XIIIth Quark Confinement and the Hadron Spectrum



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Bethe-Salpeter-Motivated Modelling of Pseudo-Goldstone Pseudoscalar Mesons

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We analyze the pseudo-Goldstone-boson nature of the lightest pseudoscalar mesons within a framework residing somewhere in between the genuinely Poincaré-covariant Bethe–Salpeter approach to bound states (facing various inherent problems yet to be resolved) and the latter's extreme instantaneous limit, represented by its three-dimensional reduction due to Salpeter. A promising tool to assess the merits of such kind of "intermediate" formalism proves to be, among others, the fulfillment of a generalized Gell-Mann–Oakes–Renner-type relation by the characteristic properties of the pseudoscalar mesons under study.

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