Abstract Submitted
for the APR12 Meeting of
The American Physical Society

Small Aperture Wide Field Surveys for Gravitational Wave Counterparts SHANE L. LARSON, Utah State University, ARNE A. HENDEN, AAVSO — Multi-messenger astronomy that pairs gravitational wave with electromagnetic observations promises to enable a wide range of scientific endeavors, particularly in cosmology, tests of gravity, and deep probes of stellar-mass binary systems. One of the biggest obstacles to this endeavor is the disparity between the pointing ability of gravitational wave detectors compared to telescopes. Gravitational wave detectors have typical localizations of several square degrees, an area that can encompass hundreds of possible electromagnetic counterparts. In this talk we describe a survey strategy and detection limits using a network of automated small aperture survey instruments. The system is currently being used by the AAVSO to complete the AAVSO Photometric All-Sky Survey (APASS), an all sky multi-band photometric survey down to $m \sim 17$. The network of identical telescopes in this system will be operating on a timescale commensurate with science operations of Advanced LIGO.

Shane Larson
Utah State University

Date submitted: 06 Jan 2012 Electronic form version 1.4