We thank for this review. The comment helps to avoid a misunderstanding which might arise when reading the paper in a journal like The Cryosphere. Here, we repeat at first the questions and comments by the reviewer and then reply, indicating how we would like to react in a revised version of the manuscript. Reviewer's comments are written in italics to make them clearly distinguishable from our reply.

- *The authors report the trend observed in gravity measurements at a location in the Austrian Alps over more than 2 decades. Most of the gravity increase is explained by the ablation of the surroundings glaciers due to global warming at the origin of the observed retreat in the Alps. The authors used 3 successive inventories of the glaciers cover to model the gravity effects at the station. They made a remarkable work at using the best modeling and available information to predict the associated gravity trend due to the glaciers ablation. Basically, the authors propose a direct model of the ice masses variations that allows them to explain most of the observed gravity signal. The results are very convincing. Once this has been done, one can ask the question of the usefulness of gravity measurements. Have we learned anything new? The answer is obviously: no! We did not learn anything more about the coverage of glaciers than what the more accurate but less frequent inventories indicate. I advise the authors to reflect on the role of gravity measurements. The argument that this will "clarify open questions on geodynamical and seasonal" effects makes little sense when the authors assessed their measurements uncertainty between 60 and 80 nms-2 ... In the same vein, I am also surprised that the authors do not mention or even try to interpret the four-year cycle of gravity observable in the residuals. Is there a geophysical phenomenon or is it instrumental error? If this is a signal, then it would make sense to continue gravity measurements.*

The paper shows, to our knowledge for the first time, that glacier ablation effects are detectable in observed gravity time series. We completely agree: performing gravity measurements is not an appropriate method for investigating glacier shrinkage. Deriving the change in mass geometry from observing gravity at one location or even aerially would raise an ill-posed problem. Actually, that was never the intention of the gravity time series. The goal is figuring out the on-going dynamical/tectonic processes. But this can only be done, if other processes influencing gravity directly can be appropriately modeled. The paper shows, that this is indeed possible if glacier inventory data of good quality are available. Glacier inventories play an extremely important role if we like to study geodynamical processes in the Alps or in any other glacier covered area by means of absolute gravimetry. The instrumentation available today has much improved accuracy, thus we highly recommend extending the gravity time series in future. We will address this briefly in the introduction as well as in the conclusion to avoid this basic misunderstanding.
Regarding the 4yr cycle, we believe, that the current uncertainty does not allow for interpreting this cycle if present. We would also need better constraints e.g. w.r.t. snow coverage and local hydrology data.