

We first would like to thank the editor (Melody Sandells) for accepting our paper for publication in The Cryosphere as well as the positive comments. We also would like to thank the reviewers again for their decision and the time they took to review our paper. We update the suggested technical corrections accordingly in the final manuscript.

Technical corrections

NB line numbers refer to tracked changes version

lines 4 and 26 ‘much more stochastic signals’ -> ‘many more stochastic signals’ or ‘signals of a much more stochastic nature’

We now change both of them to “many more stochastic signals”

line 12 ‘breaking single cohesive’ -> ‘breaking of a single cohesive’
corrected

line 30 ‘penetration test’ -> ‘penetration tests’
corrected

line 123 ‘in term’ -> ‘in terms’
corrected

Line 142-143 remove brackets around sentence.
corrected

Table 1 caption ‘images Peinke’ -> ‘images from Peinke’
corrected

Figure 7. Please add specific RGlR sample numbers to caption (3 shown, table 1 has 6)

We add an additional line in the figure caption mentioning which three samples of RGlR we show in the figure. “For the snow type RGlR, we only show the samples, RGlR4, RGlR5 and RGlR6, as described in Tab. 1.”

*Additionally, we also do some small corrections on the caption of Fig. 9. “Jump **amplitudes** $\sigma_{\xi}^2(R')$, jump probabilities $\lambda(R') \Delta z$ and diffusion and jump **ratios** $\frac{D^{(2)}}{\lambda\sigma_{\xi}^2}$ of four different snow types ... The diffusion to jump ratios $\frac{D^{(2)}}{\lambda\sigma_{\xi}^2}$ for PP and RG are minimum ...”*