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The Second Order Correction to the Ground State Energy of the Dilute Bose Gas

We establish the Lee-Huang-Yang formula for the ground state energy of a dilute Bose gas for a broad class of repulsive pair-interactions in 3D as a lower bound. Our result is valid in an appropriate parameter regime of soft potentials and confirms that the Bogolubov approximation captures the right second order correction to the ground state energy. This talk is based on joint work with J. P. Solovej.