

Interactive comment on “Identification of jet lubrication oil as major component of air craft exhaust nanoparticles” by Akihiro Fushimi et al.

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1) Designs of the venting of lubrication oil systems for different aircraft engines can vary dramatically. Some engines vent oil system excess air to the bottom of the nacelle into ambient air, while some other engines vent directly into the engine combustion exhaust at high temperature. Thus, according to the previous studies, the contribution from lubrication oil to aircraft organic PM emissions for different engines could vary from 5% to almost 100%. Providing a detailed description of the aircraft fleet as well as the associated engine types could be very helpful for the readers to understand and evaluate the obtained measurement results. 2) Engine operational conditions such as engine power could have significant influences on lubrication oil emissions. Impacts of PM emissions from aircraft on local air quality are normally evaluated during the

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landing and take-off (LTO) cycles. Given the locations of sampling at the airport and wind directions, an estimate of the contribution of each stage during the LTO cycle (taxi, takeoff, and landing may affect different sampling locations) to the oil emissions would be helpful. 3) Oil emissions could also be associated with engine maintenance. One of the challenges of evaluating aviation PM emissions is the lack of information on engine maintenance, which results in a large discrepancy in emission measurements even on the same type of the aircraft engines. Could the authors comment on this issue?

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