

Atmos. Chem. Phys. Discuss., referee comment RC2  
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## Comment on acp-2021-591

Anonymous Referee #2

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Referee comment on "Eight-year variations in atmospheric radiocesium in Fukushima city"  
by Akira Watanabe et al., Atmos. Chem. Phys. Discuss.,  
<https://doi.org/10.5194/acp-2021-591-RC2>, 2021

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[General comments]

This paper has studied and contributed to not only the better understanding for the chemistry of Cs in the atmosphere but also the earlier rebirth from nuclear accident. This study is quite challenging to the non-reproducible event based on the eight-year measurement. Therefore, this study should include many uncertainties. Under such a difficult situation, this paper can give scientists many useful information and knowledge including unsolved agenda. In this meaning, this study should be appropriate for publishing in ACP.

On the other hand, I expect the authors to describe and give suggestions to readers for the points below.

- Give us a clearer scientific (physical, chemical, mathematical or some other) reason why the authors consider that the year of "2015", neither "2014" nor "2016", was the turning point in time series, especially for Fig. 3.
- Why should the fractions in dissolved and particulate change suddenly in 2015? Give us scientific reasons/comments/discussions in detail more.
- When we compare the results between forest sites and current study sites, the sampling height above the ground level might be different. Is there any influences on the measurement results and the subsequent interpretations of the data? (Around p.10, LL.12-14)

[Specific comments]

p.3, LL.11-12, Why do we need bracket; (The.....2011).

p.6, L.13, Is "Shibata" "Sibata"?

p.9, L.14, Why do the authors select power of X, not exponential function?

p.14, LL.11-13, On the description of "We .....and autumn.", is the reason for "We can assume" either the present measurement results or other references? If the former is, is the description of "our measurement strongly indicates" better than "we can assume"?

p.17, L.17, Why can the author simply say "the samples have similar origins" although the precipitation is influence by not only below cloud scavenging but also in cloud scavenging?

p.20, L.13 and p.27, LL.28-29, Is there any conflicts between two sentences of "it seems that wet deposition plays an important role in the removal of..." and "Therefore, decontamination may play a partial role in explaining the differences..."?