

# Introduction to Basis Light-Front Quantization Approach to QCD Bound State Problems

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## Abstract

Basis Light-Front Quantized Field Theory (BLFQ) is an *Ab Initio* Hamiltonian approach to quantum field problem that adopts light-cone gauge and light-front quantization to exploit the advantages of light-front dynamics as well as the state-of-art methods developed in non-relativistic nuclear many-body theory in the non-perturbative regime. By a suitable choice of basis, BLFQ retains the underlying symmetries to the extent allowed within light-front coordinates. In this talk, we outline the scheme for applying BLFQ to QCD bound state problems. We adopt 2D Harmonic Oscillator with 1D DLFQ basis that corresponds to AdS/QCD soft-wall solution. Exact treatment of the symmetries will be discussed.