

COMPUTER SIMULATION OF NMR SIGNALS
IN A MULTISPIN SYSTEM WITH MAGNETIC
DIPOLE INTERACTIONS

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S u m m a r y

In order to carry out a computer simulation within the scope of the quantum theory of angle moment, an algorithm is proposed to build eigenfunctions of a spin Hamiltonian. The algorithm proposed is used to calculate the NMR spectrum and free induction signal for 1D chains, which consist of $2 \div 7$ spins. It is proved that only magnetic dipole interactions between spins cause the signal of free induction decay, which is not related to the evolution of the density matrix towards an equilibrium or quasi equilibrium.