

FREQUENCIES OF LONG-WAVE
PHONON-POLARITONS AND OPTICAL PHONONS
IN DIATOMIC IONIC CRYSTALS

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S u m m a r y

Long-wave phonon-polaritons and longitudinal optical phonons in ionic crystals with two atoms per unit cell have been considered. The model of the point charge and the self-consistent electromagnetic field in the dielectric medium is used. The standard dispersion laws for both branches of phonon-polaritons regarded as transversal waves are obtained. The frequency of longitudinal optical phonons is expressed in terms of the ion plasma frequency in an insulator multiplied by the factor $\sqrt{\varepsilon_0/(\varepsilon_0 - \varepsilon_\infty)}$, where ε_0 is the static dielectric constant, and ε_∞ is the high-frequency one. A good agreement between the found expression and tabulated data is found.