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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Isoprene and monoterpene emissions from secondary forest in northern Benin" *by* J. E. Saxton et al.

Anonymous Referee #1

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General Comments This is an interesting and scientifically useful analysis of biogenic volatile organic compounds (BVOCs) over tropical Africa. BVOC concentration measurements over this region are sparse and therefore these data represent significant information for understanding the processes that determine variability in BVOC emission. The authors also present a brief but nevertheless interesting study of biogenic material measured within the leaves. I found the title a little misleading: the authors make little or no effort to relate measured concentrations to emission strengths or indeed quantitatively understanding whether their measurements were consistent with concentrations predicted by emission models.

Specific Comments Page 4991, Line 16: Useful for the reader to know the range of values measured by Serca.

Page 4991, Line 21: Isoprene emission from vegetation is *generally* considered to be dependent on light at certain wavelengths. This effect has also been incorporated into models - the next paragraph about temperature sensitivity implies that the light sensitivity is not accounted in emission models.

Page 4993, Line 5. The authors are teasing the reader with evidence of unidentified monoterpene and sesquiterpene compounds. How will the authors progress beyond what they have already?

Page 4993, Line 9: Diurnal variation is not so well behaved for limonene, e.g., 11/06.

Page 4994, Line 29: Sentence about weak correlation between temperature and limonene ends with the implication that there is a similarly weak relationship between temperature and isoprene - is that correct?

Page 4998, Line 1: Are the authors saying that they measured possible oxidation products of BVOCs and did not see anything or are they saying they did not measure these products?

Figure 2: I thought Figure 2b was too busy. Would two scatterplots better serve the authors? Also the authors could use the simple relationships relating isoprene and surface temperature and PAR outlined in Guenther et al 2006 to see whether the observed concentrations were qualitatively consistent with current emission models.

Figure 4: In my version of the paper alpha and beta pines lines have a very similar colour.

Figure 5: Suggest removal of this figure. It is unconvincing. Better to say that there is a weak temperature dependence of limonene and state the correlation coefficient.

Interactive comment on Atmos. Chem. Phys. Discuss., 7, 4981, 2007.