\[ \left\langle r^2 \right\rangle_t = \left\langle r^2 \right\rangle_N \]

Coincidence ...

... between the mean-squared displacements determined for the same molecule over sequential time intervals and for all molecules over the same time interval follows as a consequence of the ergodic theorem. In their Communication on page 1152 ff., C. Bräuchle et al. confirm experimentally this fundamental principle of thermodynamics by diffusion studies using fluorescence microscopy and NMR spectroscopy with pulsed field gradients.