

Magn. Reson. Discuss., referee comment RC3  
<https://doi.org/10.5194/mr-2021-18-RC3>, 2021  
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## Comment on mr-2021-18

Anonymous Referee #2

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Referee comment on "An electrochemical cell for in operando  $^{13}\text{C}$  nuclear magnetic resonance investigations of carbon dioxide/carbonate processes in aqueous solution" by Sven Jovanovic et al., Magn. Reson. Discuss., <https://doi.org/10.5194/mr-2021-18-RC3>, 2021

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This is a manuscript describing wonderful and detailed work showing in operando measurements of the carbon dioxide / carbonate interconversion on an electrode. It is a challenging problem, and it is indeed interesting to see that this reaction can be monitored in this way. I have the following minor comments:

(1) The discussion about the following is really quite unclear. I could not make sense of this from reading the text and looking at the figure: was the sample rotated or not, why? Do you really need mechanical separation? Why?

"To stabilize the sample inside the magnet and to achieve a mechanical separation of probe and cell, a dismounted turbine of a 135 magnet lift was fixed on top of the probe. A spinner was attached to the *in operando* cell, placed inside the turbine and inserted"

(2) The discussion in relationship to Fig. 4 is nice, but I would suggest to add the following references, which have also shown the orientation effects quite nicely:

<https://pubmed.ncbi.nlm.nih.gov/25036296/>

<https://pubmed.ncbi.nlm.nih.gov/29960130/>

This paper also discusses the orientation effect, and demonstrates it in Fig. S1:

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