Observing Application

Date:	May 06, 2025
Proposal ID:	GBT/25A-474
Legacy ID:	QB385
PI:	Alberto Bolatto
Type:	Director's Discretionary Time - Exploratory Time
Category:	Normal Galaxies, Groups, and Clusters
Total time:	30.0

Following up the EDGE sample with atomic hydrogen observations

Abstract:

EDGE is a survey of gas in nearby galaxies based on the CALIFA and AMUSING++ IFU samples. Galaxies are diameter selected to be < 1 arcmin, matching the IFUs field of view. This diameter selection results in a good representation of the z=0 population, including galaxies above, below, and in the main sequence. EDGE follows up these galaxies using CO imaging. This proposal is to complement the CO imaging with HI spectroscopy, particularly for those galaxies that have poor quality of no HI observations.

Authors:

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Related Proposals:

Joint:

Not a Joint Proposal.

Observing type(s):

Spectroscopy

GBT Resources

Name	Group	Frontend & Backend	Setup
HI	HI	L-Band (1.15-1.73 GHz) VEGAS	Number of Banks: 0 Observing type: Spectral Line Number of beams: 1 Number of spectrometers: 1

Name	Group	Frontend & Backend	Setup

Spectrometer #	1
Mode	1
Bandwidth (MHz)	1500 (1250 effective)
Rest frequences (GHz)	1.420405751768
Spectral resolution (KHz)	1465.0
Integration time (s)	5.0
Data rate (MB/s)	0.0031

Sources

Name	Position		Velocity		Group
NGC0681	**Coordinate system**	Equatorial	**Convention**	Optical	G1
	Equinox	J2000			
	Right Ascension	01:49:10.835	**Ref. frame**	Barycentric	
		00:00:00			
	Declination	-10:25:35.591	**Velocity**	1748	
		00:00:00			
	Calibrator	No			
NGC0991	**Coordinate system**	Equatorial	**Convention**	Optical	G1
	Equinox	J2000			
	Right Ascension	02:35:32.691	**Ref. frame**	Barycentric	
		00:00:00			
	Declination	-7:09:15.843	**Velocity**	1532	
		00:00:00			
	Calibrator	No			
NGC0787	**Coordinate system**	Equatorial	**Convention**	Optical	G1
	Equinox	J2000			
	Right Ascension	02:00:48.576	**Ref. frame**	Barycentric	
		00:00:00			
	Declination	-9:00:09.830	**Velocity**	4747	
		00:00:00			
	Calibrator	No			
UGC01368	**Coordinate system**	Equatorial	**Convention**	Optical	G1
	Equinox	J2000			
	Right Ascension	01:54:13.148	**Ref. frame**	Barycentric	
		00:00:00			
	Declination	+07:53:01.039	**Velocity**	7973	
		00:00:00			
	Calibrator	No			

Name	Position		Velocity		Group
UGC02229	Coordinate system	Equatorial	Convention	Optical	G1
	Equinox	J2000			
	Right Ascension	02:45:27.569	Ref. frame	Barycentric	
		00:00:00			
	Declination	+00:54:51.729	Velocity	7304	
		00:00:00			
	Calibrator	No			
UGC00335NED02	Coordinate system	Equatorial	Convention	Optical	G1
	Equinox	J2000			
	Right Ascension	00:33:57.350	Ref. frame	Barycentric	
		00:00:00			
	Declination	+07:16:05.499	Velocity	5491	
		00:00:00			
	Calibrator	No			
UGC02222	Coordinate system	Equatorial	Convention	Optical	G1
	Equinox	J2000			
	Right Ascension	02:45:09.690	Ref. frame	Barycentric	
		00:00:00			
	Declination	+32:59:23.300	Velocity	4921	
		00:00:00			
	Calibrator	No			
NGC0731	Coordinate system	Equatorial	Convention	Optical	G1
	Equinox	J2000			
	Right Ascension	01:54:56.239	Ref. frame	Barycentric	
		00:00:00			
	Declination	-9:00:39.138	Velocity	3881	
		00:00:00			
	Calibrator	No			
NGC2595	Coordinate system	Equatorial	Convention	Optical	G2
	Equinox	J2000			
	Right Ascension	08:27:42.019	Ref. frame	Barycentric	
		00:00:00			
	Declination	+21:28:44.821	Velocity	4326	
		00:00:00			
	Calibrator	No			
NGC2691	Coordinate system	Equatorial	Convention	Optical	G2
	Equinox	J2000			
	Right Ascension	08:54:46.311	Ref. frame	Barycentric	
		00:00:00			
	Declination	+39:32:19.807	Velocity	4013	
		00:00:00			
	Calibrator	No			

Name	Position		Velocity		Group
UGC04245	Coordinate system	Equatorial	Convention	Optical	G2
	Equinox	J2000			
	Right Ascension	08:08:45.815	Ref. frame	Barycentric	
		00:00:00			
	Declination	+18:11:39.197	Velocity	5203	
		00:00:00			
	Calibrator	No			
NGC2554	Coordinate system	Equatorial	Convention	Optical	G2
	Equinox	J2000			
	Right Ascension	08:17:53.481	Ref. frame	Barycentric	
		00:00:00			
	Declination	+23:28:20.061	Velocity	4129	
		00:00:00			
	Calibrator	No			
IC0674	Coordinate system	Equatorial	Convention	Optical	G2
	Equinox	J2000			
	Right Ascension	11:11:06.359	Ref. frame	Barycentric	
		00:00:00			
	Declination	+43:37:58.868	Velocity	7507	
		00:00:00			
	Calibrator	No			
UGC04455	Coordinate system	Equatorial	Convention	Optical	G2
	Equinox	J2000			
	Right Ascension	08:31:32.891	Ref. frame	Barycentric	
		00:00:00			
	Declination	-1:11:51.867	Velocity	9272	
		00:00:00			
	Calibrator	No			
UGC04136	Coordinate system	Equatorial	Convention	Optical	G2
	Equinox	J2000			
	Right Ascension	07:59:54.427	Ref. frame	Barycentric	
		00:00:00			
	Declination	+47:24:47.222	Velocity	6682	
		00:00:00			
	Calibrator	No			
IC2341	Coordinate system	Equatorial	Convention	Optical	G2
	Equinox	J2000			
	Right Ascension	08:23:41.427	Ref. frame	Barycentric	
		00:00:00			
	Declination	+21:26:05.533	Velocity	5133	
		00:00:00			
	Calibrator	No			

Name	Position		Velocity		Group
NGC2918	Coordinate system	Equatorial	Convention	Optical	G2
	Equinox	J2000			
	Right Ascension	09:35:44.045	Ref. frame	Barycentric	
		00:00:00			
	Declination	+31:42:19.679	Velocity	6756	
		00:00:00			
	Calibrator	No			
UGC03960	Coordinate system	Equatorial	Convention	Optical	G2
	Equinox	J2000			
	Right Ascension	07:40:22.743	Ref. frame	Barycentric	
		00:00:00			
	Declination	+23:16:29.998	Velocity	2256	
		00:00:00			
	Calibrator	No			
NGC3300	Coordinate system	Equatorial	Convention	Optical	G2
	Equinox	J2000			
	Right Ascension	10:36:38.427	Ref. frame	Barycentric	
		00:00:00			
	Declination	+14:10:16.474	Velocity	3018	
		00:00:00			
	Calibrator	No			
NGC5480	Coordinate system	Equatorial	Convention	Optical	G3
	Equinox	J2000			
	Right Ascension	14:06:21.581	Ref. frame	Barycentric	
		00:00:00			
	Declination	+50:43:30.374	Velocity	1906	
		00:00:00			
	Calibrator	No			
NGC5633	Coordinate system	Equatorial	Convention	Optical	G3
	Equinox	J2000			
	Right Ascension	14:27:28.368	Ref. frame	Barycentric	
		00:00:00			
	Declination	+46:08:47.485	Velocity	2326	
		00:00:00			
	Calibrator	No			
UGC09476	Coordinate system	Equatorial	Convention	Optical	G3
	Equinox	J2000			
	Right Ascension	14:41:32.004	Ref. frame	Barycentric	
		00:00:00			
	Declination	+44:30:45.911	Velocity	3271	
		00:00:00			
	Calibrator	No			

Name	Position		Velocity		Group
UGC08733	Coordinate system	Equatorial	Convention	Optical	G3
	Equinox	J2000			
	Right Ascension	13:48:38.969	Ref. frame	Barycentric	
		00:00:00			
	Declination	+43:24:45.412	Velocity	2336	
		00:00:00			
	Calibrator	No			
UGC10972	Coordinate system	Equatorial	Convention	Optical	G3
	Equinox	J2000			
	Right Ascension	17:46:21.878	Ref. frame	Barycentric	
		00:00:00			
	Declination	+26:32:37.100	Velocity	4652	
		00:00:00			
	Calibrator	No			
UGC09542	Coordinate system	Equatorial	Convention	Optical	G3
	Equinox	J2000			
	Right Ascension	14:49:01.198	Ref. frame	Barycentric	
		00:00:00			
	Declination	+42:27:50.253	Velocity	5458	
		00:00:00			
	Calibrator	No			
NGC5934	Coordinate system	Equatorial	Convention	Optical	G3
	Equinox	J2000			
	Right Ascension	15:28:12.764	Ref. frame	Barycentric	
		00:00:00			
	Declination	+42:55:47.711	Velocity	5563	
		00:00:00			
	Calibrator	No			
UGC09598	Coordinate system	Equatorial	Convention	Optical	G3
	Equinox	J2000			
	Right Ascension	14:55:09.060	Ref. frame	Barycentric	
		00:00:00			
	Declination	+43:49:06.889	Velocity	5577	
		00:00:00			
	Calibrator	No			
NGC6154	Coordinate system	Equatorial	Convention	Optical	G3
	Equinox	J2000			
	Right Ascension	16:25:30.494	Ref. frame	Barycentric	
		00:00:00			
	Declination	+49:50:24.887	Velocity	5966	
		00:00:00			
	Calibrator	No			

Name	Position		Velocity		Group
UGC08781	Coordinate system	Equatorial	Convention	Optical	G3
	Equinox	J2000			
	Right Ascension	13:52:22.733	Ref. frame	Barycentric	
		00:00:00			
	Declination	+21:32:21.689	Velocity	7571	
		00:00:00			
	Calibrator	No			
IC4215	Coordinate system	Equatorial	Convention	Optical	G3
	Equinox	J2000			
	Right Ascension	13:16:16.913	Ref. frame	Barycentric	
		00:00:00			
	Declination	+25:24:20.440	Velocity	3884	
		00:00:00			
	Calibrator	No			
UGC10905	Coordinate system	Equatorial	Convention	Optical	G3
	Equinox	J2000			
	Right Ascension	17:34:06.390	Ref. frame	Barycentric	
		00:00:00			
	Declination	+25:20:38.119	Velocity	7843	
		00:00:00			
	Calibrator	No			
UGC09711	Coordinate system	Equatorial	Convention	Optical	G3
	Equinox	J2000			
	Right Ascension	15:06:36.558	Ref. frame	Barycentric	
		00:00:00			
	Declination	+09:26:18.562	Velocity	8342	
		00:00:00			
	Calibrator	No			
UGC09629	Coordinate system	Equatorial	Convention	Optical	G3
	Equinox	J2000			
	Right Ascension	14:57:11.248	Ref. frame	Barycentric	
		00:00:00			
	Declination	+52:20:45.695	Velocity	7823	
		00:00:00			
	Calibrator	No			
UGC08234	Coordinate system	Equatorial	Convention	Optical	G3
	Equinox	J2000			
	Right Ascension	13:08:46.507	Ref. frame	Barycentric	
		00:00:00			
	Declination	+62:16:17.951	Velocity	8109	
		00:00:00			
	Calibrator	No			

Name	Position		Velocity		Group
NGC6427	Coordinate system	Equatorial	Convention	Optical	G3
	Equinox	J2000			
	Right Ascension	17:43:38.589	Ref. frame	Barycentric	
		00:00:00			
	Declination	+25:29:38.000	Velocity	3231	
		00:00:00			
	Calibrator	No			
VV488NED02	Coordinate system	Equatorial	Convention	Optical	G4
	Equinox	J2000			
	Right Ascension	22:56:50.870	Ref. frame	Barycentric	
		00:00:00			
	Declination	-8:58:03.216	Velocity	4934	
		00:00:00			
	Calibrator	No			
NGC7047	Coordinate system	Equatorial	Convention	Optical	G4
	Equinox	J2000			
	Right Ascension	21:16:27.630	Ref. frame	Barycentric	
		00:00:00			
	Declination	-00:49:35.277	Velocity	5787	
		00:00:00			
	Calibrator	No			
UGC11717	Coordinate system	Equatorial	Convention	Optical	G4
	Equinox	J2000			
	Right Ascension	21:18:35.370	Ref. frame	Barycentric	
		00:00:00			
	Declination	+19:43:07.100	Velocity	6303	
		00:00:00			
	Calibrator	No			
UGC11792	Coordinate system	Equatorial	Convention	Optical	G4
	Equinox	J2000			
	Right Ascension	21:42:12.582	Ref. frame	Barycentric	
		00:00:00			
	Declination	+05:36:55.143	Velocity	4812	
		00:00:00			
	Calibrator	No			
NGC7025	Coordinate system	Equatorial	Convention	Optical	G4
	Equinox	J2000			
	Right Ascension	21:07:47.336	Ref. frame	Barycentric	
		00:00:00			
	Declination	+16:20:08.688	Velocity	4968	
		00:00:00			
	Calibrator	No			

Name	Position		Velocity		Group
NGC7550	Coordinate system	Equatorial	Convention	Optical	G4
	Equinox	J2000			
	Right Ascension	23:15:16.089	Ref. frame	Barycentric	
		00:00:00			
	Declination	+18:57:40.899	Velocity	5078	
		00:00:00			
	Calibrator	No			
MCG-01-01-012	Coordinate system	Equatorial	Convention	Optical	G4
	Equinox	J2000			
	Right Ascension	23:59:10.814	Ref. frame	Barycentric	
		00:00:00			
	Declination	-4:11:30.881	Velocity	5765	
		00:00:00			
	Calibrator	No			
UGC12274	Coordinate system	Equatorial	Convention	Optical	G4
	Equinox	J2000			
	Right Ascension	22:58:19.560	Ref. frame	Barycentric	
		00:00:00			
	Declination	+26:03:43.099	Velocity	7656	
		00:00:00			
	Calibrator	No			
MCG-01-52-012	Coordinate system	Equatorial	Convention	Optical	G4
	Equinox	J2000			
	Right Ascension	20:37:49.985	Ref. frame	Barycentric	
		00:00:00			
	Declination	-6:05:26.686	Velocity	3859	
		00:00:00			
	Calibrator	No			
NGC7194	Coordinate system	Equatorial	Convention	Optical	G4
	Equinox	J2000			
	Right Ascension	22:03:30.898	Ref. frame	Barycentric	
		00:00:00			
	Declination	+12:38:12.738	Velocity	8146	
		00:00:00			
	Calibrator	No			

Sessions:

Name	Session time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation minimum
S1	5.0	1	0 day	23:00:00	05:00:00	40
S2	4.0	2	0 day	06:00:00	13:00:00	45
S3	5.0	2	0 day	12:00:00	19:00:00	45
S4	3.5	2	0 day	19:00:00	01:00:00	40

Session Constraints:

Name	Scheduling constraints	Comments
S1		
S2		
S3		
S4		

Session Source/Resource Pairs:

Session name	Source	Resource	Time
S1	NGC0681 NGC0991 NGC0787 UGC01368 UGC02229 UGC00335NED02 UGC02222 NGC0731	HI	5.0 hour
S2	NGC2595 NGC2691 UGC04245 NGC2554 IC0674 UGC04455 UGC04136 IC2341 NGC2918 UGC03960 NGC3300	HI	4.0 hour
S3	NGC5480 NGC5633 UGC09476 UGC08733 UGC10972 UGC09542 NGC5934 UGC09598 NGC6154 UGC08781 IC4215 UGC10905 UGC09711 UGC09629 UGC08234 NGC6427	HI	5.0 hour
S4	VV488NED02 NGC7047 UGC11717 UGC11792 NGC7025 NGC7550 MCG-01-01-012 UGC12274	HI	3.5 hour

Session name	Source	Resource	Time
	MCG-01-52-012 NGC7194		

Plan of dissertation: no

Technical Justification:

Dates:
N/A

Observing time:
N/A

Mapping:
N/A

RFI considerations:
N/A

Overhead:
Assumed about 30% overhead, 30 min on+off for each source.

Joint considerations:
N/A

Novel considerations:
N/A

Pulsar considerations:
N/A

LST Range Justification:
Each session has several sources. The range of LST is based on the distribution of RAs. Using the automatic calculation does not work well since it produces a very broad range and requesting higher elevation to narrow it bumps against the fact that some sources never get higher than 40 degrees.

A science justification is not needed.