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Editorial Note
"A novel Whole Air Sample Profiler (WASP) for the quantification of volatile organic compounds in the boundary layer" published in Atmos. Meas. Tech., 6, 2703–2712, 2013

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The AMT executive editors received a complaint that the method presented in the paper by Mak et al. (2013) was largely based on an earlier invention by Pieter Tans (see e.g., the paper by Karion et al., 2010), but this earlier invention was not mentioned or referenced in the paper by Mak et al. (2013). For the AMT executive editors it is not possible to make a clear decision in this conflict. Unfortunately, it was also not possible to reach a consensus between the involved parties.

This editorial note thus has two aims:

1. to make the readers of the paper by Mak et al. (2013) aware of this conflict;

2. to give both parties the opportunity to present their points of view.

The respective statements by Mak et al. and Pieter Tans are given below.

Statement by Pieter P. Tans

This paper makes it appear that J. Mak and co-authors invented the novel sampling technique discussed above. That is not the case. I invented this technique in 2002, and after testing it in the lab, on aircraft, and on the road, filed an Invention Disclosure Statement in 2005, and applied for a patent in 2006. It was awarded on 6 October 2009 as US Patent 7.597.014 under the title "System and method for providing vertical profile measurements of atmospheric gases". I called the device, a very long tube which acts as a "tape recorder" of air, the AirCore. Colleagues in my group as well as myself have given about a dozen presentations, starting in 2005, at meetings including several very well attended sessions at AGU Fall meetings, presenting AirCore results. We also published a paper (Karion et al., 2010) presenting the method, test results in the lab and on aircraft, as well as several profiles. Hundreds of atmospheric scientists have seen AirCore results.

Statement by John Mak, Alex Guenther and Thomas Karl

A system to quickly capture a series of air parcels and then analyze them later dates back at least to the 1990s with Al Cooper's intermittent sampler that flew on the NCAR C130. Although this work was described at conferences (for example, Davis et al., 1996) it was not described in peer-reviewed literature, and so we did not reference this work in the AMT paper. Subsequent to that, there are a number of other designs for the fast profiling of air, including the WAAS (Elliott Atlas' system, described in multiple publications).

In contrast to the WASP (the system we describe in the AMT paper) and the NCAR design from the early 1990s,

the AirCore design is limited to sampling vertical profiles of air that begin at high altitudes. The WASP can take horizontal or vertical whole air samples. In addition, the AirCore is only capable of determining rough vertical distributions of long-lived gases; the WASP is designed for measuring very low concentrations of reactive species with very high spatial accuracy, and the method corrects for flow regime and position using a pulsed tracer system. The AirCore is a closed-end tube, which means it is a vessel; the WASP is a flow-through open system. An additional major difference is that the WASP is capable of disjunct eddy covariance measurements following the general concepts developed in the 1990s but it is considerably more advanced and flexible than that earlier design. We believe that it would be appropriate to reference the AirCore system and to describe the substantial differences between these two systems. However, it is certainly not the case that the WASP "is directly based on AirCore" as has been asserted.

References

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