

Double parton correlations and constituent quark models

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In a recent paper, double parton correlations have been studied in the valence quark region, by means of constituent quark models. In this framework, two particle correlations are present without any additional prescription, at variance with what happens, for example, in independent particle models, such as the MIT bag model in its simplest version. The conclusions are similar to the ones obtained in a modified version of the bag model: correlations in the longitudinal momenta of the active quarks are found to be sizable, while those in transverse momentum are much smaller. The used framework allows to understand clearly the dynamical origin of the correlations and to establish which, among the features of the results, are model independent. Recent relevant preliminary results obtained in a relativistic light front scheme, able to overcome some drawbacks of the previous calculation, such as the so called poor support problem, will be also presented. The possibility to test experimentally the studied effects will be discussed.

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