

References

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Appendix

The parameters for equation (6) are listed in the following:

$$\alpha_1 = 4\pi Q/3 - 2(2\pi - I)R$$

$$\alpha_3 = 4\pi Q/3 + 4(I - \pi)R$$

$$\beta_1 = \left(4\pi/3 - \frac{4\pi - 3I}{1 - \rho^2} \right) Q - 4(I - 2\pi)R$$

$$\beta_3 = [4\pi/3 - (4\pi - 3I)\rho^2/(1 - \rho^2)] Q + (4\pi - I)R$$

where

$$Q = \frac{3}{8\pi} \frac{1}{1 - \nu_m}, \quad R = \frac{1}{8\pi} \frac{1 - 2\nu_m}{1 - \nu_m}$$

and

$$r = \begin{cases} \frac{2\pi\rho}{(1 - \rho^2)^{3/2}} [\cos^{-1}\rho - \rho(1 - \rho^2)^{1/2}] & \text{for } \rho < 1, \\ \frac{2\pi\rho}{(\rho^2 - 1)^{3/2}} [\rho(\rho^2 - 1)^{1/2} - \cosh^{-1}\rho] & \text{for } \rho > 1 \end{cases}$$

When $\rho \rightarrow 1$, we have

$$\alpha_1 = \alpha_3 = \alpha = \frac{1}{3} \left(\frac{1 + \nu_m}{1 - \nu_m} \right)$$

$$\beta_1 = \beta_3 = \beta = \frac{2}{15} \left(\frac{4 - 5\nu_m}{1 - \nu_m} \right)$$

ERRATUM

'Proton spin-lattice relaxation in vinyl polymers and an application of a solvable model of polymer dynamics'

F. Heatley* and J. T. Bendler†

There is an error in the definition of the relaxation coefficients in equation (3) of reference 1, concerned with coupled proton spin-lattice relaxation in vinyl polymers. The equation defining the cross-relaxation coefficients T_{AX} and T_{XA} is in error by a factor of 2, and should read

$$\frac{1}{T_{AX}} = \frac{1}{2T_{XA}} = K \frac{12J(\omega_A + \omega_X) - 2J(\omega_A - \omega_X)}{R_{AX}^6}$$

This error is solely a transcription error. Relaxation parameters reported in reference 1 were evaluated using the correct form.

Unfortunately, the incorrect expression was employed in a subsequent application of a jump model of polymer motion². As a consequence of the correction above, calculated nuclear Overhauser enhancements given in Table III of reference 2 should be multiplied by 2. The agreement with experiment is much improved. (Note also that the entry for the parameter N_A at 10°C in the fourteenth column of Table III has been incorrectly printed as -0.9 instead of -0.09.)

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