

NONRELATIVISTIC QUANTUM MECHANICS OF THE INTERACTING PARTICLES AND THE COORDINATE - IMPULSE CORRELATION RELATIONS

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A quantum mechanical model for a system of interacting bodies, taking into account noncommutativity of the coordinate and impulse operators for different particles and also the correlation equalities, is considered. The noncommutativity of the operators is here the result of the action of interparticle forces and represents natural generalization of the conventional commutation relation between the coordinate and impulse operators for a single particle. The efficiency of the model is evidenced by the specific calculations of well-known systems of atomic physics.