

## Determination of $\alpha_s$ with JLab at 22 GeV

*Monday, 9 December 2024 16:05 (15 minutes)*

We will discuss how data from JLab@22GeV, combined with expected low- $x$  measurements from the EIC, can determine the QCD coupling  $\alpha_s$  with an accuracy comparable to that of all current world data combined. Furthermore, this approach represents the first extraction of  $\alpha_s$  directly sensitive to effects beyond its leading-order evolution, offering a novel test of perturbative QCD at a fundamental level. Additionally, it opens a possible new window for probing physics beyond the Standard Model, as non-QCD contributions affect the evolution  $\alpha_s$  at the next-to-leading order, rather than leading-order level where  $\alpha_s$  has been tested to date.

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