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Light-front ϕ^4_{1+1} theory using a many-boson symmetric-polynomial basis.

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We extend earlier work on fully symmetric polynomials for three-boson wave functions to arbitrarily many bosons and apply these to a light-front analysis of the low-mass eigenstates of ϕ^4 theory in 1+1 dimensions. The basis-function approach allows the resolution in each Fock sector to be independently optimized, which can be more efficient than the preset discrete Fock states in DLCQ. The approach also allows for a direct calculation of the expectation value of the field.

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