

# ***Interactive comment on “Emission factors and light absorption properties of brown carbon from household coal combustion in China” by Jianzhong Sun et al.***

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The manuscript "Emission factors and light absorption properties of brown carbon from household coal combustion in China" by Sun et al., presents valuable measurements of the emission factors and optical properties of brown carbon and black carbon fractions resulting from household coal burned for heating/cooking purposes in China. An optical method using an integrating sphere was applied to analyse several coals burned in typical stoves at both, chunk and briquette styles.

The method is not new but it is applied to an interesting study. The protocols are sufficiently well described, the study has been done carefully and the interpretation makes sense. The results are potentially interesting for other researchers engaged in

aerosol studies.

The paper is adequate to the journal scope, it is well formatted and presents a valuable experiment, so it deserves publication in the ACP. Except for some small technical corrections, I have only one major concern about reference Sun *et al.*, 2016. Please see below.

### **Specific comments and technical corrections:**

- pag.5, line 17: L/min should be l/min;
- pag.5, line 18: "... into the PFS-4000..." should be "...into a PFS-4000...";
- pag.9, line 18: something is missing in the sentence starting with "It's interesting that...";
- please complete captions of figures and tables to make them more informative, for example, describing the meaning of the abbreviations used;
- reference Sun *et al.*, 2016 is an unpublished work and, based only on the title, it appears to have a significant overlap with the present manuscript, so authors should explain what part of the work is done in each manuscript.

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Discussion paper

