**Dispersion of Energy Spectra of Vibrational and Electronic Excitations in Diamonds and Other Nonpolar Cubic Crystals**

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Raman spectra in cubic nonpolar diamonds, silicium and germanium crystals have been investidated. For these crystals the physical regularities of electronic-vibrational processes have been studied and the energy structure of both vibrational and electronic elementary excitations have been established.

The principal methodological feature of the theoretical-symmetric consideration of electronic excitations is the construction of matrices of projective representations for various projective classes of symmetry groups of the wave vector, in particular spinor electronic representations. The matrices of such representations will be constructed for the first time on the basis of the eigenfunctions of the quantum operator of the angular momentum.