Abstract Submitted
for the APR05 Meeting of
The American Physical Society

Multidimensional Likelihood-based Flavor Tagging at DØ DAN KROP, BRENDAN CASEY, Indiana University — We study the determination of the initial state flavor of b quarks produced in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV recorded by the DØ detector operating at the Fermilab Tevatron. This is vital to the observation of B_s mixing. A multidimensional likelihood method has been developed using kinematic properties of particles that originate from the other b quark produced in events with reconstructed B mesons. The performance of the tagging algorithm is determined by measuring the B_d mixing frequency with a data sample of semileptonic B meson decays from which dilutions and efficiencies are extracted. The method can be easily extended through the addition of other kinematic variables.

Sharon Hagopian
Florida State University

Date submitted: 24 Jan 2005 Electronic form version 1.4