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Magn. Reson. Discuss., author comment AC3
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Reply on RC2

Nino Wili et al.

Author comment on "Reverse dynamic nuclear polarisation for indirect detection of nuclear spins close to unpaired electrons" by Nino Wili et al., Magn. Reson. Discuss., https://doi.org/10.5194/mr-2022-12-AC3, 2022

In order to revise the manuscript, I would like to clarify what the first point is about. Yes, the NOVEL condition requires high power, but I do not understand why this should prohibit resolution on the nuclei. In the Davies ENDOR sequence, the SzIz state is generated with a selective mw pulse. if this pulse is too strong, then small couplings cannot be detected (because the pulse is then not selective). This limitation does not exist in Mims ENDOR, and we expect that it should not be the case in a hypothetical "DNP ENDOR". Is there another reason that you think could limit the resolution?

We would imagine a selective rf pulse between the two DNP steps. The frequency of this rf pulse would be swept from one acquisition to the next, as is the case in Davies or Mims ENDOR. We will expand on this point in the revised manuscript.