

***Interactive comment on “Application of a GC-ECD for measurements of biosphere–atmosphere exchange fluxes of peroxyacetyl nitrate using the relaxed eddy accumulation and gradient method” by A. Moravek et al.***

**Anonymous Referee #2**

Received and published: 5 May 2014

It was a pleasure to review this contribution by Moravek et al. The manuscript is of high quality, describing a thoroughly executed research project, well described and well written. The authors measurement site was a challenging one. They should be given extra credit for this work and especially for section 4.4, which is a very useful tool and references for others. I have two minor comments: 1. While the authors' analytical system is unique, I feel credit should be given to others who have developed similar systems addressing the issues described in this manuscript. Thus, I suggest consulting Arnts et al, JGR 2013, <http://onlinelibrary.wiley.com/doi/10.1002/jgrd.50215/abstract>, and previ-

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ously cited Park et al., Atmos. Environm. 44, 2010 and JGR 116, 2011, and/or Schade and Goldstein, JGR-D 106, 2001. This particularly with respect to instrument comparative precision as the main factor of flux determination. For instance, the authors could have used an internal standard such as these other researchers did, or explain in section 4.2 why that maybe impractical in their circumstances. 2. The statement on page 16, line 16f. refers to the authors previous paper, but I cannot easily find why the artificial time delay of 30 s "should" results in a zero offset between channels, unless it was determined that the covariance power at that time scale is essentially negligible. Maybe an additional sentence or two could clarify this; maybe the fast response ozone data can be used? In our group, we simply open both reservoirs at the same time, which avoids any spurious fluxes arising from "unexpected" covariances, and should also address valve effects.

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Interactive comment on Atmos. Meas. Tech. Discuss., 7, 1917, 2014.