Atmos. Chem. Phys. Discuss.,
https://doi.org/10.5194/acp-2020-141-RC1, 2020

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Size-resolved exposure risk of persistent free radicals (PFRs) in atmospheric aerosols and their potential sources" *by* Qingcai Chen et al.

Anonymous Referee #1

Received and published: 22 April 2020

EPFRs are widely present in atmospheric particulates, but there is a limited understanding of the size-resolved health risks of these radicals. Here, they reported the risks and sources of EPFRs for different particles in summer and winter. They found different types of sources of EPFRs in particles with different sizes. The experimental design was good, and evidence was solid. The results were useful for scientific community, so this paper can be published after the authors address the following comments. Âă It is somehow surprising for me that biomass burning was a major emission source in summer. What was the major types of BB? Open burning? Âă Sec2.2 and 2.4 more details should be given. Âă Lines 139: the link was not active anymore. Âă Line 147: not to use active tense (we or I). Âă Lines 181-182: Âăevidence should be given

to prove it was coal combustion Âă Line 194: it is not necessary dust , and biogenic aerosols can contribute to large particles. Line 207: more details should be given to explain g-factor. Âă I do not suggest using "first" throughout the text. Âă Line 380-389: what can be the implication for such seasonality? what is the driven factor ?

Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2020-141, 2020.