Abstract Submitted for the TSF09 Meeting of The American Physical Society

Testing a New Detection Method for RR Lyrae Variable Stars TALITHA MUEHLBRAD¹, W. LEE POWELL JR., Texas Lutheran University, RONALD WILHELM, University of Kentucky, DYLAN GINN, University of Texas San Antonio, ANDREW JASTRAM, Texas A&M University — We have tested a new means of identifying RR Lyrae variable stars using large survey single-epoch, out-of-phase photometric and spectroscopic observations. The technique utilizes the marked discrepancy between (g - r) color and Balmer-line strengths that are taken out of phase with each other. Using data collected from the 0.8-meter telescope at the McDonald Observatory for 13 halo-field stars this summer (two of which were previously confirmed RR Lyrae stars), we showed a discovery efficiency of ~92%. There is an overall discovery efficiency of ~85% using data collected from SDSS Stripe 82. The long-term goal for discovery of halo-field RR Lyrae stars is to probe the galaxy's halo substructure, and the properties of halo-field RR Lyrae stars in general.

¹undergraduate competition

W. Lee Powell Jr Texas Lutheran University

Date submitted: 25 Sep 2009

Electronic form version 1.4