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Covariant Spectator Theory and Hadron structure

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We use the Covariant Spectator Theory (CST) \cite{FG}, which can be viewed as a reorganization of the Bethe-Salpeter equation (BSE) that works in Minkowski space, to develop a dynamical quark model that can describe the structure and the mass spectrum of both, heavy and light quark systems.
We study mesonic structure and spectra. Treating mesons as effective qq states, our focus is on the nonrelativistic bound-state problem in momentum space and on the electromagnetic pion form factor. The quark-quark interaction kernel is used to calculate the quark self-energy in a consistent way, resulting in a momentum dependent quark mass function. The kernel includes a confining term that in the nonrelativistic limit reduces to a linear potential. Chiral symmetry is satisfied.

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