DEVIATION OF C–H CHEMICAL BOND IN A DEFORMED METHANE MOLECULE

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S u m m a r y

The force matrix for the methane molecule has been calculated making no *a priori* assumptions concerning the force field character. The calculations have been carried out in the framework of a relatively new $3N$-matrix method and using experimental frequencies for the normal vibrations of CH_4, CD_4, and CT_4 molecules. The deviation of the valence-force field from a real molecular force field has been calculated, and the "additive" of the central force field was found to be about 11%. The deviation of C–H chemical bound, which accompanies a certain preliminary deformation of the molecule, is a manifestation of the central-force field "additive" to the valence-force field.