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Parton fragmentation functions as a timelike extension of distribution functions

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Fragmentation functions describe the number of hadrons inside a given parton in the light-front momentum-fraction range [z,z+dz]. They are ubiquitous, appearing in most of the factorisation formulae used to relate some given process to a structural hadron property. However, practically nothing is known about them. Results obtained via phenomenological fits are practitioner dependent and in mutual disagreement. No algorithm exists today for their computation via lattice-regularized QCD, in large part because FFs are the timelike twins of distribution functions. Nevertheless, dependable, realistic results must become available before data from modern and anticipated facilities can properly be understood as representative of strong interaction physics. This presentation will describe one practicable approach to the parameter-free prediction of FFs using continuum Schwinger function methods.

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