Observing Application

Date :	May, 27 2008
Proposal ID :	VLA/08B-245
Legacy ID :	AY190
PI :	Min Yun
Type :	Rapid Response - Exploratory Time
Category :	Extragalactic
Total Time :	4.0

Extended HI disk of UGC 7408, a Galaxy-QSO Pair

Abstract:

We propose to image the distribution and kinematics of the 21cm HI emission in and around UGC7408 using the VLA as an exploratory/dynamical time program in the D-array. Our GBT spectrum shows a bright HI emission associated with this galaxy, which is located in front of a radio and optically bright QSO. The proposed VLA imaging will show the spatial extent of the HI disk, particularly with respect to the radio jets and optical QSO. This object is one of several newly identified galaxy-QSO pairs from the SDSS database and is being studied as part of the PhD thesis project for S. Borthakur, which is the investigation of cold gas in galaxy halos through radio and UV spectroscopy. This particular QSO is an ideal target for the UV absorption observations using the Cosmic Origins Spectrograph on the Hubble Space Telescope, and the new VLA data will provide the critical information on the HI column density along the line-of-sight to the QSO.

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Related proposals:

GBT GY12

Joint:

Not a Joint Proposal

Observing type(s):

Spectroscopy

VLA Resources

Name	Conf.	Frontend & Backend	Setup

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HI	D	L Band 20 cm 1000 - 2000 MHz VLA Correlator - Spectral Line	Rest frequencies: 1420.40575 MHz Bandwidth: 1.5625 MHz Spectral resolution: 12.207 kHz IF Mode: 2 No. of Channels: 128

Sources:

Name	RA / RA Range	Dec / Dec Range	Epoch	Velocity / z	Group
ugc7408	12:21:15.3 00:00:00.0	+45:48:42 00:00:00	J2000	Redshift : +.001541	UGC7408

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
session 1	4.00	1	0 day	06:00:00	18:00:00	25

Session Constraints:

Name	Constraints	Comments

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
session 1	ugc7408	HI	4.0 hour	0.5 mJy/bm	

Present for observation: no Staff support: None Plan of Dissertation: yes