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k_T Asymmetry in Longitudinally Polarized pp Collisions at PHENIX DOUGLAS FIELDS, University of New Mexico, PHENIX COLLABORATION — Researchers in the PHENIX experiment at RHIC have developed a method for measuring the average net pair transverse momentum of hard scattered jets at central rapidity. The method is based on the azimuthal correlation between a leading high p_T neutral pion and another charged hadron. The widths of the resulting near- and far-side peaks can then be related to the fragmentation transverse momentum, j_T (the transverse momentum of the fragmented hadron relative to the hard-scattered parton) and the net pair transverse momentum, k_T. The net pair transverse momentum can be produced from parton intrinsic transverse momentum inside the proton, from soft gluon emission, or from next-to-leading order processes of the perturbative QCD. In addition, one could consider the possibility that spin-correlated transverse momentum (orbital angular momentum) may contribute to k_T. Spin-dependent parton transverse momentum adds to k_T an amount dependent upon the helicity combination of the colliding protons, and upon the impact parameter of the collision. However, integration over impact parameter should leave a residual effect that is dependent only on the helicity combination, a signal that is examined in the present data from past RHIC runs.

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