Windischleuba, March 28, 2023

Dear Editor,

During the proofreading stage of our manuscript for *Magnetic Resonance* (mr-2022-18), we realized several inconsistencies that ought to be corrected. They are listed below together with justifications for the proposed changes:

- Eq 23 gives the density operator at thermal equilibrium. There are two successive approximations to compute it: first, spin-spin interactions are neglected because they are weak compared to the Zeeman interaction,
- and, second, multiple-spin orders are neglected because the system is weakly polarized. In the original version of the text, these two approximations were confused. We propose to replace it by:

  > *"The first approximation in this expression comes from the fact that it neglects all spin–spin interactions. is valid unless the system is highly polarized, which is the case even at very high field (without hyperpolarization). The second approximation comes from the fact that we neglect multiple-spin orders terms, which are proportional to the products P_{l}P_{k}, where P_{l} and P_{k} are the polarizations of spin l and k, respectively."*

- Eq. 37 gives the apodization function of the time domain signal used to avoid baseline distortion of the frequency domain signal. In the original version of the text, the apodization function consisted of multiplying all points by two except for the first one. We propose to replace the apodization function by multiplying all points by two except for the first AND the last one. Although this does not change the result of the simulation, it makes the process more understandable to those familiar with Fourier analysis.

- The last line in Table 2 states that signals at zero field and high field are real and imaginary, respectively. We think that this shortcut could be confusing. Indeed, signals at zero-field can be made imaginary and signals at high field are only imaginary because of quadrature detection, a subject that we chose not to dive into. We therefore propose to remove this line in the table to avoid confusion.

In our view, all the other changes are minor. I am at your disposal, should you have any questions about the changes we have brought to the text.

Best regards,

Quentin Stern