ETHANE SIMMETRIC STRECHING VIBRATIONAL NORMAL MODES

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Ethane is reported as a non-rigid molecule taking as variable the θ methyl internal rotational angle. In this work the symmetric C-H stretching and the C-C stretching normal modes of vibration will be considered as function of the internal rotational angle. The potential function is expressed as a Taylor expansion in terms of the normal modes, and the expansion variables are evaluated at different θ angle and finally they are expressed and fitted to a θ function. It is quite important to emphasize the symmetry of the normal modes of vibration and the non-rigid group before writing a properly simetrized potential function.