

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

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We are happy that the reviewer appreciated this work even if he/she evidenced that the arguments that chemodenitrification may be contributing to the NO and N<sub>2</sub>O need to be more strong. The issue that avoidance is weak for chemo-denitrification is valuable point and we agree on that. We will emphasize that the aim of this paper is not to discuss contribution of chemo-denitrification in detail (the background information is simply not sufficiently available), but to suggest that chemo-denitrification might be an important NO and N<sub>2</sub>O production pathway for the Nyungwe forest soils. Thus, understanding the significant of this alternative NO and N<sub>2</sub>O production pathways necessary

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to improve mechanistic biogeochemical model and make of future climate change. We intend (as a final aim of our overall research) to prepare also a paper in which we simulate N oxide gases for the Nyungwe forest soils, using a GIS coupled mechanistic biogeochemical model (ForestDNDC-tropica) and to do detailed tests with incubation sterilized soils, to demonstrate whether chemo-denitrification, which are processes that are more favorable at acid soils and need Fe, are a key pathway in acid soils of the Nyungwe forest. This information is clearly present in the manuscript, p.11646. Furthermore, there are not enough soil samples available for doing such experiment at the moment. There is plan to go to the Nyungwe forest in the near future and take soil cores for some of the 31 sampling sites to provide soil sufficiently available for doing such tests.

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