Interactive comment on "Community composition and seasonal changes of archaea in coarse and fine air particulate matter" *by* Jörn Wehking et al.

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In the present paper, Wehking et al. reported investigation of the airborne archaeal community from atomospheric coarse and fine particulate matter samples based on Illumina sequencing of 16S rRNA gene, showing its diversity, composition and abundance, discussing possible emission sources. I think it is an interest and worthwhile topic to be published. Specific comments: Page 9 line 18: Page 5 line 23: "For the PCR amplifications the 515f/806r primer set described in Caporaso et al., (2011) proved to be most suitable." Please show the sequence of 515f/806r primer set and the evidence why to choosethis primer to evaluate airborne archaeal community. Wording and gramma should beimproved.

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AC: We thank the referee for the review and positive assessment of our manuscript, and we follow the specific comments and suggestions for improvement as detailed below.

Specific comments: Page 5 line 23: Please show the sequence of 515f/806r primer set and the evidence why to choose this primer to evaluate airborne archaeal community. Wording and gramma should be improved Current: For the PCR amplifications the 515f/806r primer set described in Caporaso et al., (2011) proved to be most suitable.

AC: For the support of the used primer set we suggest the publication of "Bates et. al. 2011" "We have demonstrated in silico that this primer set should amplify 16S rRNA genes from a broad range of archaeal and bacterial groups with few biases or excluded taxa (see Supplementary Figures S1 and S2)."

We add the Primer sequence as well as a Bates et. al. (2011) citation to the sentence: For the PCR amplifications the 515f/806r primer set (Fwd:GTGCCAGCMGCCGCGGTAA; Rev:GGACTACHVGGGTWTCTAA) described in Caporaso et al., (2011) proved to be suitable, as shown by Bates et. al. (2011).

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