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Interactive comment on "Spatial variations of nitrogen trace gas emissions from tropical mountain forests in Nyungwe, Rwanda" *by* N. Gharahi Ghehi et al.

S. De Gryze

sdegryze@gmail.com

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This study addresses an urgent need to understand the conditions under which N2O is emitted in African tropical rain forests, as well as reduce the uncertainty around the magnitude of the N2O fluxes from African tropical rain forests. It is indicated that the data presented in this study may assist the development of baseline information required for REDD activities. Currently, N2O fluxes from tropical forests are largely ignored during the GHG accounting of REDD projects. For the purpose of understanding the impact of including N2O in the GHG accounting of REDD projects, it would be very informative to know the change in N2O flux if a tropical rain forest is converted into a

likely new land use, such as small-scale agriculture. The paper focuses mostly on soil properties as explaining parameters of N2O and NO fluxes. However, to what extent does the fact that the samples were taken from a forest system impact the measured N2O emissions. In addition, the experimental design allows to understand the relative impact of different parameters on N2O fluxes, but how representative are the absolute emissions from lab incubations to actual emissions in the forest given the seasonal patterns in rainfall, temperature and nutrient availability.

Interactive comment on Biogeosciences Discuss., 8, 11631, 2011.