

## ***Interactive comment on “Phosphorus addition mitigates N<sub>2</sub>O and CH<sub>4</sub> emissions in N-saturated subtropical forest, SW China” by Longfei Yu et al.***

### **Anonymous Referee #3**

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This paper report the effects of P addition on leachate chemistry and gas exchange of N<sub>2</sub>O and CH<sub>4</sub> in a high N deposition forest of the warm and humid part of China. The results are interesting and the paper easy to read. However, the statistical treatment is not ideal, since the repeated nature of the measurements seems not to have been considered in the model tests. I see this problem is well addressed by the other reviewers. This needs to be addressed although it will not change the outcome and major conclusions. Below is my mainly minor comments listed by line number 70: ‘and’ = ‘but’ 71: delete: ‘even’ 123: spell out what means PAI here at first appearance. 126: 5-m buffer is a bit narrow, but cannot be changed 127: ‘ad’ = ‘at’ 130: ‘. . . in the TSP soil.’ 141: ‘Within each plot, three ceramic . . .’ 145: ‘winter’ = ‘dormant’ or ‘dormant and dry’ ? 200: should be repeated ANOVA of some kind. It seems to me that the statistical analysis is not optimal. 206: check the subscript on P 290: I am not in favor

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of discussing degrees of N-saturation; I would instead say 'DHSRB is less N-rich with lower inorganic N availability than TSP' 303: 'frequently' = 'shortly' 306: delete 'TSP' here, implied in nearby 312-318: inhibition by NH<sub>4</sub> cannot explain emission only lower uptake rates; so delete or reformulate 330: like line 290; reformulate 328-334: I would suggest that both reason (and others as well) may have contributed 351-353: I do not understand this; what is the 'tree biomass estimates' doing here? 353-356: Why not, this should be simple and not much effort? 436-38: something wrong in this ref 587: add 'lactate' 589, 594+595 add these lines to the table legend.

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