

Eric Andreas Vivoda: Single Spin Asymmetry from Pomeron-Odderon Interference

Single Spin Asymmetry (SSA) is a phenomenon of asymmetric particle production in collisions involving one polarized proton. In this talk, I will first introduce some known mechanisms for generating a non-zero SSA in the forward regime of pp and pA collisions, where gluon saturation in the target is expected. I will then move on to our novel mechanism (arXiv:2501.12847), where SSA is generated through Pomeron-Odderon interference in the saturated target. In addition to this interference, the final cross section is directly proportional to the real part of the twist-3 fragmentation function $E_F(z_1, z_2)$, as well as the transversity PDF $h_1(x)$ from the polarized proton. I will end the talk with numerical results, discussing the behavior of SSA as a function of kinematics, along with its nuclear dependence.