

XVth Quark Confinement and the Hadron Spectrum



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Gluons from the Dressing of Quarks: Parton Momentum Fraction, Spin, and Mass Distribution

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The parton structure of the nucleon and pion is investigated in a model that allows one to see if the dressing of quarks can, by itself, produce realistic gluon contributions to momentum fractions, spin, mass distributions and mass radii. The model is the Dyson-Schwinger Equations in Rainbow-Ladder truncation and involves calculation of the second Mellin moment of certain GPDs. For the Mass-Energy distributions as a function of momentum transfer, we directly calculate the matrix element of the Energy-Momentum Tensor formulated as an energy fraction expectation value similar to the parton momentum fraction.

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