Observing Application

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Proposal ID :	VLA/11A-291
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PI :	Emmanuel Momjian
Type :	Director's Discretionary Time - Exploratory Time
Category :	High Redshift and Source Surveys
Total Time :	4.0

A deep radio continuum study of the most distant quasar: J1120+0641 at z=7.1.

Abstract:

We propose a deep radio continuum observation of the recently discovered highest redshift quasar, J1120+0641 at z=7.085, as a continuation of our long standing program on observing the radio through submm properties of the most distant quasars. This quasar, at the tail-end of cosmic reionization, is the focus of intensive, multiwavelength observations to study the nature of the SMBH and its host galaxy within 750Myr of the Big Bang. A sensitive EVLA 1.4 GHz observations is a key element of this program. Radio continuum observations, in concert with the multiwavelength observations, can provide critical information on the properties of the AGN and its interaction with its environment, as well as the host galaxy. The proposed observations will probe close to an order of magnitude deeper than existing observations of this source in the radio continuum, down to a level well below that expected for an average (radio-quiet) z ~ 6 quasar of comparable optical luminosity. We are writing this as a DDT proposals since A array is critical for these measurements, and A array won't be available again until Oct 2012.

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Related proposals:

Joint:

Not a Joint Proposal

Observing type(s):

Continuum

VLA Resources

Name	Conf.	Frontend & Backend	Setup
J1120	A	L Band 20 cm 1000 - 2000 MHz WIDAR ECSO	Comments: We will use both basebands, each with eight 64 MHz wide subbands in dual polarization mode to cover the full 1 GHz of the L-band.

Sources:

Name	Position		Velocity		Group
J1120+0641	**Coordinate System**	Equatorial	**Convention**	Redshift	J1120
	Equinox	J2000			
	Right Ascension	11:20:01.48	**Ref. Frame**	LSRK	
		00:00:00.0			
	Declination	+06:41:24.3	**Redshift**	7.085	
		00:00:00.0			

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
J1120	4.00	1	0 day	07:30:00	15:30:00	30

Session Constraints:

Name	Constraints	Comments

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
J1120	J1120+0641	J1120	4.0 hour	.007 mJy/bm	

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