

***Interactive comment on* “Characteristics of soil profile CO₂ concentrations in karst areas and its significance for global carbon cycles and climate change” *by* Qiao Chen**

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I would like to show thanks to Jeremy Owens for his comments. I have corrected as following: Question: There are several citations where the authors first and last names have been reversed. Response: Indeed, the author first and last names of several references were reversed. Now, I have carefully checked every reference and revised them. Question: additionally, weathering of carbonated would have limited effects on the isotope system as well. Thus, I would suggest using the citation of Owens et al. (currently Jeremy et al.) for missing carbon sink should be discussed in a more thorough manner. Response: As far as the missing carbon sink, I checked some new

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information. The referece (Sundquist, 1993) is suitable. The carbon isotope system may be related to complex conditions. For example, Hoefs J (1997) presented that the CO₂ from carbonate corrosion has carbon isotope of -3‰+1‰ under acid conditions, which is significantly higher than that of SOC. The studied area is reported to be located an area with acid rain.

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