

DIS2023: XXX International Workshop on Deep-Inelastic Scattering and Related Subjects



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Simultaneous CTEQ-TEA extraction of PDFs and SMEFT

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Recasting phenomenological Lagrangians in terms of SM effective field theory (SMEFT) provides a valuable means of connecting potential BSM physics at momenta well above the electroweak scale to experimental signatures at lower energies. We jointly fit the Wilson coefficients of SMEFT operators as well as the PDFs in an extension of the CT18 global analysis framework, obtaining self-consistent constraints to possible BSM physics effects. Global fits are boosted with machine-learning techniques in the form of neural networks to ensure efficient scans of the full PDF+SMEFT parameter space.

Submitted on behalf of a Collaboration?

Yes

Participate in poster competition?

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