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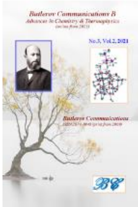

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Method for calculating processes during the decomposition of molecules of hydrocarbon liquids under the influence of an alternating magnetic field

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Abstract

The probability of influence on the spin transitions of electrons by magnetic fields through the influence on the magnetic moment of the nucleus of a hydrogen atom is considered. The mechanism of decomposition of hydrocarbon molecules into hydrogen and carbon is based on a singlet-triplet transition in the state of spins of paired valence electrons, through a non-contact action of a collinear vector of an alternating magnetic field on the magnetic moment μ of the nuclei of a hydrocarbon molecule. The energy of the external magnetic field is spent on structuring the magnetic moments of hydrogen nuclei. When the calculated alternating magnetic field acts on the magnetic moment of the nucleus of one hydrogen atom by the magnetic induction vector opposite to the initial position, the angle θ between the initial direction of the external alternating magnetic field vector B ~ 1 and the magnetic moment μ of the hydrogen nucleus will change by π. The spin of one nucleus of a hydrogen atom will also change its orientation to the opposite state, relative to the initial position. As a result of the spin-spin interaction of the atomic nucleus with the valence electron, the orientation of the electron spin in the covalent chemical bond of atoms in the molecule will change. The process of magnetic control of the spin orientation in space will be carried out. The use of a solenoid with a low electrical resistance, as a source of a high-frequency alternating magnetic field, will allow the simultaneous non-contact action of an alternating magnetic field on all calculated covalent bonds of the entire mass of a hydrocarbon liquid placed in a magnetically transparent container inside the solenoid. Calculations for the destruction of one covalent bond by exposure to a magnetic pulse and the total number of destroyed covalent bonds in 1 second for a solenoid with a magnetic induction of $1.4 \cdot 10^{-4}$ T are presented.

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