

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



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Type: **Parallel talk**

## The persistent nonperturbative charm enigma

*Tuesday, 28 March 2023 15:00 (20 minutes)*

The question of the existence and possible magnitude of nonperturbative (often called “intrinsic”) charm in the proton has long confounded attempts to cleanly isolate such a contribution in global analyses of high-energy experiments. In this talk, we show that the available (non)perturbative QCD theory and hadronic data have still not developed to a sufficient level to clearly resolve this problem. We highlight a number of challenging aspects that must be confronted in extracting nonperturbative charm in PDF fits, and in so doing, present an updated next-to-next-to-leading order CTEQ-TEA (CT) analysis of fitted charm, CT18 FC, which we also compare to recent studies. We outline the theory developments and future data needed to make progress on this subject.

### Submitted on behalf of a Collaboration?

Yes

### Participate in poster competition?

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