Abstract Submitted
for the TSF13 Meeting of
The American Physical Society

Optical Photometry of BY Cam Modeled Using a Multipolar Magnetic Field Structure JOHN MORALES, PAUL MASON, Univ of Texas, El Paso, ANDREY ZHILKIN, DMITRY BISIKALO, Institute for Astronomy, Russian Academy of Sciences, EDWARD ROBINSON, University of Texas at Austin — We present new high-speed broad-band optical photometry of the asynchronous polar (magnetic cataclysmic variable) BY Cam. Observations were obtained at the 2.1-m Otto Struve Telescope of McDonald Observatory with 3s integration times. In an attempt to understand the observed complex changes in accretion flow geometry, we performed full 3D MHD simulations assuming a variety of white dwarf magnetic field structures including both aligned and non-aligned dipole plus quadrupole field components. We compare model predictions with photometry and various phases of the beat cycle and find that synthetic light curves derived from a multipolar field structure are consistent with the optical photometry.

John Morales
Univ of Texas, El Paso

Date submitted: 13 Sep 2013 Electronic form version 1.4