THE VIBRATIONAL SPECTRUM OF METHANE

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The complexity of the methane spectrum arises from several reasons. Symmetry properties imply degeneracy of the levels. There exist accidental degeneracies due to Fermi interactions. The vibrational pattern of the molecule consists of subsequent polyads involving stretching and bending vibrations. Several theoretical models have been proposed from normal to local modes via algebraic approches ... A systematic intercomparison of several approaches will be presented and discussed.