

Interactive comment on “Concept for an electrostatic focusing device for continuous ambient pressure aerosol concentration” by Joseph L. Woo et al.

Anonymous Referee #3

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General comments: This manuscript presents a concept for the application of in situ electrostatic focusing to isothermally concentrate a continuously flowing aerosol stream of submicron particles, at ambient pressure. The authors demonstrated proof-of-concept, through theoretical calculation and laboratory measurement using a prototype. This system may have potential implications in aerosol measurements under low particle concentration. I recommend publication of this manuscript with minor revision.

Specific comments

(1) Introduction: It would be better to include more studies that requiring size-selected by a DMA, which should be more related to the current study.

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Results and Discussion:

(1) Line 3: "The observed enrichment is summarized in Figure... As shown in Figure", please indicate the specific figure number.

(2) From Figure 3, it can be seen that the enrichment factors are linearly related to the applied voltage for particles in the size range of 75 to 200 nm. I am afraid this size range does not cover the sub-micron particles in ambient.

(3) I wonder if other factors such as relative humidity and temperature in the system affect the enrichment.

(4) Given such a low enrichment factor observed in Figure 6, how could the authors extend the implications of this system.

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C2