

NNLO

NLO

$$\hat{O} = 1 + \alpha_s(L^2 + L + 1) + \alpha_s^2(L^4 + L^3 + L^2 + L + 1) + \mathcal{O}(\alpha_s^3)$$

$$= \exp\left(\underbrace{Lg_1(\alpha_s L)}_{\text{LL}} + g_2(\alpha_s L) + \alpha_s g_3(\alpha_s L) + \cdots\right) \underbrace{C(\alpha_s)}_{\text{constants}}$$

NLL