

Magn. Reson. Discuss., referee comment RC2
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Comment on mr-2021-64

Anonymous Referee #2

Referee comment on "Correction of field instabilities in biomolecular solid-state NMR by simultaneous acquisition of a frequency reference" by Václav Římal et al., Magn. Reson. Discuss., <https://doi.org/10.5194/mr-2021-64-RC2>, 2021

The authors present a much-needed post-acquisition numerical approach for correcting SSNMR data acquired without deuterium lock. The method relies on acquisition of 1D frequency reference spectra acquired simultaneously during measurement, generally via multiple receiver hardware. By monitoring the changes of expected peak positions in the reference spectra, an amount of required frequency shift for any given increment can be computed and applied to the primary measurement's direct dimension, and corresponding frequency shifts can be propagated and applied to the indirect dimensions. The method is well-explained, and while it might not be applicable to every hardware configuration and experiment, the authors present cases where the method is practical and improvement is substantial.