

Interactive comment on “Network Analysis of the American Geophysical Union’s Fall Meetings” by Tom Narock et al.

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Narock et al. present an analysis of AGU’s annual fall meeting using data from the abstract database. I found the network analysis v. interesting, and i think it provides commentary on how earth, planetary and space scientists communicate with each other in academic meetings. The results are valuable for community introspection, as a way for us to evaluate how our science is done (the science of science), and also provides ideas for enhancing collaboration and communication that are actionable when designing meetings. Below I have a list of comments and questions regarding the manuscript.

respectfully, Evan B Goldstein

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Abstract - can you add a line or two about your results and your discussion/conclusion to the abstract?

L 24 - can you give a more precise attendance estimate for a year of your analysis or for 2017. I see line 275 of the manuscript - and figure 9 - have a numbers that could be used here.

L84-85 - for these 19k cases, did you merge or keep the authors separate?

L90-91 - Couldn't network density go up if a person is duplicated, and therefore a node is actually connected to more nodes (for instance, in figure 1.2, node A and C could be identical people, so the network density would be reported as .67 but actually 1?) also, do some other metrics go up - such as nodes/component?

L109 - i think these are great example of connections that don't appear in the coauthor network diagram - so you can remove 'may' from this sentence.

L113-115 - i recommend that the authors make DOIs for their code and data repositories, and cite them in the text using traditional citations (e.g., Narock et al 2018) instead of using links. It seems that the data is already in figshare, so a DOI might already exist.

Line 147 - Shouldn't we expect network density (existing # of edges/possible # of edges) to decrease through time? especially if nodes are added? because for density to remain constant each additional node would need to be added with a (ever larger) number of edges. i.e., each new node adds many new possible edges (the number of new possible edges should equal the number of previously existing nodes), but each node likely only joins the network through a single new edge.

Table 2 - with so many AGU sections it was difficult for me to keep track of abbreviations and section names. Is it possible for Table 2 to have section names as well?

Line 175 - does this mean that your algorithm finds that roughly 30%-50% of AGU presentations are single author? can you randomly check this?

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Section 3.3 - can you give us some of the info as text here? what are the most connected sections (either sum of connection, or connections normalized by # of nodes), which section has most co-occurrences (maybe normalized by section size)? which are the least connected?

Figure 4: is it possible for you to show this as a shaded matrix, where each sections is listed along the row and column of the matrix, and each cell is color shaded by the number of co-occurrences. You would only need to fill in a half of the plot (above or below the diagonal). I think the benefit here would be to visually see that some sections have many connections (i.e., dark shading along a row or column), while others remain unconnected. this is just a suggestion, and may not be feasible/useful.

Line 227 - can you determine whether this is a sign of emerging collaborations or the sign of a specific session soliciting abstracts that focus on a specific topic?

L274 - is there a way to figure out how many concurrent sessions there are in a given day? might help to contextualize the insanity of the meeting.

L286 - i am realizing now that the manuscript presents density change (Fig. 2), but not raw network density numbers for each section (or perhaps i missed it?). that would be interesting to see with regards to this discussion (perhaps in table 2).

L290-299 - these are interesting design considerations. Do you have any concrete examples that you could offer the reader?

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