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Interactive comment on “Positive feedback of elevated CO₂ on soil respiration in late autumn and winter” by L. Keidel et al.

Anonymous Referee #1

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Keidel et al. describe the results of a study which investigates the effect of elevated CO₂ on soil respiration in late autumn and winter. The study is based in the GiFACE experiment which is in a temperate grassland ecosystem. The experimental design is well described as are the date processing methods.

Overall I find this to be a very well written manuscript and I have have relatively few comments to make. These are as follows:

P8571 L22 Given this oscillation should FACE experiments also include cscillation in eCO₂ levels? Have any experiments doen this?

P8759 L10 Are there seasonal differences in the relationship between soil temperature and respiration?

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P8763 L15 Why is the relationship between respiration and moisture content not investigated? Although the rainfall is low, Fig 2a suggests that the soil is rather wet, and the authors mention the high water table. It would be useful to calculate wilting point and field capacity from the soil texture as this would help to identify periods when respiration is limited by high or low soil moisture levels.

P8762 L1 Can the authors give more insight as to why other studies report different results?

Interactive comment on Biogeosciences Discuss., 11, 8749, 2014.

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