

deliverables	observables	what we learn	requirements	comments/competition
DM8 (2012) determine low-x gluon densities via $p(d) A$	direct photon potentially correlations, i.e. photon-jet	initial state $g(x)$ for AA-collisions		LHC and inclusive DIS in eA eA: clean parton kinematics LHC wider kinematic reach
impact parameter dependent $g(x,b)$	c.s. as fct. of t for VM production in UPC (pA or AA)	initial state $g(x,b)$ for AA-collisions	high luminosity, clean UPC trigger	LHC and exclusive VM production in eA eA: clean parton kinematics LHC wider kinematic reach
"saturation physics"	di-hadron correlations, γ -jet, h-jet & NLO DY, diffraction pT broadening for J/ Ψ & DY $\rightarrow Q_s$	is the initial state for AA collisions saturated measurement of the different gluon distributions CNM vs. WW	capability to measure many observables precisely large rapidity coverage to very forward rapidities polarised pA A scan	complementary to eA, tests universality between pA and eA
CNM effects	R_{pA} for many different final states $K^0, p, K, D^0,$ J/ $\Psi, ..$ as fct of rapidity and collision geometry	is fragmentation modified in CNM heavy quarks vs. light quarks in CNM	A scan to tag charm in forward direction $\rightarrow \mu$ -vertex	separation of initial and final state effects only possible in eA
long range rapidity correlations "ridge"	two-particle correlation at large pseudorapidity $\Delta\eta$	do these correlations also exist in pA as in AA	tracking and calorimetry to very high rapidities	interesting to see the \sqrt{s} dependence of this effect compared to LHC
is GPD E_g different from zero	A_{UT} for J/ Ψ through UPC $Ap \uparrow$	is there a hint for orbital angular momentum of gluons		unique to RHIC till EIC turns on
underlying subprocess for $A_N(\pi^0)$	A_N for π^0 and γ	underlying subprocess for $A_N(\pi^0)$ sensitivity to Q_s	good π^0 and γ reconstruction at forward rapidities	resolving a legacy in transversely polarised pp collisions
comparison data for AA	the same as in AA	separation of CNM and HM effects		