

We would like to thank handling editor for his constructive comments that helped to improve the manuscript substantially. Please see our detailed response to handling editor's comments below.

Your paper has been evaluated by two anonymous reviewers. They gave a set of major and minor comments, and most of the minor comments, including the editorial comments, will be addressed, in your revision, as suggested in your reply.

The major criticism, raised by two reviewers, was related to the methodologies involved, and the scientific quality. Both of the reviewers think that the MS reads like a scientific report, can be regarded as a review of previous work, and is full of simple listing. In its present form the manuscript rarely synthesizes their findings. There should be many interesting things that could be discussed.

Many thanks for your valuable advice. As you said, the simple listing of previous work has been synthesized. The discussion such as the difference of GHG fluxes between plantation and nature regenerated forests, the effect of soil properties (SOC, total N, soil bulk density, and soil pH) on GHG fluxes have been rewritten.

According to reviewers, the annual fluxes for CH<sub>4</sub> and N<sub>2</sub>O calculated based on simple time interpolation would greatly introduce the significant bias into annual CO<sub>2</sub> flux calculation, the data analysis should be improved by applying more sophisticated statistical analyses of their GHG time series in combination with the treatment factors (season, tree species, litter).

We do agree your valuable comments. Annual soil CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O fluxes were calculated as follows.

Based on the relationship between soil temperature and soil CO<sub>2</sub> fluxes:

$$R = R_0 e^{bT}$$

where R is the soil CO<sub>2</sub> emission rate (mg m<sup>-2</sup> h<sup>-1</sup>), T is the soil temperature (°C) at 5 cm depth, R<sub>0</sub> and b are best-fitting coefficients.

Annual soil CO<sub>2</sub> fluxes were calculated as the sum of the daily soil respiration rates:

$$Y = \sum 24 \times R_0 e^{bT}$$

Where Y is the accumulative soil CO<sub>2</sub> fluxes (Mg ha<sup>-1</sup> yr<sup>-1</sup>).

Annual soil CH<sub>4</sub> or N<sub>2</sub>O fluxes were accumulated from the emission rates between every two consecutive days of the measurements by following equation:

$$Y = \sum_{i=1}^n (X_i + X_{i+1}) / 2 \times (t_{i+1} - t_i) \times 24$$

Where Y is the accumulative soil CH<sub>4</sub> or N<sub>2</sub>O fluxes (kg ha<sup>-1</sup> yr<sup>-1</sup>), X is the soil CH<sub>4</sub> or N<sub>2</sub>O emission rate (μg m<sup>-2</sup> h<sup>-1</sup>), i is the ith measurement, the term of (t<sub>i+1</sub>-t<sub>i</sub>) is the days between two adjacent days of the measurements, and n is the total times of the measurements.

And also, there are numerous grammar and spelling errors.

The English of the manuscript has been edited and proofed by a native English speaker.

As handling editor, I strongly support your suggestion (as suggested in both replies) to address those comments. The scientific quality in the revised version and to address those comments will be critical for accepting the paper in BG. I look forward in receiving the revision.