CORRECTIONS

W.-G. Hu, C. Boeffel, and K. Schmidt-Rohr*: Chain Flips in Polyethylene Crystallites and Fibers Characterized by Dipolar ^{13}C NMR. Volume 32, Number 00, p 000.

Due to a programming error, the chain-flip rates in the simulations of the one-dimensional ^{13}C NMR line shapes (Figure 6) were too small by a factor of 2π. As a result, the rates on the right-hand side of Figure 6 have to be corrected to read as follows (from top to bottom): 20 kHz, 3.5 kHz, 1 kHz, and 120 Hz. In the caption of Figure 7 and in the corresponding sections in the text, the flip rate in the UHMWPE fibers at 360 K must be changed to 1 kHz (from 150 Hz). The corrected Arrhenius plot, Figure 9, is shown below, together with its caption. The corrected activation energy is $E_a = 122 \pm 20$ kJ/mol, which is in good agreement with dielectric relaxation results in the literature. The corrected $T_{1\rho,H}(\tau_c)$ calibration plot, Figure 10, is displayed below.

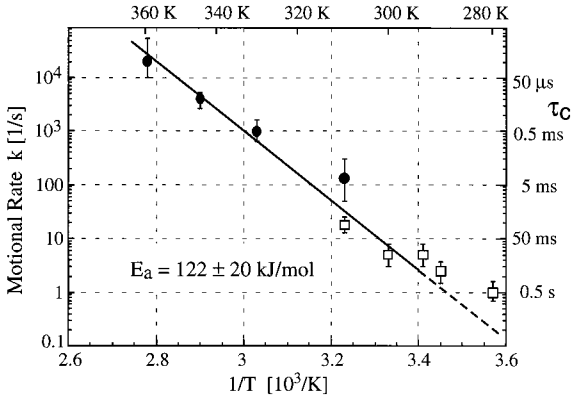

Figure 9. Arrhenius plot of the correlation times of the 180°-flip motion in the crystallites obtained from the stimulated-echo decays (□) and the 1D line shape changes (●), see Figure 6. The slope of the line yields an activation energy of (122 ± 20) kJ/mol. Points at the lowest temperatures were excluded from the fit since spin diffusion increases the rate of exchange artificially.

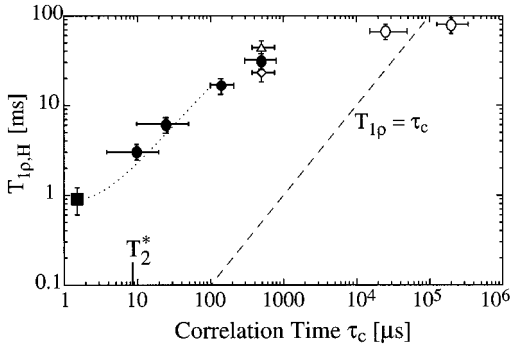

Figure 10. Plot of $T_{1\rho,H}$ as a function of correlation time τ_c. Data shown are for HDPE (● in the range little affected by spin diffusion; ○ for $T_{1\rho,H} > 30$ ms), for UHMWPE fibers with fiber axis perpendicular to B_0 (◇), and for UHMWPE fibers with fiber axis parallel to B_0 (△). The $T_{1\rho}$ minimum at $\tau_c = 1/(2\gamma B_1) = 1.4$ μs (■) was measured on the ethylene−hexene copolymer sample. To indicate that the data will not fall on a straight line because of the minimum, a dotted line with this minimum behavior has been drawn through the data points as a guide to the eye. The dashed line indicates where $\tau_c = T_{1\rho,H}$. The transverse relaxation time T_2*, at which the ^1H FID decays to $1/e$, is given on the τ_c-axis. For $T_{1\rho,H} > 30$ ms, effects of spin diffusion become significant. In that range, the τ_c dependence of $T_{1\rho,H}$ plotted here cannot be expected to be valid for other PE samples.

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