General Comments

The authors have done an excellent job at addressing all of my concerns, especially with regards to the classification of a jet as an EDJ or STJ. I do agree that, based on the results, it is not worth including the "hybrid jet" classification in the paper, and I am comforted by the fact that most jets receive a score close to 0 or 1 with this new methodology. I also really appreciate the visualization of the Gaussian distributions for each jet classification in Figure 4, and the discussion of the "hybrid jet" consideration in Appendix A. Lastly, I would like to commend the authors on a very creative, thorough, highly interesting study that has taught me quite a bit of valuable information about SOMs.

I have some remaining technical corrections that I would like to offer to correct some grammatical errors and help further improve the clarity of the writing. I do not feel the need to review any subsequent revisions prior to publication.

Technical Corrections

Lines 191-193: I suggest rewriting the sentence that starts with "As long as BMU(t) is on i_0…" to read "The stay continues if BMU(t) is on i_0 or any other cluster whose weight matrix has a distance from i_0 that is within the 10th percentile of inter-cluster-weight distances."

Lines 193 – 194: the sentence that starts with, "The first timestep BMU(t)…" confuses me some, however, I wonder if the authors are simply trying to say that a new stay starts at another cluster i_1 when the BMU(t) no longer respects the condition mentioned in the previous sentence. In that case, I would rewrite the sentence to read, "When the BMU(t) no longer represents this condition, a new stay begins at a new cluster i_1." I think this would sound a little clearer, and I think it would be alright to let the reader assume that the same condition would be applied at the new cluster.

Line 234: I believe the word "and" is missing from between "the Earth R," and "the longitudinal." Also, "extent" was misspelled as "extend."

Figure 4 caption: "extent" was misspelled as "extend"

Line 312: I suggest rewriting "...count of each hexagonal bin..." to instead read "... the count of jet points in each hexagonal bin..." for clarity

Line 314-315: I suggest rewriting the sentence which reads "Each Gaussian is defined by its mean and covariance matrix, and these are the parameters the model fits to the data." to instead more briefly read "Each Gaussian is defined by a mean and covariance matrix that are fitted to the data."

Lines 320-321: I feel that the sentence which starts with "Again, while most of the jets have a mean score…" does not need to be included since it is almost identical to the sentence which starts with "Most jets will have a score close to 0…" on lines 318-319. If the authors agree and choose to delete the sentence on lines 320-321, then I suggest inserting the word "mean" before "score" in the sentence on lines 318-319.

Line 375: I think an "a" is missing from between "with" and "very"

Line 383: Since "error" is already included in the acronym "RMSE," I don't think it needs to be included after "RMSE" in this line.

Line 424: I believe the authors intended to write "question" instead of "questions".

Line 454: I suggest removing "on top" from this line

Line 486: I recommend writing "…with a slight positive tilt" as opposed to "and with low positive tilt"

Lines 494: I recommend writing "…which indicate low instantaneous persistence…" instead of "…indicator of low instantaneous persistence…"

Line 504: I suggest replacing "every timesteps" with "individual timesteps"

Line 505: I suggest replacing "overlaps," with "overlaps:"

Line 529: I recommend writing "resp." as "respectively"

Line 549: I believe the word "in" may be missing before "clusters with wavy or tilted jets"

Line 619: I believe "one" may have been misspelled as "on"?

Lines 624-625: I recommend rewriting "First, the STJ is not detected in one of the composite, that of cluster 2…" to instead read "First, the STJ is not detected in the composite for cluster 2…"

Line 634: I recommend replacing "try again" with "repeat"