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Interactive comment on "Isoprene emissions in Africa inferred from OMI observations of formaldehyde columns" *by* E. A. Marais et al.

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Please note that the soil moisture stress parameterization presented on p. 7488 (Eq. (3)) is wrongly attributed to Müller et al. (2008); this parameterization is part of the original MEGANv2.1 model, see Equation (20) in Guenther et al. (2006). Note also the the soil moisture stress factor was found in Müller et al. (2008) to decrease the global isoprene emissions by 20%, not 30% as stated on p. 7489.

I concur with the remark by Reviewer 2 that the implementation of the epoxydiol scheme does not realistically test the possible uncertainties in the chemical mechanism (see also Stavrakou et al., 2010), although I acknowledge that there is no easy way to do that. It could be instructive, however, to see HCHO cumulative yields as shown in Fig. 4 using a mechanism providing a better match with observed [OH]; for example, adding two or more OH radicals in the reaction of isoprene hydroperoxides with OH (as suggested by Lelieveld et al. [2008]) could be a cheap yet effective way of boosting [OH] in the box model simulations. This is not entirely satisfactory, since the failure of traditional mechanism to match the observed [OH] strongly suggests the existence of additional pathways, with unknown consequences regarding the yield of HCHO.

Lelieveld, J. et al.: Atmospheric oxidation capacity sustained by a tropical forest, Nature, 452, 737–740, 2008.

Guenther, A. et al.: Estimates of global terrestrial isoprene emissions using MEGAN (Model of Emissions of Gases and Aerosols from Nature), Atmos. Chem. Phys., 6, 3181–3210, 2006.

Stavrakou, T., Peeters, J., and J.-F. Müller: Improved global modelling of HOx recycling in isoprene oxidation: evaluation against the GABRIEL and INTEX-A aircraft campaign measurements, Atmos. Chem. Phys., 10, 9863–9878, 2010.

Interactive comment on Atmos. Chem. Phys. Discuss., 12, 7475, 2012.