

## ***Interactive comment on “Fungi regulate response of N<sub>2</sub>O production to warming and grazing in a Tibetan grassland” by Lei Zhong et al.***

### **Anonymous Referee #3**

Received and published: 29 March 2018

This study reports the effect of warming and grazing on soil biotic contribution to N<sub>2</sub>O production in a Tibetan grassland, by examining a long-term (over 10 years) experiment combined with an incubation experiment. Their results indicated that fungi could be the main source for N<sub>2</sub>O production potential in the Tibetan alpine grasslands. Overall, the manuscript is of interest and generally well written. But there are some concerns and unclear points that should be addressed prior to publication.

Please find some more detailed comments below.

1. Lines 162–164, is it enough to collect only 5 cores for each soils?
2. How the authors draw the contribution of bacteria and fungi to total nitrification enzyme activity and total denitrification enzyme activity as shown in Fig. 5? I cannot

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find the specific description in the section "Materials and Methods".

3. Line 257, "Fig. 1A" should be changed to "Fig. 1a", based on the Figure 1. Also, the authors should revised it throughout the main text.

4. Line 259, "soil moisture" should be changed to "The average soil moisture".

5. In Figs. 1 and 4, why significant differences were only shown in Figs. 1b and 4e rather than all of subfigures?

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