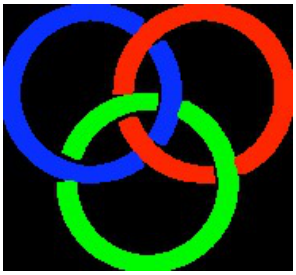

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Exploring the pion phenomenology within a fully covariant constituent quark model

mercredi 12 octobre 2011 10:40 (40 minutes)

Within a fully covariant constituent quark model, based on i) a phenomenological Ansatz of the Bethe-Salpeter amplitude describing the quark-pion vertex and ii) the Mandelstam description of the hadronic tensor, we have investigated both generalized parton distributions and transverse momentum distributions of the pion. The carefully comparison of our results with
the available
i) Experimental data (spacelike elastic form factor and parton distribution) and ii) Lattice data (generalized form factors for both no-spin flip and tensor cases), has shown that a surprisingly good description can be achieved, despite a relatively simple product form for the covariant Ansatz of the pion. This gives us confidence to extend our fully covariant approach by considering dynamical inputs through the so-called Nakanishi integral representation of the quark-pion vertex.

Author: Dr SALME', Giovanni (Istituto Nazionale di Fisica Nucleare)

Orateur: Dr SALME', Giovanni (Istituto Nazionale di Fisica Nucleare)