Abstract Submitted for the HAW05 Meeting of The American Physical Society

Tensor Analyzing Powers in Elastic Electron Deuteron Scattering CHI ZHANG, M.I.T., BLAST COLLABORATION — BLAST Collaboration recently completed its experimental program to measure the tensor analyzing powers in elastic electron deuteron scattering. The experiment was carried out at the South Hall Storage Ring of the MIT-Bates Linear Accelerator Facility with BLAST(Bates Large Acceptance Spectrometer Toroid) detector. An Atomic Beam source is used to inject vector and tensor polarized atomic deuterium gas into an internal target embedded in the electron storage ring. Unprecedented statistical precision is obtained across the Q^2 range of 0.1 to 0.8 $(GeV/c)^2$. Data in various kinematics and momentum transfer are collocted simultaneously along with other reaction channels, including vector polarized observables in e-d elastics scattering. Combined with cross section world data, the new polarized measurement will shed light on the nucleon-nucleon bound state and nucleon-nucleon interaction. Preliminary results for T_{20} , T_{21} and the deuteron form factors will be presented.

> Douglas Hasell M.I.T.

Date submitted: 13 May 2005

Electronic form version 1.4