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On the nonperturbative calculation of wave functions in quantum field theories¹ JOHN HILLER, University of Minnesota-Duluth — The understanding of hadronic physics would benefit greatly from a method to compute hadronic wave functions nonperturbatively in quantum chromodynamics. Work on the development of such a method, in the context of quantum electrodynamics, will be discussed. The method is based on a light-front Hamiltonian approach and Fockstate expansions for eigenstates of the Hamiltonian. Wave functions enter explicitly in this expansion and can be used to calculate properties of the eigenstate. The construction and solution of bound-state eigenvalue problems will be outlined.

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