Leading jets and energy loss at the EIC

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EIC opportunities for Snowmass JAN 2021







QCD evolution for inclusive and leading jets



Connection of leading jets with broken objects







Derrida, Flyvbjerg 1987

Existing measurements



OPAL, Eur, Phys, J C37:25 (2004)

Why leading jets at **EIC**?

Arratia, Makris, Neill, Ringer, NS





Why leading jets at **EIC**?



Example: energy loss





R: "angular time"

Example: energy loss



Example: KL divergence



Summary & outlook

- Theory framework for **leading jets** with higher order corrections (threshold corrections)
- New venues to study hadronization of quarks and gluons
- Extension to leading hadrons are now possible





