

Atmos. Meas. Tech. Discuss., referee comment RC1
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Comment on amt-2021-82

Anonymous Referee #1

Referee comment on "An automated system for trace gas flux measurements from plant foliage and other plant compartments" by Lukas Kohl et al., Atmos. Meas. Tech. Discuss., <https://doi.org/10.5194/amt-2021-82-RC1>, 2021

Commenting "An automated system for trace gas flux measurements from plant foliage and other plant compartments" submitted by Dr. Lukas Kohl et al.

Traditionally static chamber might largely bias the flux measurements of trace gases on plant shoots due to plant physiological activity. This study developed a novel system, PlasTraGAS, for continuous and automated measurements of trace gas exchange at plant shoots by regulating temperature, humidity, and CO₂ concentrations in the shoot enclosure. This system holds the potential for providing insights into the role of plant foliage in the global budgets of trace gases.

This is a good work. However, I have the following concerns.

As we know, leaf chamber in LiCor series instruments is used for measuring photosynthesis. Please provide a discussion on difference between your new system and LiCor series instruments. What is advantage of your new system?

When an instrument is expensive and complicated, it is hard to be widely applied in the field. Can your system be widely used in forests in nature?

I find your system is tested in pine saplings. Obviously, in nature most of tree stems are much larger than your shoots. Can your system be extended to large stems of trees in forests?

Thus, I recommend a revision with additional discussion.