

## **COS and WFC3 Observations of I Zwicky 18**

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Scientific Category: ISM IN EXTERNAL GALAXIES

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STELLAR POPULATIONS IN EXTERNAL GALAXIES

### **Abstract**

We will take advantage of COS' high sensitivity to surface brightness to detect UV gas emission, especially HeII 1640, in I Zwicky 18. We will also take advantage of WFC3's high-QE IR detector to obtain H-band images of I Zw 18. The new NIR images will be used in combination with the archival V and I ACS/WFC data to better characterize the old stellar population, i.e. red giant branch and asymptotic giant branch stars.

The WFC3 observations will be executed at carefully planned intervals to have a fair sampling in the H band of the light curve of the Cepheid variable stars already identified in I Zw 18.

**Investigators:**

	Investigator	Institution	Country
PI	Dr. James C. Green	University of Colorado at Boulder	USA/CO
CoI	Dr. Cynthia Froning	University of Colorado at Boulder	USA/CO

Number of investigators: 2

**Target Summary:**

Target	RA	Dec	Magnitude
UGCA-166	09 34 2.0000	+55 14 28.00	V = 16.0 +/- 1.0, F(1300) = 1.00E-14, F(1640)=8.5E-15, F(1909)=6.6E-15

**Observing Summary:**

Target	Config Mode and Spectral Elements	Flags	Orbits
UGCA-166	COS/FUV Spectroscopic G130M	CVZ	1
UGCA-166	COS/FUV Spectroscopic G160M	CVZ	1
UGCA-166	COS/FUV Spectroscopic G160M	CVZ	1
UGCA-166	WFC3/IR Imaging F160W		1
UGCA-166	WFC3/IR Imaging F160W		1
UGCA-166	STIS/NUV-MAMA Imaging F25CIII	CVZ	2
	STIS/NUV-MAMA Imaging F25CN182		

Total prime orbits: 7

This is a COS GTO project, no scientific justification is needed.