

## CALCULATION AND MODELING ENERGY LEVELS IN THE ATOM ON THE BASIS OF INFORMATION TECHNOLOGY

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### ABSTRACT

In this work, the BP method was used and modeled on ICT in order to calculate the energy levels of electron in the KH for calculating polaron effects, and the image of the compressive potential of the KH was considered parabolic. Because of the difficulty of solving the differential equation (6), its solution is sometimes used by linear combinations of specific solutions which are obtained in strong and weak interaction regimes. When this method is applied to the volumetric polar semiconductors, the interpolation estimation of the energy of polaron state is obtained. In this case the correction due to the polaron effect occurs in the regime of a strong interaction impact  $\alpha > \alpha_c (\sim 6 \cdot 8)$ , in this condition the electron wave function is localized in the polarization field. In the field  $\alpha < \alpha_c$ , the electron-wave function is in the extended state (delocalized), and the polaron state energy suits the Lee-Loue-Pains result, namely it is proportional to the  $\alpha$ .

**Keywords:** Method, communication, calculation and modeling, atom, information technology.