

Review of “Use of a Heated Graphite Scrubber as a Means of Reducing Interferences in UV-Absorbance Measurements of Atmospheric Ozone”, by Andrew A. Turnipseed, Peter C. Andersen, Craig J. Williford, Christine A. Ennis, and John W. Birks.

This paper describes the evaluation of a new scrubber to provide the zero measurement in UV absorption based ozone instruments. The motivation is that typical scrubbers remove interferences such as water and mercury. The removal of these species in the zero measurement leads to a measurement bias. The advantage of this new scrubber is that it does not remove these interferences and hence, it potentially provides a better measurement of ozone. The paper provides an extensive evaluation of the new graphite scrubber and compares it with the most common scrubbers used in commercial instruments. The presentation is clear and the results are significant and will be useful to the AMT readership. This paper is acceptable after minor changes to answer the comments below.

General: The paper is focused on using the scrubber for a 2B ozone monitor, which is appropriate, but it does neglect some more general applicability of this scrubber for lab use or for readers who use a different instrument. It would help to include information needed for other uses, too.

Line 135. Does the cleaning process affect the ozone removal efficiency? What about the results from the coarsely ground graphite? You should mention the results or remove the tease.

Line 190. The products of the O<sub>3</sub> + graphite reaction need better explanation and references. These references are really hard to find and do not provide the information that they are cited for. I could not access any from NASA and only one from University of Maryland (Tracz), and it was not at all useful to explain the products. Do you have any indication that acetone or acetaldehyde are produced? Did you look at the products with the GC-FID?

Line 195. What are the flow rates for these estimates?

Line 206. Explain the reason for offset.

Line 460. Do you have any indication from the GC-FID whether the uptake of VOC on hopcalite and MnO is reactive? Do you know what comes off the scrubbers when they are subsequently heated?