

Contribution ID: 29

Type: 2.Parallel session talk

Progress toward a self-consistent light-front quark model analysis of meson structure

Wednesday, 25 September 2024 09:25 (20 minutes)

In this talk, I will discuss recent progress towards achieving self-consistency in the light-front quark model. Typically, observables are computed using the good (or plus) current; however, computations using other currents, such as the transverse or minus current, often suffer from inconsistencies, resulting in different values. Self-consistency can be achieved in the standard light-front quark model by following the Bakamjian-Thomas construction. I will demonstrate this for observables such as decay constants. Additionally, I will review some progress in constructing a realistic light-front wave function, which is crucial for understanding the structure of mesons.

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Session Classification: Parallel 2: Hadrons and related high-energy physics

Track Classification: Hadrons and related high-energy physics