REVIEW NOTE – bg-2018-499

General comments

The Authors of the manuscript '*Plant functional traits determined the latitudinal variations in soil microbial functions: evidence from a forest transect in China*' (bg-2018-499) by analyzing numerous parameters in forest soils located along North-South Transect of Eastern China (NSTEC) tried to answer the questions if: (1) the profiles of soil microbial substrate use varies along a latitudinal gradient, (2) biogeographical patterns of soil microbial substrate may be limited by climate and plant functional traits, and (3) the associations between soil microbial community and function could show functional dissimilarity. The Authors have found that soil microbial community structures and functions were significantly correlated along NSTEC and that plant functional traits may influence patterns of soil microbial substrate. Moreover, based on analysis of relationships between soil microbial community structure and functions they concluded that there was functional dissimilarity.

In my opinion, the study is interesting and has merit; however it needs major revision. The methods have been properly designed and the results and reliable.

Specific comments

Major points:

The Authors must include section 'Chemicals' in which all compounds used in this study will be described including their name, purity/activity, place of purchase

The paper suffers from 'Abbreviations' section in which all important full and shortened names must be included. This will help the Authors to read the text.

Minor points:

Page 3, line 51, '....functional diversity to understand ..' functional diversity (of what?), please add
Page 3, line 61-62, correct this sentence
Page 3, line 73-74, correct to: 'reflect ....phosphorous and pesticides concentrations over ...'
Page 5, add section: 'Chemicals'
Page 12, line 297, write 'positively' instead 'negatively'
Page 13, line 336, correct to: 'species'

Technical comments

Write (for example) '20 $^\circ$C' instead of '20°C'
English of the paper should be corrected in some places