Dear authors,

Sorry for the delayed response.
Thank you for the revised manuscript and responses to the comments.

The manuscript has been revised well in accordance with comments from reviewers. I believe it is important to mention the unavoidable uncertainties and points to note in interpreting the results of the present study. However, I still have some questions, comments, and suggestions regarding the results and their interpretation, which may require further explanation.

- Throughout the manuscript, there are many comparisons and references to the authors' previous studies, but there seems to be little comparison with other previous studies on the firn deformation experiments. Furthermore, in the refereeing to the previous studies, firn and ice are mixed, the deformation of firn, including metamorphism, is clearly different from that of ice, so it is better to distinguish between firn and ice.
- L43–49: It is good that many references have been added, but perhaps the experiments on firn and ice should be separated. With present notation, it is unclear whether there are few experiments on firn deformation. The authors say that there is little information about firn, but I don't know what specifically is lacking. Describing the issues identified in the previous studies and what information is needed for firn model development will clarify the positioning of the present study.

- L49: *but there are few reports about their mechanical behaviors at different temperatures.* Many previous studies have mentioned the importance of the temperature, and they conducted experiments with changing temperature. The authors mention this in L82-92.

- L392–395:
  Has the trend for the strain at which minimum strain rate occurs to vary depending on temperature and density been observed not only in the author group's experiments but also in other previous studies on firn deformation experiments? This trend is interesting.

- L512–519: *This significant discrepancy implies that the uncalibrated SRMin value from all of the samples is not appropriate for estimating the stress exponent, and*

hence the activation energy during their deformation.

Is it unique to present study (author's group experiments) that it is impossible to estimate the appropriate stress exponent and activation energy without the calibration? Or is also calibration necessary for the firn deformation experiments, including previous other studies?

- L512–531

  If the appropriate minimum strain rate is estimated by the calibration, what will be the stress exponent calculated using those values? Not only activation energy but also stress exponent is important for firn model development.