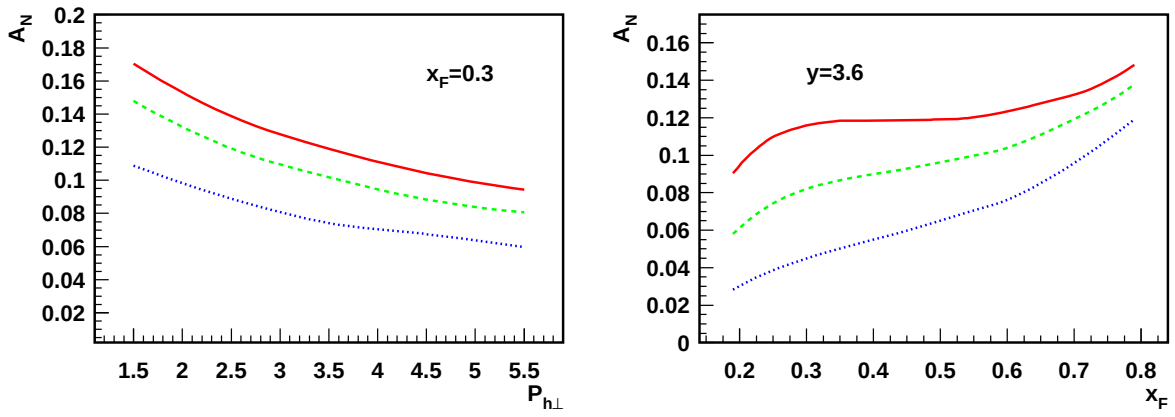

FIG. 2: *Twist-three fragmentation contributions to the single spin asymmetries in hadron production in the forward direction of the polarized nucleon at RHIC at* $\sqrt{s} = 200GeV$*, as functions of* x_F*, with the parameterization for the twist-three fragmentation function* $\hat{H}(z)$ *in Eq. (13) with parameters* $C_f = -0.4$ *GeV and* $a = 1, 2, 4$ *(from up to bottom), respectively.*

indicates that the unpolarized fragmentation function for η and π^0 is very similar, and will lead to the similar SSAs for them if this contribution dominates. In other words, it will be very difficult to explain the large difference between the SSAs of η and π^0 mesons from the twist-three distribution contribution from the polarized nucleon[3]. Since the second term in Eq. (2) generates a very small asymmetry, one would expect the large difference between η and π^0 would come from the twist-three fragmentation function contribution if one believes the collinear factorization is indeed the right approach to describe the SSA of inclusive hadron production in pp collisions. Since the twist-three fragmentation function $\hat{H}(z)$ for η and π^0 in general need not to be the same, this might generate the needed difference observed by the experiments if η meson has a much larger twist-three fragmentation function $\hat{H}(z)$ compared to π^0. To test this scenario, it will be very important to study the associated Collins fragmentation for η meson in e^+e^- annihilation and/or semi-inclusive DIS processes and compare to that for π^0 meson. We hope that, in particular, the BELLE collaboration can carry out this measurement and cross check with the STAR observation. Meanwhile, we emphasize that to better understand the single spin asymmetry for these processes and finally pin down the difference, one needs to take into account both twist-three contributions

[3] It might still be possible that the strange quark contribution from the polarized nucleon may dominates and leads to a larger SSA in η meson production, which is, however, unlikely in the forward rapidity region (the valence region) of the polarized nucleon.