

Interactive comment on “Towards the development of standard reference materials for soot measurements – Part 1: Tailored graphitized soot” by O. Popovicheva et al.

Anonymous Referee #1

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The paper by Popovicheva et al., 2010 presents results about the development and optimization of an international reference compound for the calibration of instruments that measure soot, EC, BC compound. They explain in very good detail all the different steps of production and validation of the reference material. The paper is thus suitable for publication in AMT after answering to the following points:

The authors present a detailed description of several instruments that allows the measurement of soot, EC, BC but without using those instruments in the validation processes. Did the authors test those techniques with the reference material? Why not

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including the SP2? Are those tests planned to be presented in the paper Part II? If yes, why including, in this paper, so many details about the other instruments?

What are the EC concentrations measured? It is well known that the split between EC and OC in this instrument is the major uncertainty, and from Figure 5 and 6 it can be observed that the EC concentration are far higher than those observed in the atmosphere. Is there a reference material with the level of atmospheric concentrations?

Page 1746: It is not really clear from this paper (and from this paragraph) if there will be a common reference for all techniques or if the conclusion is already that several references will have to be used and thus the different techniques will not be intercompared?

Part Evaluation of SRM properties: Please indicate on which form is the ECRM and SRM, are they solid? Liquid?

Page 1758: The authors present results indicating a “good agreement”. It would be useful to get a bit more information about it, for instance how many repeats have been made, what are the standard deviations between those repeats. . .

Some technical corrections:

Page 1747, line 25: Add a “.” After “al. (2008)”

Page 1755, line 12: “system of benezene” should be “system of benzene”

Page 1756, line 18: please give a reference for the SMPS system.

Page 1756, line 10: remove the “,” after Gregg.

Page 1757, line 14-15: it is limit of qualification or limit of quantification?

Page 1760, line 11: change “evaluationof measurement” to “evaluation of measurement”.