

Interactive comment on “Systematic Characterization and Fluorescence Threshold Strategies for the Wideband Integrated Bioaerosol Sensor (WIBS) Using Size-Resolved Biological and Interfering Particles” by Nicole Savage et al.

Anonymous Referee #2

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The manuscript is very well written and I believe of great relevance to the bioaerosol scientific community. The authors present very interesting and novel work testing a Light induced fluorescence (LIF) instrument (WIBS-4A) whilst attempting to display the data in new ways. Thus I believe the paper should be published upon the correction of some minor technical/specific issues discussed below.

Specific/technical comments:

L196 I believe that this line is misleading, while a value of 0 does indicate a particle is

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a perfect sphere values just above this do not indicate that they are rod-like as directed by the sentence “Whereas larger AF values greater than 0 and less than 100, indicate rod-like particles”

What is the average/median AF value seen for PSL for instance? I doubt they are seen to be 0. Values increasing towards 100 do indicate an increasing rod-like morphology however Indeed placement of the AF values of the PSL sphere in table one would be useful.

L 302 What is a blade of air? Blast perhaps?

L 337 What was considered sufficiently fine?

Table 2 Pyrdoxine particle 7 in Biofluorophores has no number in the saturated column

Were there any issues with contamination whilst using a NAD?

L555 Are intact pollen not counted? Or do they saturate the sizing detector and are thus mis-sized?

L560-3 Given that the pollen are disrupted, they now have the intine of the pollen exposed. Thus is it this rather than the fraction of the pollen that is radiated the most important?

L609 should the line say “adds either A and C” rather than “adds either B and C”

L647 tryptophan does not appear to follow A → BC → ABC pathway from visual inspection of the associated graph.

Similarly in the discussion of the pathways for riboflavin the particles appear to have either B or C character to start with before gaining the required character to become BC. The pathway you describe does not suggest this. It suggests that particles pass from B to C to BC

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