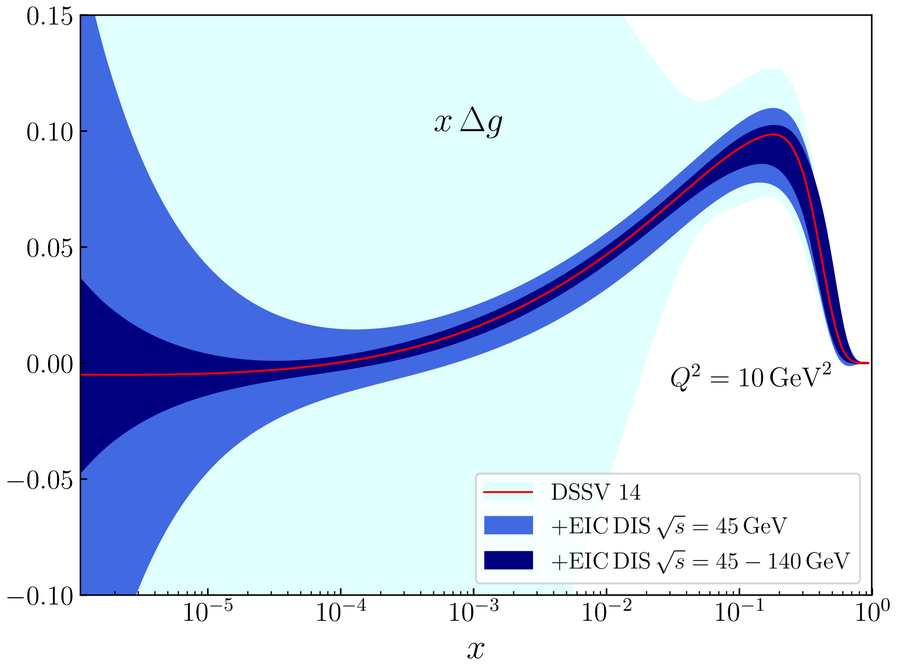
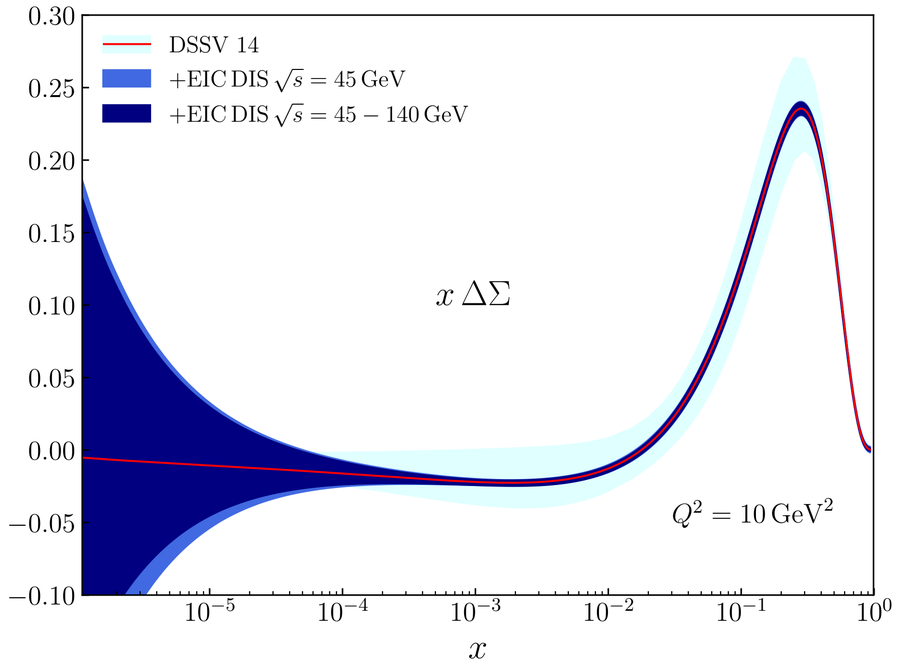
Impact of DIS Data on Δg, $\Delta\Sigma$

Generation of the DSSV+EIC@45GeV set & Reweighting with EIC@140GeV





For the gluon distribution:

- Impressive reduction in the uncertainty for the previously unexplored region $x \lesssim 10^{-2}$. Additionally, for $x \sim 10^{-1}$there is reduction of order 2 in the uncertainty.
- DIS data for $\sqrt{s} = 45$ GeV constrain Δg down to $x \sim 5 \times 10^{-4}$. Data for higher c.m.s energy extend the constraints one decade further while duplicating the impact on the uncertainty through the scale dependence.

For the singlet quarks helicity contribution $\Delta\Sigma$:

- Significant constraints on the quarks helicity down to $x \sim 10^{-4}$. Precise EIC pseudo-data is competitive with the standard DSSV data set.