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***Interactive comment on* “Characterization of total ecosystem scale biogenic VOC exchange at a Mediterranean oak-hornbeam forest” by S. Schallhart et al.**

Anonymous Referee #2

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Schallhart and co-authors report on a 3-week BVOC flux campaign above a Mediterranean oak-dominated forest in Northern Italy. This is a solid piece of work, well-written and nicely presented. In terms of contents, the paper can be divided into two parts: First, a comparison of two approaches for determining significant fluxes of the various compounds measured with the PTR-TOF and second a presentation/discussion of the significant fluxes. I see the first part having the largest innovative character, while the second part is fairly routine its value lying mostly in that the obtained data are a useful addition to the existing literature on BVOC emission from terrestrial ecosystems. The first part, however, could be expanded in my view in order to make it more accessi-

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ble to non-specialists on this topic and thus to increase the overall significance of the paper. What I would like to see is that the authors present more details on the two approaches which allow non-specialists to better appreciate the differences and also better illustrate the different approaches using illustrative examples. At present the reader has to check back with the paper of Park et al. (2013) or actually with their supplement in order to fully understand their method. I would like to see the authors present this method in a stand-alone fashion and also illustrate the difference to the manual method in a more easily understandable fashion. This will make the paper a more significant original contribution and more accessible to non-specialist readers. Except for this issue, I only have a few more minor comments listed below.

Details: p. 2763, l. 12: figures should be referenced in chronological order; what are the footprint extents in the major wind directions? p. 27632, l. 6-10: The term "leaf surface temperature" is not correct, at least with the usual use of this term as the temperature inferred on the basis of the emitted longwave radiation; what the authors are doing is inverting the equation of the sensible heat flux for the so-called "aerodynamic temperature"; did the measurements include a four-component net radiometer or an infrared temperature sensor? If so these data could be used to estimate surface temperature p. 27633, l. 23: use SI units throughout p. 27637, l. 4-5: the term "block averaging" means arithmetic averaging, without any filtering, e.g. linear detrending, applied – the sentence as it stands is thus contradictory p. 27638, l. 25: and block-averaging and linear detrending p. 27647, l. 18: photosynthetically active radiation Fig. 9: is hard to read – what about creating an average diurnal course of the methanol flux, T_{dew} and Taero – is it possible to better get the message from this presentation?

Interactive comment on Atmos. Chem. Phys. Discuss., 15, 27627, 2015.

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