

Atmos. Chem. Phys. Discuss., referee comment RC1  
<https://doi.org/10.5194/acp-2022-292-RC1>, 2022  
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## Comment on acp-2022-292

Chunxiang Ye (Referee)

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Referee comment on "Seasonal characteristics of atmospheric formaldehyde (HCHO) in a coastal city of southeast China: Formation mechanism and photochemical effects" by Taotao Liu et al., Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2022-292-RC1>, 2022

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### General comments:

This manuscript reported relatively comprehensive measurements of HCHO, HONO, PAN, NO<sub>x</sub>, GC-FID/MS VOCs etc in city of Xiamen in Southeast China and presented source appointment analysis of HCHO by PMF model and simulation of oxidative capacity of the atmosphere by chemical model. First of all, I personally for now can not accept the PMF model source appointment of a relative short-lived species of multiple sources, like HCHO. This point surely needs further discussion. For example, the author can provide justification of the method, which is not available in current manuscript. Secondly, scientific motivation and measurement validation, or at least uncertainty analysis are two lost parts in discussion of the chemical model simulation. Otherwise, the result might appear to be of local interests or not robust, which is out of the scope of ACP journal.

### Specific comments

I I found some puzzled statement. For example,

In line 19<sup>i</sup>/<sub>4</sub> □ The author emphasis experiment design in a coastal area. However, what is special for this area? Any implication for general coastal area from this dataset?

In line 18-19: whether measurements of HCHO is scarce or not?

I would say the role of HCHO in radical chemistry is relatively well accepted. If the author suggests otherwise, what is new in the understanding of this subject from your data?