

Interactive comment on “A field-based method for simultaneous measurements of the ^{18}O and ^{13}C of soil CO_2 efflux” by B. Mortazavi et al.

Anonymous Referee #1

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This paper is interesting, technically sound, and well-written. However, I believe it poses a fundamental question for the editors of a fledgling journal. Is this journal going to deal with papers that are primarily methodological? My own reading of a strongly discussion-oriented, interdisciplinary journal is that this is the wrong place for such a paper. In my own notes, before I recognized that the paper was primarily methodological, here is what I said: (introductory few sentences) I am of the school that credit should be given where it is due. It is my impression that papers by Bill Schlesinger and his colleagues (e.g., Raich and Schlesinger, 1992 *Tellus*) set the stage for our knowledge of the importance of soil respiration in the global carbon balance, and deserve citation. I realize that the citations given concern ^{18}O in CO_2 , not bulk CO_2 . However, the isotopes are a tool to answer the larger question, not an end in themselves. So to recap, I would urge presentation of the importance of soil C respiration with a general reference, and then go to the isotope-based references to resolve things better. (conclusions) I think there is a make-or-break issue here for this paper, with respect to BGD. As couched, the conclusions make a case for a new and very useful method. However,

those conclusions are not put into a meaningful larger context. In effect, both my concerns about the introduction and my concerns about the conclusions are “bookends” of the same problem. I believe the paper can, and should, be published more or less in this form. I also believe that the authors can, and probably will, write an accompanying paper that lays out the broader scientific implications of this research.

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BGD

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