Turkish Journal

of

Physics

Keywords
Authors

phys@tubitak.gov.tr

Scientific Journals Home Page

Turkish Journal of Physics

Symmetry of C_{60} and a Force Constant Model for Vibrational Modes

Ramazan KOÇ, Hayriye TÜTÜNCÜLER
University of Gaziantep,
Department of Physics Engineering,
27310 Gaziantep - TURKEY

Abstract: A force-constant model for the vibrational modes in C_{60} is presented. The Keating type potential is adopted for calculating the dynamical matrix. Using symmetries of the molecule, the dynamical matrix which yields the vibrational modes is block-diagonalized. We summarize the role of group theory in specifying the vibrational modes. The results are in excellent agreement with experiments. The effect of bond-stretching force constants on the vibrational modes will be presented.

Turk. J. Phys., **22**, (1998), 123-130.
Full text: pdf
Other articles published in the same issue: Turk. J. Phys.,vol.22,iss.2.