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From moments to functions in higher order QCD

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We present a method to unfold the complete functional dependence of single-scale quantities as QCD splitting functions and Wilson coefficients from a finite number of moments. These quantities obey recursion relations which can be found in an automated way. The exact functional form is obtained solving the corresponding difference equations. We apply the algorithm to the QCD Wilson coefficients for deep-inelastic scattering and splitting functions to 3-loop order which are associated with difference equations of rather high order and degree.

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