# ABSTRACT

**THESIS PROJECT**: An Evaluation of ISIS
**STUDENT**: Bradley R. Bodee
**DEGREE**: Masters of Science
**COLLEGE**: College of Arts and Humanities
**DATE**: May, 2014
**PAGES**: 67

ISIS is a program that specializes in detecting variable stars within clusters, both open and globular. ISIS has historically been used in surveys searching for variable stars. However, recent work has identified new uses for ISIS, such as the detection of exoplanet transits in clusters of stars. This thesis will evaluate ISIS, both how the program functions and for which objects it is most efficient and appropriate. I examined five clusters: three open, and two globular, for one night surveys. With this survey, I identified twenty-five variable stars. Twenty-two variables were previously known, and three variable stars were previously undiscovered. In total, from my short one night surveys, I confirmed twenty-five previously known variable stars and four unknown variable stars. Furthermore, ISIS has detected several δ Scuti stars whose amplitude of variation is on par with an exoplanet transit. These data suggest that ISIS can be used for the detection of exoplanet transits.