DYNAMICAL STUDY OF TRIMETHYLAMINE BY MEANS OF THE NON-RIGID GROUP THEORY

Y. G. SMEYERS, *Instituto de Estructura de la Materia, C.S.I.C, Serrano 113-bis, 28006-Madrid, SPAIN.* ; and M. VILLA, *Departamento de Quimica, Universidad Autonoma Metropolitana - I., 09340, D. F., MEXICO.*.

In this communication, the character table for the triple equivalent methyl rotation is determined from the Non-Rigid-Molecule-Group theory (NRG), in which the dynamical symmetry operations are defined as physical operations. This Group of order 648 is shown to be a product of two subgroups, the G_{324} corresponding to planar trimethylamine and the pyramidal inversion subgroup. For this purpose, the structure of the NRG of planar trimethylamine is first deduced, i.e., the number of classes, irreducible represention as well as their dimensions. Finally, guidelines are given to deduce systematically the symmetry eigenvectors developed on the basis of quadrupole products of trigonomeetric functions.