

Abstract Submitted
for the DNP12 Meeting of
The American Physical Society

Δ Isobar Degrees of Freedom in the ^3He Transverse (e,e') Response Function EDWARD TOMUSIAK, University of Victoria, LUPING YUAN, WINFRIED LEIDEMANN, University of Trento, VICTOR EFROS, Research Center Kurchatov Institute, GIUSEPPINA ORLANDINI, University of Trento — The ^3He transverse electron scattering response function $R_T(q, \omega)$ is calculated in the quasi-elastic peak region and beyond for momentum transfers $q \geq 500$ MeV/c. In addition to Δ -isobar currents (Δ -IC) we include meson exchange currents and relativistic corrections to one-body currents. The calculation is performed using the AV18-NN potential and the UrbanaIX three-nucleon force. The Δ -IC are calculated in impulse approximation using the Lorentz integral transform (LIT) method (details are given in Ref. [1] and references therein). In addition to results for $q=500$, 600, and 700 MeV/c we plan to present results at even higher q . Use of the Active Nucleon Breit frame together with the two-fragment kinematical model results in excellent agreement with experiment in the quasi-elastic peak region. In addition our results suggest the importance of Δ -IC for three-body break-up reactions in the dip region.

[1] L. Yuan, V.D. Efros, W. Leidemann, G. Orlandini, and E.L. Tomusiak, Phys. Rev. **C72**, 011002(R) (2005)

Edward Tomusiak
University of Victoria

Date submitted: 22 Jun 2012

Electronic form version 1.4