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Wielding the Dirichlet series to analyse the physics of bosons

I will discuss a new mathematical approach to the physics of an infinite array of boson sites. It crucially relies on the Dirichlet series and harmonic analysis on the group of positive rationals. This framework yields nonlocal coherent states (NCS) for the bosonic Fock space. The NCS enable rigorous calculations for a quantum system with infinitely many degrees of freedom. The research has been conducted in collaboration with Jonas Fransson (Department of Physics and Astronomy, Uppsala University).