

Bridge between QCD and LFQM

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I will discuss the link between the QCD and the light-front quark model (LFQM) utilizing the interpolation between the instant form dynamics (IFD) and the light-front dynamics (LFD). In the 'tHooft model, the mass gap solutions, vacuum condensation, spontaneous symmetry breaking of the chiral symmetry and the mass spectra of mesons bearing the feature of the Regge trajectories are found and the Gell-Mann-Oakes-Renner relation for the pionic ground-state in the zero fermion mass limit is confirmed both in IFD and LFD as well as in-between. The implication of the link between QCD and LFQM will be discussed for the consistency in the framework of analyzing simultaneously both the mass spectra and the wave-function related physical observables. Independence of current components, polarization vectors, and reference frames will be exemplified in recent LFQM analyses of meson decay constants.

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Classification de Session: Plenary