

Interactive  
Comment

## ***Interactive comment on “Methane emission estimates using chamber and tracer release experiments for a municipal waste water treatment plant” by C. E. Yver-Kwok et al.***

**W. Eugster (Referee)**

werner.eugster@usys.ethz.ch

Received and published: 17 April 2015

This paper was already published in AMTD on 29 October 2013 with the title “Estimation of waste water treatment plant methane emissions: methodology and results from a short campaign” (<http://www.atmos-meas-tech-discuss.net/6/9181/2013/>). The Review Status of that paper informs me that “A final paper in AMT is not foreseen”, so my critique has to address a basic question:

Where does self-plagiarism start and is it not an issue to address with a clear answer if a published paper (in AMTD) is republished in a similar way in the same journal?

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



---

[Interactive  
Comment](#)

When I accepted to provide a review I was under the impression that the authors have made sure to refocus in a way that I could say as a reviewer: great, only 50% overlap with the previous paper. Now I have to realize that out of 5 Tables four were already presented in the 2013 version, only Table 4 is new. In Table 2 the units were changed from kg/d to g/d, and Table 3 has one line more and the numbers look different from the 2013 version.

With respect to Figures: Fig. 1 has the same sketch, but the pictures have changed: one is similar and two were added. Figures 2 and 3 are the same. In Fig. 4 the Rn curve was removed but the two circular panels were added. Fig. 5 is the same, but (one point I criticised) the lines connecting points across the data gap are now removed (this is good). Fig. 6 was Fig. 7 before with the dashed lines removed. Fig. 7 was Fig. 8 before, and Fig. 9 was Fig. 6 before. Fig. 10 has the fourth line of panel removed, but the caption still says “the four tracer release episodes”.

I ran the manuscript through the plagiarism checker of ETH Zurich (Docoloc) and this finds that from 481 sentences that were checked, 391 were found in other documents, which gives a percentage of 81.3%. This is an unacceptable high percentage for the plagiarism standards common at ETH and other Swiss Universities, so no scientific paper yielding such a high score could be accepted. Students would face serious sanctions if they submit such a text. I know that colleagues in the USA are having the same strict standards, and many institutions in Europe would not accept this either.

Hence I cannot support acceptance for AMT on technical reasons, because if this was offered, then this would mean that we would accept that (self-)plagiarism is allowed in sciences.

[Full Screen / Esc](#)[Printer-friendly Version](#)[Interactive Discussion](#)[Discussion Paper](#)

## When is Self-Plagiarism allowed?

There is an article by Pamela Samuelson (<http://dx.doi.org/10.1145/179606.179731>) addressing the issue. She mentions a 30% rule – as noted further above I actually would have positively assessed a paper that left me with the impression that not more than 50% was republishing published material (without reference, hence plagiarism).

It is more an ethical decision that the Editor must make. Contentwise the paper is nicely written, and even slightly more interesting than the previous paper. There are some minor points which I do not go into detail here, before the Editor has made the key decision what the rules on self-plagiarism actually are.

### Details

I list the sentences that DocuLoc did NOT find in other documents:

Figure 1d shows a qualitative image of the methane measured 25 with the mobile instrument described in Sect. 4 around the site on 18 September with a southwest wind.

(a) accumulation closed-chamber measurements (Frankignoulle, 1988) and (b) flow-through open-chamber measurements.

This uncertainty arises both from the initial measurement of the total volume of the chamber and from the uncertainty associated with the water level in the 5 chamber.

The overall uncertainty was calculated for each 10 run using Gaussian error propagation.

The precision is defined on the maximum value that the flowmeter can read and is here below 2 % on  $1507 \text{ L h}^{-1}$  (Mønster et al., 2014a).

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



We used 1 s averaged data. This allowed to collect more data points and to better capture the shape of the plumes.

The instrumental techniques and the setup of the instruments during the campaign are detailed hereafter.

Both instruments are functionally identical. A detailed description is found in Griffith et al. (2012); Hammer et al. (2012).

Focus was laid on measurements in the area where the aeration took place.

Three releases were performed in that manner.

During the first three releases, a 0.05 m<sup>3</sup> cylinder of C<sub>2</sub>H<sub>2</sub> was situated next to the degassing basin.

Then, we show the results from the two methods to estimate CH<sub>4</sub> emissions.

However, a good agreement was observed between the two 20 instruments with a mean difference of  $2.4 \pm 3.9$  ppb (SD).

For the other four measurements, the increase cannot be linearly approximated.

Where the aeration takes place, the fluxes are very different.

It can further be seen from Fig. 7, that the methane concentration maxima are lower 15 during the late night than in the evening.

Given the release rate of 10.6 kg d<sup>-1</sup> for C<sub>2</sub>H<sub>2</sub>, we found that the methane emissions from the degassing basin were  $1.13 \pm 0.5$  kg d<sup>-1</sup>.

However, in most cases, there are several parameters that can be determined more accurately to reduce these uncertainties. In Table 4, the parameters in bold are the parameters with the higher uncertainty.

Moreover, controlled release exercises as done by Mønster et al. (2014b) can help quantify the non collocation error.

[Full Screen / Esc](#)[Printer-friendly Version](#)[Interactive Discussion](#)[Discussion Paper](#)

---

Interactive comment on Atmos. Meas. Tech. Discuss., 8, 2957, 2015.

**AMTD**

8, C716–C720, 2015

---

Interactive  
Comment

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

C720

