



Observing Application

Date : Dec, 14 2007
Proposal ID : VLA/08B-110
Legacy ID : AD574
PI : Abhirup Datta
Type : Rapid Response - Exploratory Time
Category : Extragalactic
Total Time : 2.0

Is the most distant known radio-loud source at $z=6.1$ a steep spectrum object?

Abstract:

Recently, the first radio-loud quasar J1427385+331241 at $z > 6$ was discovered in the NOAO deep field. This object is a BALQSO, and has a steep spectrum with $\alpha = -1.1$ between 8.4 and 1.4 GHz. Recent VLBA observation showed that this source is composed of two dominant structures separated by $168 pc$. All these features make this source very likely to be a CSO, making it a strong candidate to study HI 21cm absorption near the epoch of reionization. We need to measure the flux density of this source at 327 MHz with the VLA in order to verify the spectral index at low-frequencies before proposing any HI 21cm measurement at 200 MHz with GMRT.

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Related proposals:

Joint:

Not a Joint Proposal

Observing type(s):

Spectroscopy

VLA Resources

Name	Conf.	Frontend & Backend	Setup
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Name	Conf.	Frontend & Backend	Setup
VLA	B	P Band 90 cm 305 - 337 MHz VLA Correlator - Spectral Line	Rest frequencies: 327.5,321.5625 MHz Bandwidth: 6.25 MHz Spectral resolution: 195.313 kHz IF Mode: 4 No. of Channels: 32

Sources:

Name	RA / RA Range	Dec / Dec Range	Epoch	Velocity / z	Group
J1427385+331241	14:27:38.5 00:00:00.0	+33:12:42 00:00:00	J2000	Velocity : 0.00	QSO at z=6.12

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
J1427+3312	2.00	1	0 day	10:30:00	18:30:00	40

Session Constraints:

Name	Constraints	Comments
J1427+3312		Although this is a continuum project, we will be observing in spectral line mode to facilitate RFI excision.

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit
J1427+3312	J1427385+331241	VLA	2.0 hour	0.32 mJy/bm

Present for observation: yes

Staff support: None

Plan of Dissertation: no