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Erratum: “A general framework to quantify the effect of restricted diffusion on the NMR signal with applications to double pulsed field gradient NMR experiments” [J. Chem. Phys. 130, 104702 (2009)]

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In Ref. 1 two equations have errors. Equation (24) should read

\[ X_{km,k'm'} = r_0 \delta_{m,m'} \pm i \beta_{km} \beta_{k'm'} \frac{\alpha_k^2 + \alpha_{k'}^2 - 2mm'}{(\alpha_k^2 - \alpha_{k'}^2)^2} \]  

and Eq. (30) should have been

\[ Y_{km,k'm'} = i r_0 (\delta_{m,m'-1} - \delta_{m,m'+1}) \times \beta_{km} \beta_{k'm'} \frac{\alpha_k^2 + \alpha_{k'}^2 - 2mm'}{(\alpha_k^2 - \alpha_{k'}^2)^2} \].

Note that these results are obtained starting from the basis functions given by

\[ u_{km}(r, \phi) = \frac{\beta_{km}}{\sqrt{\pi J_m(\alpha_{km})}} J_m(\alpha_{km}r)e^{im\phi}, \]

where the index \( m \) takes all integer values including the negative ones.

Alternatively, one could employ functions whose angular parts are \( \cos m\phi \) and \( \sin m\phi \), where \( m \) is any natural number. The elements of the corresponding matrices are available upon request. In either case, matrices larger than those prescribed originally2 have to be constructed if the gradient waveform features differently oriented pulses.

The above corrections affect neither the results nor the conclusions of Ref. 1.

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