## Answers to third (first technical) revision.

egusphere-2025-1373

"Summertime Arctic and North Atlantic-Eurasian Circulation Regimes under Climate Change" By Johannes Müller, Oskar Landgren, and Dörthe Handorf

L112: "became" into "remained"

L127-134: splitted into two sentences; now the rewritten sentences are: "Following Fabiano et al. (2020), we tested the consistency between clustering in the pseudo PC-space versus clustering in the models' own PC-space by analysing the variance ratio, i.e. the ratio between the mean inter-cluster squared distance and the mean intra-cluster variance for K Means clustering in the pseudo PC-space versus clustering in the models' own PC-space for the common model clusters over the North-Atlantic-Eurasian region for the present-day period. We also compared these results with the variance ratio for the ERA5 reference clusters (see Appendix A)."

L312: "shown" into "found"

The axes-labels for Figure 6 and Figure 11 has been adjusted (to be larger and corresponding to Figure 7 and Figure 12).

L326: "the events to occur" into "occurring"

L336: "in" into "of"

L370: from "(Days, that are assigned to the Bering-Svalbard KME pattern are assigned to Bering-Svalbard SAN with only 48.8% but also to the Cluster 5 SAN with a chance of 35.1% underlining the spatial similarity between Cluster 5 SAN and Bering-Svalbard KME)" into "(Of the days that are assigned to the Bering-Svalbard KME pattern only 48.8% is assigned to the Bering-Svalbard SANpattern, while 35.1% is assigned to Cluster 5 SAN underlining the spatial similarity between the two patterns)"

L429: "Most..." started a new paragraph.

L438: "regarding" into "to"

L442: added a new side-sentence: ", indicating events to appear less often."

L570: "proved whether" into "show that"