

Interactive comment on “Morphology and size of the particles emitted from a GDI-engine vehicle and their ageing in an environmental chamber” by Jiaoping Xing et al.

Anonymous Referee #1

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It is a well designed and prepared work related with the emission of single particle emission from gasoline vehicle emission and aging activities, with methods including TEM-EDX, chassis dynamometer, smoke chamber in ambient air condition, etc. adopted. It should be emphasized that this kind of works are still limited, especially in China, as the limitation of equipments, sampling platform, and so on. I really admire the study design. The data also provide evidence of the impact of gasoline vehicle emission on ambient air of megacities like Beijing. I suggested it can be accepted for ACP. Some concerns are listed below. 1. Line 80-83, coal combustion is still a problem in northern China. The authors should clarify this sentence. 2. I am not sure why H₂O₂ was added in the chamber and why such amounts were added. What is the concentrations

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for the formation of OH through H₂O₂ photolysis. More detailed information should be listed. 4. Can you get the real solar radiation data from local weather bureau. 5. Why acid-catalyzed mechanism important for SOA formation in vehicle emission aging? Do you have other data or deep analysis?

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