

Electron spin-lattice relaxation in polyacetylene at low temperatures

Kurzin S., Tarasov B., Khajbullin R.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

Temperature dependences of electron spin-lattice relaxation times for cis- and trans-polyacetylene are measured at 2-40 K. A model of relaxation in trans-polyacetylene is suggested where the relaxation proceeds via spin diffusion to fast relaxing centers (a pair of close spins, one of which is highly mobile). Theoretical calculations of relaxation rates for both configurations of polyacetylene are presented, which give qualitative and quantitative description of measured relaxation times.
