

COS-GTO: Sampling the Local ISM with hot white dwarfs

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Scientific Category: ISM AND CIRCUMSTELLAR MATTER

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CHEMICAL ABUNDANCES, ATMOSPHERES AND CHROMOSPHERES,
GALACTIC CENTER

Abstract

We shall use hot white dwarf stars located within 150pc of the Sun to probe the absorption properties of the interstellar gas associated with the local cavity. There is still much debate concerning the ionization state of the local gas, since previously detected highly ionized lines (such as CIV and SiIV) could be associated with the circumstellar environments of hot white dwarfs. By using a priori knowledge of the velocity structure of the interstellar sight-lines to these targets (gained from high spectral resolution ground-based observations) in conjunction with the UV absorption data gained with HST-COS, we shall be able to better determine both the physical and chemical state of the numerous diffuse interstellar clouds present within the local cavity.

Investigators:

	Investigator	Institution	Country
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Number of investigators: 2

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Target Summary:

Target	RA	Dec	Magnitude
WD1040+492	10 43 9.5000	+49 02 7.00	V = 16.1 +/- 0.2, F(1200) = 3.00E-13
WD1942+499	19 43 41.8000	+50 05 1.00	V = 14.8 +/- 0.2, F(1200) = 8.00E-13
WD0229-481	02 30 53.3200	-47 55 26.10	V = 14.53 +/- 0.2, F(1300) = 9.00E-13
WD0721-276	07 23 19.8000	-27 47 17.00	V = 14.52 +/- 0.1, F(1200) = 9.00E-13
WD2146-433	21 49 39.0000	-43 06 12.00	V = 15.81 +/- 0.1, F(1300) = 1.00E-13

Observing Summary:

Target	Config Mode and Spectral Elements	Flags	Orbits
WD1040+492	COS/FUV Spectroscopic G130M		1
	COS/FUV Spectroscopic G160M		
WD1942+499	COS/FUV Spectroscopic G130M		1
	COS/FUV Spectroscopic G160M		
WD0229-481	COS/FUV Spectroscopic G130M		1
	COS/FUV Spectroscopic G160M		
WD0721-276	COS/FUV Spectroscopic G130M		1
	COS/FUV Spectroscopic G160M		
WD2146-433	COS/FUV Spectroscopic G130M		2
	COS/FUV Spectroscopic G160M		

Total prime orbits: 6

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