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Proton PDFs and fragmentation functions

By treating the proton as a quark + interacting-diquark bound state, whose structure is obtained by solving a Poincare covariant Faddeev equation, we provide a comprehensive, coherent set of predictions for unpolarised and polarised proton parton distribution functions (DFs): valence, glue, and four-flavour separated sea. The results address many things including the origin of the proton spin. Then by exploiting the crossing symmetry, the corresponding fragmentation functions (FFs) can be calculated. The obtained FFs are compared with the existing fits, which are very useful for the future data analyses.

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