Atmospheric Measurement Techniques Discussions

Atmos. Meas. Tech. Discuss., referee comment RC1
https://doi.org/10.5194/amt-2021-1-RC1, 2021

Comment on amt-2021-1

Anonymous Referee #1

Referee comment on "Applying self-supervised learning for semantic cloud segmentation of all-sky images" by Yann Fabel et al., Atmos. Meas. Tech. Discuss., https://doi.org/10.5194/amt-2021-1-RC1, 2021

This manuscript describes a new method for classifying All Sky Images. This matter, the analysis of sky images in order to recognize different cloud types is of interest in atmospheric and climate research, and also for applications such as solar power plant management. The main novelty of the method is the self-supervised techniques used in the development. In my opinion, the paper is well written and correctly structured, although I cannot give a well-founded criticism on the methodological section, given my limited knowledge of artificial intelligence techniques.

I only have a number of minor points to comment, which may eventually lead to introduce some little changes in the final version of the paper:

Line 24. Clouds play a significant role in the climate system and therefore in climate change. I wouldn't write "in global warming".

Line 34. Use "complement" instead of "addition".

Figure 1. I'm not exactly sure about what is represented in this figure. The total number of images seems different in the three panels: in an approximation, bars totalize 1200 images in the first panel, 770 in the second, and 910 in the third. If it is the same dataset, the number of images should be the same, shouldn't it? Last paragraph in page 5 refers also to the number of images. According with this, the dataset contains 770 images. So you may need to explain a little more clearly how Fig. 1 in created. Moreover, could you also explain how did you estimate Linke turbidity?

Line 158-159. Can you explain further what do you mean by "one dimension representing the border part of the ASI"?

First paragraph in Section 4.1. You could emphasize that this is only one example. How general are the comments that you make for this example?

Figure 5. Are images really random? Could you add the date and time in each image, in order for the reader to see that they do not correspond to nearly consecutive images (or images taken the same day under similar conditions)?

As I said above, other than these technical details, the paper is correct and interesting in my opinion.