

Ann. Geophys. Discuss., author comment AC2
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Reply on RC2

Fasil Tesema et al.

Author comment on "Types of pulsating aurora: comparison of model and EISCAT electron density observations" by Fasil Tesema et al., Ann. Geophys. Discuss.,
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We thank the reviewer for forwarding the comments. We include the comments, suggestions by adding texts and modifying figures. The responses to the comments are listed below (in italics).

Figures 2, 4, 6: Recommend putting vertical lines overlaid on these plots and indicating the regions of APA vs. PPA. It is hard to refer back and forth to the text to see when one type transitions to the other.

- *We added vertical lines on Figures mentioned and add texts in the caption of the Figures to describe the vertical lines.*

Throughout: Several times the ionization layer is referred to as expanding or increasing, but it would be worth the time to put this in more quantitative terms. Perhaps if you use a set density threshold, you can note when the threshold exceeded that density at various altitudes (e.g. the density increased above the threshold at 80 km after XX:XX UT) to give a better picture of exactly what altitude ranges these features span.

- *Instead of adding threshold electron densities we describe in terms of how much order of magnitude difference was observed in the electron density. On the figure, we also added a vertical line to mark the transition between PsA types.*

Line 213-214: Related to the last two comments, this line describes "an enhancement" at the time of "optical transition between the two categories." It would be much more clear if that transition time were defined clearly in the figure and a more precise measure of the enhancement was given.

- *We added texts to clarify see line 215-216.*