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Discussions

Interactive comment on "Ammonium and nitrate additions differentially affect soil microbial biomass of different communities and enzyme activities in slash pine plantation in subtropical China" *by* Chuang Zhang et al.

Anonymous Referee #1

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The effect of atmospheric nitrogen deposition on forest ecosystems has become one important issue and popular research topic in recent decades across the world. The aim of this manuscript is to explore the differential effects of ammonium and nitrate on soil microbial communities and enzyme activities. The ideas are interested and worth to do. In general, I think the manuscript could be published after taking the following questions.

1. The data analyses is not enough or suitable. 1) The authors mentioned that using two factors randomized block variance of analyses (ANOVA) to test the differences

between the treatment and the sampling season. However, after reading the whole manuscript, I did not find any results from this methods. For example, if there is two factors, it must have the possible interaction effect between two factors. Actually, from Table 2, I have found several important interaction effects for DOC, Nitrate, Fugal et al. However, the authors did not discuss this at all. 2) Another question is that I have some confused why the authors took three measurements for PLFA biomarkers, even we knew that the variance of PLFA measurements varied a lot. Is there any important reasons to choose these three different months and what the ecological meanings are? evenly sprayed onto the plot once per month. Did this mean that the frequency of spray the nitrogen 12 times per year?

Other minor comments: 1. In introduction and discussion section: the authors cited papers in different ways, please format it. 2. The authors should improve their English grammar for a lot. There are a lot of small mistakes in the whole manuscript.

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