



EGUsphere, author comment AC4
<https://doi.org/10.5194/egusphere-2022-331-AC4>, 2022
© Author(s) 2022. This work is distributed under
the Creative Commons Attribution 4.0 License.

Reply on RC3

Masatoshi Yamauchi and Urban Brändström

Author comment on "Auroral alert version 1.0: two-step automatic detection of sudden aurora intensification from all-sky JPEG images" by Masatoshi Yamauchi and Urban Brändström, EGU Sphere, <https://doi.org/10.5194/egusphere-2022-331-AC4>, 2022

Reply to Reviewer #3 (our plan toward revision)

Thank you for your encouraging comments and specific suggestions toward improvements including PDF supplement. We plan to revise the paper with stress on following points

#threshold

We now realized that we did not explain the "general guideline" of how to choose each criterion, such as "how many non-auroral light sources we considered", "how can we avoid the overlapping of two criteria", "what is the rough indication of each sub-division in actual aurora (we add figures for this)" etc., such that third person can construct similar criteria for the other site easily.

#camera geometry

Including camera geometry is a part of future task of considering field-of-view (section 4.5). As explained there, pixels at higher azimuth is less valued than pixels at zenith. We will enhance the explanation and also add explanation why we treat them equality in the method part too.

#different method

Except Deep Learning, we are not aware of state-of-art method for auroral image analyses. There is a geomagnetic method using geomagnetic deviation only, but success rate is no high for Kiruna all-sky camera.

#Deep Learning

Thank you for explaining the potential of Deep Learning, and we do actually considering using NN for step 2 (from index values to alert level). We include more explanation on the Deep Learning, and also mention from which part the NN can be combined with our method.

#Figures

We add 3 or more figures (one or two figures before Figure 1). The placement of the figure and size of figure are LaTeX program problem and we make sure they are located correct pages and size before during copy editing.

#Tables

Placing Tables 1-7 in one place (one page for aurora and one page for non-aurora) such as

appendix is a good idea. The Journal does not allow multi-entry table format, and this is why we separated into Tables 1-7. We try if your suggestion is technically possible.

#Background knowledge

Yes we will add more explanation of background knowledge