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Fragmentation functions and nucleon structure¹

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One of the crucial properties of the strong force is confinement, the fact that quarks and gluons do not exist as free particles. As a consequence, any parton struck in a high-energy scattering process and extracted from its parent hadron must hadronize, namely it is dynamically converted into hadrons. In this talk I will briefly overview the physics of hadronization encoded in single hadron, di-hadron, and jet fragmentation functions, together with their potential to enable the study of specific properties of nucleon structure in semi-inclusive processes. For each of the three categories of fragmentation functions, I will provide an example of their interplay with specific projections of hadron structure in momentum space.

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