

## ***Interactive comment on “VOCs emission profiles from rural cooking and heating in Guanzhong Plain, China and its potential effect on regional O<sub>3</sub> and SOA formation” by Jian Sun et al.***

### **Anonymous Referee #3**

Received and published: 23 March 2018

This article reported the VOCs emission profiles from burning of solid fuels in North-west China, and evaluated their potential for ozone and secondary organic aerosols formation in Guanzhong area, China. It is quite useful to know the emission factors and source profiles of VOCs from solid fuel burning for accurately assessing their impacts on air quality and public health. However, there are several questions and comments needed to be addressed as follows:

1. Line 84: Where do you get the semi-gasifier? How many semi-gasifier stoves did you use for sampling? Are there any differences in performance among different stoves?

C1

2. Equation 1: How to confirm the weight of fuels as the combustion is a continuous process. Or the author just used one run for each test? Please explain.

3. Line 162-164: Please explain why sufficient air supply led to higher VOCs emission in open burning. And what is the relationship to this study?

4. Section 3.2: Coefficient of divergence (CD) below 0.2 was usually used to as a threshold of similarity. However, all the CDs were over 0.2 in this study, thus the authors are suggested to discuss it in detailed.

5. Line 301-309: Uncertainties should also come from the weather parameters. Because the temperature and pressure used in model was fixed, but in real world the temperature, pressure and concentrations of pollutants were variable. I suggest the authors to add these factors to the uncertainties analysis.

---

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2018-36>, 2018.

C2