Note to the editor: Comment on tc-2021-163

There are 4 referees comment on "Review article: Performance assessment of electromagnetic wave- based field sensors for SWE monitoring " by Alain Royer et al., The Cryosphere Discuss., https://doi.org/10.5194/tc-2021-163, 2021

Referee 1 RC1 : Craig Smith
Referee 2 RC2: Charles Fierz
Comment CC1: Floriant Appel
Comment CC2 : Yves Choquette (personale communication). The responses to its review was also included. It was sent to me directly by e-mail instead of being submitted by the journal.

We thank all reviewers for the helpful and constructive comments that helped improve the manuscript. Every comment was addressed, and a detailed list of modifications is attached (one document per reviewers).
Note that the title was changed following comments.
The revised article was proofread by an English-speaking scientific translator, but not the responses/explanations to the reviewers.

We also integrated three important references which were missing:

Gugerli, R., Salzmann, N., Huss, M., and Desilets, D.: Continuous and autonomous snow water equivalent measurements by a cosmic ray sensor on an alpine glacier, The Cryosphere, 13, 3413–3434, https://doi.org/10.5194/tc-13-3413-2019, 2019. (**CRNP** and **Snow core**)

Wallbank, J.R., Cole, S.J., Moore, R.J., Anderson, S.R., Mellor, E.J.: Estimating snow water equivalent using cosmic-ray neutron sensors from the COSMOS-UK network. Hydrological Processes, 35:e14048. https://doi.org/10.1002/hyp.14048, 2021. **(CRNP)**

Steiner, L., Meindl, M., Fierz, C., and Geiger, A.: An assessment of sub-snow GPS for quantification of snow water equivalent, The Cryosphere, 12, 3161–3175, https://doi.org/10.5194/tc-12-3161-2018, 2018. (**GNSSr**)

We also added a reference to another Cosmic Ray Neutron probe commercialized by Geonor: COSMIC RAY DETECTOR (CRD), www.Geonor.com, GEONOR Inc., 51 U.S. Highway 206, Suite 201, Branchville, NJ 07822 USA.

Appendix

Moreover, we have also deepened the analysis of the uncertainty of manual in situ measurements by snowpit and snow core with a thorough analysis of the significant literature.
To lighten the text, we have reported in Appendix* the analysis of this manual ground measurements, including a new figure from our archives. This figure well illustrates the

issue of the uncertainty in the measurements with the snow core. We also added a lot of references to estimate a mean accuracy of such reference approach.

* could be an Appendix or a Supplementary material? But the references given in this Appendix are not separated from those of the article.

Alain Royer, on behalf to the co-authors. 27 August 2021