

Abstract Submitted
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Forward-rapidity Elliptic Flow at RHIC¹ S.J. SANDERS, E.B. JOHNSON, U. Kansas, BRAHMS COLLABORATION — At RHIC energies large azimuthal anisotropies are observed in particle production with respect to the reaction plane for non-central heavy-ion collisions (i.e., azimuthal flow). Elliptic flow is measured by the 2nd harmonic (v_2) coefficient of the Fourier expansion of the azimuthal distribution. The observed anisotropies and the measured $v_2(p_t)$ values suggest an almost perfect fluid state is created, consistent with the production of a quark-gluon plasma. Most measurements of identified-particle $v_2(p_t)$ behavior at RHIC have been done near mid-rapidity, although a strong pseudorapidity dependence is seen for the charged-hadron, p_t -integrated v_2 values[1]. The interpretation of the integral v_2 data is complicated, however, by the rapidity dependent change in $\langle p_t \rangle$ for each particle type. This talk will present new results of the BRAHMS experiment on π , K and p $v_2(p_t)$ behavior at $y \approx 0, 1, \text{ and } 3$. The associated spectra will also be presented to help disentangle the kinematic factors affecting the integral v_2 values. These results can be used to better define the longitudinal expansion of the medium created through heavy-ion reactions at RHIC energies. [1] B.B. Back et al., PRL **94**, 122303(2005).

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