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Heavy-Hadron Light-Cone Distribution Amplitudes: Heavy-Quark Symmetry, Factorization, and Lattice Access

Tuesday, 7 July 2026 10:00 (30 minutes)

Light-cone distribution amplitudes (LCDAs) of heavy hadrons play a central role in the QCD description of exclusive processes involving heavy quarks. They encode essential nonperturbative information and provide key inputs for phenomenological analyses based on factorization. In this talk, I will present recent progress on the structure and determination of heavy-hadron LCDAs, with emphasis on both heavy mesons and heavy baryons.

For heavy mesons, I will discuss how heavy-quark spin symmetry can be used to probe and constrain the corresponding LCDAs, clarifying their interrelations and providing new theoretical insights into their non-perturbative structure. I will then turn to the heavy-baryon case and present a factorization formula that connects the LCDA of the baryon in full QCD with its counterpart in boosted heavy-quark effective theory (HQET). This framework establishes a useful bridge between continuum factorization and approaches aimed at accessing light-cone physics from Euclidean observables.

Taken together, these developments advance our understanding of heavy-hadron LCDAs and help lay the foundation for more systematic nonperturbative determinations, including future studies in lattice QCD.

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