Light absorption and morphological properties of soot-containing aerosols observed at an East Asian outflow site, Noto Peninsula, Japan

Ueda et al.,

The authors study black carbon (also called soot) collected in Noto Peninsula, Japan. SP2 was used to evaluate the particle absorption of soot-containing particles under ambient air and through one heater denuder. The study found absorption enhancement have not changed or decrease after the hearting process. The phenomenon is contrast to the expectation. The TEM was employed to observe the particles and provided the direct the evidence here. They found that the heating process can make particle charring and brownist which can enhance particle absorption in short wavelength. Finally, the authors suggest the 781 nm was selected to reflect soot coating/shell.
In this study, the authors also characterize the particle CF, AR, and RP. These parameters can indicate soot mixing structure. Also, these results can be used to explain the SP2 results. These results are interesting and improve the understanding the links between soot-containing particle optical properties and mixing state. I would like to make one minor revision before the paper can be published in ACP.

P25092 L1 leeward – downwind
P25097 Eabs should be expressed by on formular
P25096 L10 what kind of diffusion dryers? After the dryer, what is the air humidity? Please give more description.
P25098 In figure 1, what place can be installed the single particle sampler? Please mark it.
P25098 L19-22 where did the authors used the experiments?
P25100 make definition for brownish particles

Section 3.2 it is difficult to understand the section. I would like to suggest the authors shorten this part. I know that the authors want to make source identification. But I don't think NOx/NOy can indicate the air aging because of the complicate the weather during the long-range transport. From the continent to japan over East China sea, the humidity, temperature changed a lot. Therefore, it is better to delete L11-22 P25101. Figure 3b should be removed. Other can be kept depending on the authors.
P25102 "In the present study, no clear negative correlation between the Eabs and the ratio of NOx to NOy was observed, although the Eabs was expected to increase in the aged air mass if BC was thickly coated during transport." That's why the authors could find good negative correction.

3.3.2 section. Could the authors make more clear structure? For example, type 1 could be one paragraph. And next type 2…

P25109 L 21 ile?

Figure 2, make large clear and large graph.