

# UNIVERSITY OF HAWAII • INSTITUTE FOR ASTRONOMY

Names: Daichi Hiramatsu & Corey Mutnik

Program Title A. Measuring the Milky Way

## 1. Abstract

The size and shape from distribution of variable stars  
age from the number distribution of variable stars

## 2. Description of the Proposed Program

A) *Scientific Rationale:*

- Use gri data to identify variable stars
- Use Period-Luminosity relationship to get distance
- Map 3D spatial distribution
- Determine deviation of variable stars from model
- Variations arise from non-gravitational effects
- Figure out dark matter distribution

B) *Immediate Objective:*

Measure the size, shape, and age of Milky Way spiral arms.

## 3. Scientific Justification of Requested Observing Time, Feasibility, and Visibility

## 4. Technical Justification of Duplication

## 5. Report on Previous Swift and Related Programs

## 6. References

Author1 A. et al., YYYY, Journal, Vol., page

## 7. Budget Narrative

Figure 1: *Left panel:* here you see... *Right panel:* here you see...