

COS-GTO: WARM AND HOT ISM IN AND NEAR THE MILKY WAY

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Scientific Category: ISM AND CIRCUMSTELLAR MATTER

Scientific Keywords: METAL ABSORPTION SYSTEMS, GALACTIC HALO, INTERSTELLAR AND INTERGALACTIC MEDIUM

Abstract

COS G130M and G160M 20,000 resolution observations will be obtained for 10 AGNs situated beyond Milky Way high velocity clouds. For all objects good O VI line profile observations exist from FUSE and high velocity O VI is detected. The COS observations will be used to obtain high quality absorption line profiles (S/N ~ 30 to 40) for C IV, Si IV and N V in the low and high velocity gas toward each AGN. The high ionization profiles of O VI (from FUSE), N V, C IV, and Si IV will be compared to low ionization profiles (O I, S II, Si II, Fe II, etc.) in order to evaluate the physical conditions and origins of the highly ionized gas in and near the Milky Way at low and high velocity. The HVCs include Complex C (four lines of sight), Complex A, WD, WB, and several negative velocity O VI HVCs. Other studies to be undertaken with this data set include studies of the physical conditions and abundances in the cool and warm HVC gas and studies of the physical conditions in low redshift IGM systems detected along the 10 lines of sight.

Investigators:

	Investigator	Institution	Country
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Number of investigators: 2

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Target Summary:

Target	RA	Dec	Magnitude
MRK817	14 36 22.1000	+58 47 39.00	V = 13.19 +/- 0.02, F(1200) = 1.65E-13
MRK290	15 35 52.3000	+57 54 9.00	V = 14.59 +/- 0.15, F(1200) = 5.90E-14
MRK876	16 13 57.2000	+65 43 10.00	V = 15.23 +/- 0.2, F(1200) = 3.50E-14
PG1626+554	16 27 56.0000	+55 22 31.00	V = 16.17 +/- 0.2, F(1700) = 1.50E-14
MRK106	09 19 55.4000	+55 21 37.00	V = 16.0 +/- 0.2, F(1200) = 1.60E-14
PG1011-040	10 14 20.6900	-04 18 40.50	V = 15.49 +/- 0.2, F(1700) = 2.60E-14
ESO265-G23	11 20 48.0000	-43 15 50.00	V = 15.26 +/- 0.2, F(1200) = 1.20E-14
MRK335	00 06 19.5000	+20 12 10.00	V = 15.5 +/- 0.5, F(1700) = 9.70E-14
MR2251-178	22 54 5.8000	-17 34 55.00	V = 14.4 +/- 0.3, F(1200) = 4.30E-14
MRK1513	21 32 27.8000	+10 08 19.00	V = 14.6 +/- 0.2, F(1700) = 2.90E-14

Observing Summary:

Target	Config Mode and Spectral Elements	Flags	Orbits
MRK817	COS/FUV Spectroscopic G130M	CVZ	1
	COS/FUV Spectroscopic G160M		
MRK290	COS/FUV Spectroscopic G130M	CVZ	2
	COS/FUV Spectroscopic G160M		
MRK876	COS/FUV Spectroscopic G130M	CVZ	2
	COS/FUV Spectroscopic G160M		
PG1626+554	COS/FUV Spectroscopic G130M	CVZ	3

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Target	Config Mode and Spectral Elements	Flags	Orbits
MRK106	COS/FUV Spectroscopic G160M	CVZ	3
	COS/FUV Spectroscopic G130M		
PG1011-040	COS/FUV Spectroscopic G160M		3
	COS/FUV Spectroscopic G130M		
ESO265-G23	COS/FUV Spectroscopic G160M		5
	COS/FUV Spectroscopic G130M		
MRK335	COS/FUV Spectroscopic G160M		2
	COS/FUV Spectroscopic G130M		
MR2251-178	COS/FUV Spectroscopic G160M		4
	COS/FUV Spectroscopic G130M		
MRK1513	COS/FUV Spectroscopic G160M		3
	COS/FUV Spectroscopic G130M		
	COS/FUV Spectroscopic G160M		

Total prime orbits: 28

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