Third review to the article from Hu et al. 'Modelling rock glacier ice content based on InSAR-derived velocity, Khumbu and Lhotse Valleys, Nepal':

I would like again to acknowledge the extensive work performed by the authors to address my comments from my previous review. Although I do agree with some critical comments from the other reviewers regarding the methodology, I believe the current version is now acceptable for publication after minor adjustments. The research raised several questions about the feasibility/relevance of coupling remote sensing observation and modelling, quantifying the ice content based on this approach and extrapolating the results to an entire region. However, these questions are now well discussed, and the limitations are acknowledged. Independently of if we agree or not with the assumptions, I believe the procedure and resulting outputs are now clearly described and therefore worth publication. Generating debates in the community is also what open access dissemination is about.

I have focused the work for this third review on the main parts that I commented in my second review, suggesting some minor corrections to facilitate the understanding of the content. Note that the line numbers refer to the version without track changes.

l.232-234: "… we present our method to measure surface velocities of rock glaciers with InSAR for constraining the model (Sect. 3.5.1) and use complementary remote sensing products to derive geometric and structural parameters (Sect 3.5.2)."

l.248-249: "multi-looking operation and adaptive Goldstein filter (8x8 pixels) were applied using the open-source software…"

l.250: "The final georeferenced interferograms have a ground resolution…"

l.252: "Ice-debris landforms"? Is there a reason not using "rock glaciers" here? If it also considers debris-covered glaciers, just say it so.

l.261: "For each pixel, we found the velocity error is < 10 cm/yr". Rather used the way you explained it your response to my questions, it is much clearer: "For each interferogram, we quantified the uncertainty at the pixel-level. Among all the high coherent pixels, the largest uncertainty is 9.8 cm/yr. The velocity error is therefore considered as < 10 cm/yr."

l.262-265: Still unclear to me if the criteria are applied to discard interferograms, entire or part of the landforms. Based on what you explained in your response, I would suggest writing: "… we selected the interferograms and documented rock glacier parts meeting the following criteria… (1) only pixels showing acceptable coherence (> 0.3) are kept; (2) the coherent pixels must cover more than 40% of the landform surfaces; (3) the mean velocity must be larger than 5 cm/yr (Wang et al., 2017). We set this empirical threshold considering the typical noise level from atmospheric delays (5 cm/yr). The interferograms and landforms that do not meet these criteria were discarded." If I misunderstood: please adjust the content and make it clear.

l.271: "After the procedure described in Step 2, for each selected landform, …"

l.274-276: "… in more than half of the interferograms, the pixel was included in the coherently moving part… Otherwise, the pixel is discarded, i.e. not included in the coherently moving part. The area is considered as inactive or in a transitional kinematic status."

l.279: Again, it is better explained in the response to my question: "the mean velocity error is the square root of the quadratic sum of all the velocity errors, which is limited to < 1 cm/yr". You could btw consider referring here to your github codes (basically referring to the code and data availability section) to make it simple to look for answers about how it has been calculated.

l.280: "… the range of the spatially averaged velocities within the coherently moving parts… By doing so, isolated patterns are neglected assuming that they may be related to short-term kinematic fluctuations, not representative of the multi-annual kinematic behaviour of the whole landform."

l.291: "…the abnormal value in 2015 has been removed from the range"

l.350: "… (Sect 4.4.1) and present the modelled ice content of the five rock glaciers…"

l.418: "consistent with the fact that rock glaciers are currently not a major contribution to surface runoff in the study area"

l.450: "the uncertainty in deriving rock glacier thickness remains ambiguous" could be rephrased. I don't think "ambiguous uncertainty" means anything.

l.455: One thing that is missing as limitation in this part: when considering your definition of coherently moving area, you discard quite big parts of the morphologically delineated landforms, which raises the question: how representative is the resulting InSAR average when it is based on data covering less than a quarter the rock glacier surface (for ex. Fig.8b)? As you acknowledge in your answer to my previous questions, it can be both due to low-coherence (potentially due to high-velocity) or low-velocity. It basically means that you have a big uncertainty in both directions: the results may be underestimated or overestimated. Good to mention the problem, I think.

l.458: Avoid using "stable" / "stability" when speaking about moving landforms. "at a relatively constant rate."

l.461: Same here "the stability of the motion". Maybe "to consider an average rate and avoid misleading conclusions based on unrepresentative short-term patterns".

l.463: "… or behave differently from the coherently moving parts"

l.467: "Third, rock glaciers affected by significant subsidence (instead or in addition to downslope creep) cannot be…"

l.471: "Finally, …"

l.496: "The likely emergence of… will likely allow for improving the accuracy of the approach". "We expect the improved model can be valuably applied to…"

l.505: "(2) Mean downslope velocities in the coherently moving part of the rock glaciers in…" I think it is important to specify it here – that is the mean of what you define as coherent, not the entire morphologically-delineated rock glaciers.

l.507: "remained constant" – wise to do a "find&replace" function for the entire document cause using "stable" is quite misleading.

l.516: Maybe "confirms" instead of "highlights"?