

MCQM Seminar: Søren Fournais (University of Copenhagen)

Wednesday, 13 March 2024 14:15 (1 hour)

Title: The dilute Bose gas at positive temperature

Abstract: In this talk, I will report on recent work concerning the free energy of the dilute Bose gas in the case of strong interactions. In particular hard sphere potentials are allowed. When combining recent progress on Neumann bracketing for this many-body problem with the “completion-of-the-square” approach used previously on the hard-sphere case at zero-temperature, one obtains a short and simple proof of a lower bound for the free energy in the dilute limit up to temperatures of magnitude ρa . Here ρ is the particle density and a is the scattering length of the interaction. This is joint work with T. Girardot, L. Junge, L. Morian, M. Olivieri, and A. Triay.