Atmos. Chem. Phys. Discuss.,
doi:10.5194/acp-2016-743-RC3, 2016
© Author(s) 2016. CC-BY 3.0 License.

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Fluorescent Bioaerosol Particle, Molecular Tracer, and Fungal Spore Concentrations during Dry and Rainy Periods in a Semi-Arid Forest" *by* Marie Ila Gosselin et al.

Anonymous Referee #2

Received and published: 13 October 2016

General Comments: The manuscript entitled "Fluorescent Bioaerosol Particle, Molecular Tracer, and Fungal Spore Concentrations during Dry and Rainy Periods in a Semi-Arid Forest" by Gosselin et al. reports correlations of fluorescent aerosol particles of UV-APS and WIBS-3 with molecular tracers of fungal spores and bacteria. This study provides further investigations of the detection ability of UV-LIF instruments of fungal spores. In general, the manuscript was well written and the analysis of the data was well performed. I recommend this manuscript to be accepted for publication after minor revisions.

Specific Comments: 1. In the last paragraph of Introduction and the Discussion sections, the authors declared that this is the first comparison of online UV-LIF with organic

molecular tracers measurements. In fact, a recent study has also made such comparisons between WIBS and fungal spore tracers (see Yue et al., 2016, Sci. Rep.). 2. In part 2.2 Online fluorescent instruments (Line 174 – 176), the fluorescent detection bands for WIBS-3 should be λem 310 – 400 nm and λem 400 – 600 nm (see Gabey et al., 2010, ACP). Please clarify it. 3. Line 205: Provide references for "One important difference between the models is that the WIBS-3 exhibits comparatively weak FL1 and FL2 signals with respect to the more updated models, and is thus more influenced by FL3". 4. In Figure 5 (e, f), the unit for WIBS Cl1 FAP was given as mass concentration. How do the authors convert the number concentrations to mass concentrations for WIBS-3? Such information should be provided in the Methods section.

Interactive comment on Atmos. Chem. Phys. Discuss., doi:10.5194/acp-2016-743, 2016.