1. Original Submission

1.1. Recommendation

Accept after minor revision

2. General comments:

amt-2021-73

"A low-cost monitor for simultaneous measurement of fine particulate matter and aerosol optical depth – Part 3: Automation and design improvements"

Overall opinion: This version has been markedly improved. I appreciate the tailored amendments and modifications that were applied based on my comments to this article. I think the research design, the results and the supplementary information are satisfactory for publication. However, abstract and conclusions may need further minor polishing. I am pretty sure that after this, the article can be published. Good luck!

2.1. Specific comments:

1. **Abstract.** You can mention that PM2.5 not just impact public health, but **NEGATIVELY** impact public health. You have better description of this aspect in the first sentences of the introduction. Check, please. Also, you need to find a way to include three ideas in the 2nd sentence of the abstract: measuring aerosols is important, there are many networks and instruments to do it, but there are still gaps and that 's why cheap sensor technology is required. The concluding sentence (or 2 sentences) about "why this research is important for science/industry/society" is missing. Please try formulating these sentences. For instance
    - the improved sensors can be deployed for citizen science efforts in the cities where aerosol observations are scarce (no reference), but weather conditions are variable (inferior cheap sensors would suffer from excessive instability).
    - another option, you can check WMO (World Meteorological Organization) requirements for AOD measurements' accuracy. As your sensor is very precise and stable, you can state that you introduce the method+sensor that meet WMO requirements for AOD measurements and therefore can objectively qualify as a nominee as the core for new global-scale network for AOD measurements in future.
2. **Conclusions:** My previous comment (1st stage of revision) about the discussion was aimed to show that it is uncommon to denote a discussion as a subsection, but you do not necessarily need to delete it completely. You can call your conclusion section "Discussion and conclusions" in the present form also. From my point of view, it would be logical to make just 2 paragraphs of the "Discussion and conclusions". First paragraph may consist of what is described between lines 500 and 515. The second paragraph may consist of what is the first paragraph of the conclusions now (Lines 488-499). As mentioned above, I suggest adding as tailored as possible implication that logically stems from your work. Likewise in the intro, you can add the concluding sentence (or 2 sentences) about "why this research is important for science/industry/society". These sentences can be identical for intro and conclusions. This recommendation is important because smartly tailored implications help scientists (a) to

conclude whether your work results can lay the basis for a next series of similar research, and also may increase (b)"citability" of your article later.

2.2. Minor comments:

3. Line 42. "We present results from a trial development aimed at assessing…" Too complex sentence, simplify to "we conducted trial development and assessed…". Something like this.
4. Lines 513… "Such networks could provide…" This sentence is undesirable because, how this information can advance satellite remote sensing technologies? It is better to state that this technology will close existing gaps of the global aerosol measurement infrastructure (that is currently based on combination of ground-based and satellite observations).
5. Line 253. 'Unique error code'. In aerosol measurements, this kind of procedure is usually denoted as 'flagging', i.e. 'unique error code' = 'flag'.
6. Check if Levy Zamora reference should be cited as "Levy-Zamora et al., 2019" (with '-') or not, please.
7. Double-check if you included all required AERONET acknowledgments please
8. Table 1. You mention "manufacturing cost". Please mention the date at which this estimate was applicable because the cost may change in future.
9. Line 377. "AOD units" I am not sure if it is correct to refer to the unitless quantity like this.
10. Line 439. Check if you need subscript index in V_0 or not. Here and elsewhere, please
11. Supplementary material, to quote the sentence: "with all units reporting consistent values for AOD (>0.3 +/- 0.06)". Please be consistent with precision reporting, check elsewhere.