

Abstract Submitted
for the APR05 Meeting of
The American Physical Society

Search for Right-Handed Helicity W Bosons in Top Quark Decays at DØ BRYAN GMYREK, University of Arizona, DZERO COLLABORATION — Within the Standard Model, the helicity of the W boson in the top quark decay is given by the V–A coupling. As the top quark is by far the heaviest of all fermions, some models predict an additional V+A coupling between the top quark and the W boson. At a hadron collider, top quarks are dominantly produced in pairs ($t\bar{t}$), each of them decaying to a W boson and a b quark. We present a search for right-handed helicity W bosons in top quark decays using the lepton+jets decay channel. The data were collected by the DØ experiment during Run II of the Fermilab Tevatron. The W boson helicity is determined using the angular distribution of the lepton in the W rest-frame with respect to the W direction. A limit on the fraction of right-handed W bosons is reported along with a discussion of systematic uncertainties.

Sharon Hagopian
Florida State University

Date submitted: 14 Jan 2005

Electronic form version 1.4