

ENERGY OF THE INTERACTION OF A CHARGE
WITH THE SEPARATION BOUNDARIES
OF A MULTILAYER SPHERICAL
QUANTUM DOT

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S u m m a r y

We present an investigation of the influence of interfaces of a multilayer spherical crystal heterostructure on the potential energy of a charged particle. The case of presence of a thin intermediate layer at the interface where dielectric permittivity is a function of the coordinates r , θ , and φ is studied. We determined a functional dependence of the charge potential energy on distance and angles by the classical Green function method. By using the derived potential of the interaction of a charge with the interface, the Schrödinger equation is solved for surface states of an electron and a hole located in the matrix of the β -HgS/CdS heterosystem. It is shown that such states should make a considerable contribution to the interband absorption coefficient.