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*Boundary conditions for operators on Fock space*

Hamiltonians for interacting models with variable particle number are often not given by relatively (operator-) bounded perturbations of the noninteracting Hamiltonian, and are thus constructed using quadratic forms or renormalisation. In general, these techniques do not give much information on the domain of self-adjointness. I will present a recent result (arXiv:1803.00872, in collaboration with J. Schmidt) on the definition of such Hamiltonians using generalised boundary conditions, for models in which bosons can be created and annihilated by nonrelativistic "source"-particles. Relevant examples include the Fröhlich model and the Nelson model. The domain of these operators is explicitly given in terms of generalised boundary conditions, similar to those used in the theory of point interactions, that relate different sectors of Fock space. I will introduce the main concepts of this approach and briefly discuss the relation to renormalisation.