STRUCTURE AND SPECTRA OF 1,3-DIOXANES. MICROWAVE SPECTRUM, STRUCTURAL PARAMETERS AND *AB INITIO* CALCULATIONS OF 1,3-DIOXANE

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Microwave spectra of the 1,3-dioxane molecule ($C_4H_8O_2$) with the main isotopic composition and four its isotopomers ($^{13}C(2)^{12}C_3H_8{}^{16}O_2$, $^{13}C(4)^{12}C_3H_8{}^{16}O_2$, $^{13}C(5)^{12}C_3H_8{}^{16}O_2$, $^{18}O(1)^{12}C_4H_8{}^{16}O$) are investigated in a frequency range of 28-44 GHz. Rotational transitions of *b*- and *c*-types with $2 \le J \le 5$ are identified. Rotational constants, quartic constants of centrifugal distortion, isotope-substituted r_s- and effective r_0-structures of the molecule ring are determined. Experimental data are compared to the results of quantum chemical calculations of different levels.

Keywords: 1,3-dioxane, microwave spectrum, r_s-structure.