

# Longitudinal double spin asymmetries for inclusive prompt-photon production at NICA

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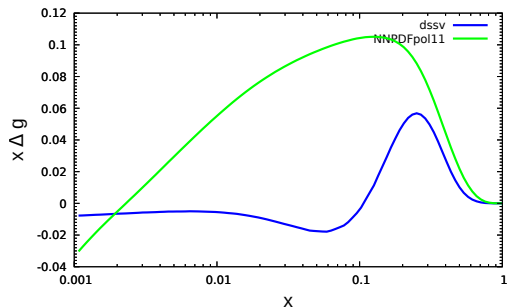
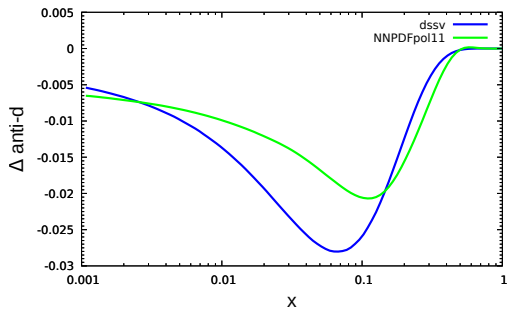
$$A_{LL} = \frac{d\sigma^{++} - d\sigma^{+-}}{d\sigma^{++} + d\sigma^{+-}} = \frac{d\Delta\sigma}{d\sigma}$$

$$d\Delta\sigma = \sum_{a,b=q,\bar{q},g} \int dx_a dx_b \Delta f_a(x_a, \mu^2) \Delta f_b(x_b, \mu^2) \times \\ \times \left[ d\Delta\sigma_{ab}^\gamma + \sum_{c=q,\bar{q},g} \int \frac{dz}{z^2} d\Delta\sigma_{ab}^c D_c^\gamma(z) d \right]$$

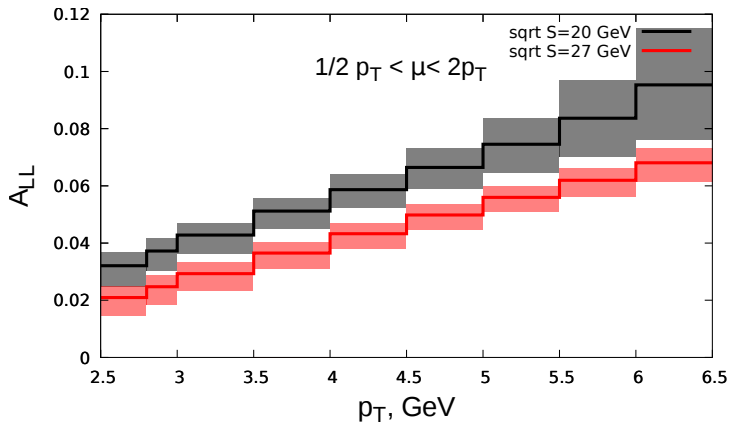
$d\Delta\sigma_{ab}^i$  – spin-dependent subprocess cross sections  $a + b \rightarrow i + X$

$\Delta f_a(x_a, \mu^2)$  – polarized parton distributions: dssv14, NNPDFpol1, ...

# Polarized parton distributions at $Q^2 = 10\text{GeV}^2$



# $A_{LL}$ asymmetry $p_{\gamma T}$ spectra at LO CPM



# $A_{LL}$ asymmetry photon rapidity spectra at LO CPM

