NMR Methods of Quantum State Detection

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The process of amplification of a single spin state using nuclear magnetic resonance (NMR) techniques in a rotating frame is considered. Our main aim is to investigate the efficiency of various schemes for quantum detection. Results of numerical simulation of the time dependence of individual and total nuclear polarizations for 1D, 2D, and 3D configurations of the spin systems are presented.

Key words: NMR; Spin Dynamics; Nuclear Polarization; Quantum Detection.
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