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Mathematical Physics

Exact expressions for the intercepts of r-particle momentum correlation functions in μ-Bose gas model

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Recently, the deformed \mu-Bose gas model based on so called \mu-deformed oscillators was proposed. For that model, the intercepts of r-particle momentum correlation functions (correlation functions at coinciding momenta of particles) were treated for r=2,3, within certain order of approximation in \mu. In this work, we derive for \mu-Bose gas model the {\it exact} expressions for r-particle correlation function intercepts, for all r, through Lerch transcendent and find their asymptotics (as functions of \mu). For 2-, 3-particle intercepts and deformed distribution function <a^\dag_k a_k> the dependence on particles momentum is presented graphically.

Submission history

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