

Self-Organizing Maps Parametrization of Deep Inelastic Structure Functions with Error Determination

Tuesday, 6 September 2011 17:00 (25 minutes)

We will present a method to extract parton distribution functions from hard scattering processes based on an alternative type of neural networks, the Self-Organizing Maps (SOMs). Quantitative results including a detailed treatment of uncertainties will be presented within a Next to Leading Order analysis of both unpolarized and polarized inclusive deep inelastic scattering data. With a fully working procedure in hand, we are capable to extend our analysis to the Generalized Parton Distribution (GPD) case, thus exploiting the “classification” and “visualization” properties of the SOMs.

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