

NPF is a hot atmospheric topic and its air quality, climate and human health effect still remains not clear. As a measurement report, only 25 days are available, which can not provide robust statistical results of NPF parameters (frequency, GR and FR). The author compared the NPF parameters with the previous studies in NCP region, however, the short period study can't explain the difference, but cause large uncertainties in statistical values. In this work, something new about the NPF events study should be pointed out as many similar studies have been conducted in the same region in China.

Major concerns:

1. Statistical significance: The statistical numbers of formation rate, growth rate, etc. was calculated based on only a few NPF cases (12, 13 NPF events at different locations). Is this statistical meaningful as the small quantity of cases? Also the comparison of the NPF frequency, GR, FR, and CS with the previous long-term study should be careful.
2. Instrument consistency: in the section 2.2, there is DMPS, SMPS, FMPS used in the PNSD measurement, the comparison of PNSD derived by different instrument should be given of the overlap size range. It is very important to make sure the data are comparable, as the PNSD data also determine the formation rate, growth rate and CS. The type and manufacturer of DMA of DMPS, as well as the SMPS should be also provide.
3. The influence of air mass origin on the regional NPF occurrence was discussed. As the MT site locates nearby the mountain, how does the topography affect the air mass, local wind, as well as the inhomogeneity of regional NPF events should be also addressed.

Minor comments:

1. L18-19, I don't think this conclusion is appropriate in the abstract, as the sentence imply this is the first work about urban and regional measurement. Actually, Wang et al., (2013) has reported the regional NPF events in urban Beijing and a regional background site based on one-year dataset before.
2. L47, the reference of the same author should be cited as Guo et al., 2014; 2020.
3. L217, what is "good data"? The clear explanation should be given.
4. L222, higher NPF frequency in this study, as compared with Wang et al., 2013; Deng et al., 2020a, was explained by "25 days were validated data", it is not convincing. The short period study caused large uncertainty in the comparison, including the formation rate, growth rate, frequency and CS. However, it can't explain for the higher or lower value. Other favorable parameters for NPF, e.g. meteorology, precursors, CS, should also be taken into consideration.
5. Section 3.1.4, do you mean the higher ending diameter at UB site, supported by the higher condensing vapors? But as you have mentioned, the GR at both sites were comparable, does that mean the condensing level are also comparable? The conclusions from GR and ending diameter were not consistent, it should be discussed further.
6. Figure 1: why the station of S60 is shown in the figure?
7. The key word: haze, there is no much discussion about how NPF event contributing

to regional haze formation in the study. So I think this key word is not appropriate.