

MECHANISM OF NON-STATIONARY  
PIEZOPHOTOCONDUCTIVITY SPECTRUM  
FORMATION IN LAYERED CRYSTALS

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S u m m a r y

Changes in the structure of electron states in layered crystals caused by a shear deformation of layers under the action of an external low-frequency modulated pressure have been analyzed. It is shown that the strain generates a superstructure with a period in the direction perpendicular to the layers, being a multiple of the layer thickness. The interaction of electrons with the strain-perturbed potential gives rise to the appearance of regularly located gaps in the energy dependence on the wave vector and results in a redistribution of electrons over the band states by means of Umklapp processes. A balance equation for the population of states is proposed, and its dynamics is analyzed. The non-stationary component of the interband absorption coefficient is estimated. The spectrum of this component is shown to have a band-like character, with the harmonic at the modulation frequency being shifted in phase with respect to the pressure phase by an angle depending on the light quantum energy.