DEFORMED BOSE GAS MODELS AIMED AT TAKING INTO ACCOUNT BOTH COMPOSITENESS OF PARTICLES AND THEIR INTERACTION

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S u m m a r y

We consider the deformed Bose gas model with the deformation structure function that is the combination of a q-deformation and a quadratically polynomial deformation. Such a choice of the unifying deformation structure function enables us to describe the interacting gas of composite (two-fermionic or two-bosonic) bosons. Using the relevant generalization of the Jackson derivative, we derive a two-parametric expression for the total number of particles, from which the deformed virial expansion of the equation of state is obtained. The latter is interpreted as the virial expansion for the effective description of a gas of interacting composite bosons with some interaction potential.