

Interactive comment on “Modeling microbial exchanges between forms of soil nitrogen in contrasting ecosystems” by M. Pansu et al.

Anonymous Referee #3

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In this paper, the Momos model was modified and tested for N cycle using incubation data sets of ^{15}N dynamic obtained from 6 different altitudinal transects. The paper made the hypothesis that C:N of microbial biomass can change during incubation and the authors used the model to verify this hypothesis. More statistics about parameter estimation (table 2) should be carried out to bring more strength to your demonstration.

- The figures 2 to 7 are too small : you should choose 2 examples and make larger figures
- In the legend of figures 2-7 : you should remind what is “assumption 1” and 2 (ex : Constant C/N for MB, . . .)
- There are two dashed lines (assumption 1 and 2b), choose another type of line

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- What is the accuracy of your estimated parameters (minimum values for C/N of MB, . . .) specially when you use assumption 2, are the parameters correlated to each other in this case ? (table 4)
- in the discussion you don't say much about questions 1 and 2 (see 5764-5766), so you should only focus on question 3, you should develop it and remove the others
- In the discussion of question 3, you should add more references about the evolution of C/N of MB.
- In table 1, don't repeat “Assumption 1, constant C:N. . .”, write it only one time for all the parameters link to this assumption, you will improve the clarity of your table
- For the presentation of the assumptions and strategy (see 5759-5760), you should add a new section in material and methods.
- I don't understand very well the strategy a and b, could you be more clear on this explanation ?

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