et al. 2018, Appel et al., 2019) and is now commercialized by VISTA Remote Sensing in Geosciences GmbH, Munich, Germany (SnowSense©, www.snowsense.de).

The references are: (Appel is missing in the list?)

<https://doi.org/10.1029/2018WR024431> (Koch)

<https://doi.org/10.1109/TGRS.2018.2802494> (Henkel)

<https://doi.org/10.3390/geosciences9010044> (Appel)

Line 773 (Acknowledgment)

GNSSR installation was performed within ESA business development demonstration project SnowSense (<https://business.esa.int/projects/snowsense-dp>)

if you want to include ESA in the text