



# Observing Application

Date : Aug, 29 2011  
Proposal ID : VLA/11B-219  
Legacy ID : AS1152  
PI : Richard Saxton  
Type : Director's Discretionary  
Time - Exploratory Time  
Category : Active Galactic Nuclei  
Total Time : 0.8

## An observation of the tidal disruption candidate SDSS J120136.02+300305.5

### Abstract:

SDSS J120136.02+300305.5 is a tidal disruption candidate which has been extensively monitored in X-rays since its discovery in June 2010. We strongly suspect that the X-ray emission is produced by a jet and propose to attempt a radio detection of the source. The FIRST survey established a pre-flare 1.4 GHz upper limit of <1 mJy. Recent theoretical work predicts that if a temporary jet is formed by a tidal disruption event a reverse shock will be produced as jetted material decelerates. Radiation from this shock peaks in the radio band after ~1 year, and at the source redshift ( $z=0.146$ ) the 21cm flux is predicted to be ~2 mJy. This tidal disruption event occurred 14 months ago and now (Aug-Sept 2011) is an ideal time to check for the presence of a radio jet in this source. Hence we are requesting Director's Discretionary Time for this observation. A-config observations would be most ideal to both accurately locate any emission in this direction and to readily distinguish the source from a ~2mJy source 2.6 arcmin distant, which will present more challenges in D-config.

### Authors:

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### Related proposals:

None

### Joint:

Not a Joint Proposal

### Observing type(s):

Continuum

### VLA Resources

Name	Conf.	Frontend & Backend	Setup
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Name	Conf.	Frontend & Backend	Setup
C band	A=> D	C Band 6 cm 4000-8000 MHz WIDAR OSRO1: 2 Subbands/Full polz	Rest frequencies: 5000.0,6000.0 MHz Subband Bandwidth: 128.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 2000.0 kHz
L Band	A=> D	L Band 20 cm 1000 - 2000 MHz WIDAR OSRO1: 2 Subbands/Full polz	Rest frequencies: 1250.0,1750.0 MHz Subband Bandwidth: 128.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 2000.0 kHz
X band	A=> D	X Band 3.6 cm 8000 - 12000 MHz WIDAR OSRO1: 2 Subbands/Full polz	Rest frequencies: 8500.0,9500.0 MHz Subband Bandwidth: 128.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 2000.0 kHz

#### Sources:

Name	Position		Velocity		Group
SDSS 120136.02+300305	Coordinate System	Equatorial	Convention	Redshift	TD
	Equinox	J2000			
	Right Ascension	12:01:36.02 00:00:00.0	Ref. Frame	LSRK	
	Declination	+30:03:05.5 00:00:00.0	Redshift	0.146	
3C286	Coordinate System	Equatorial	Convention	Optical	Absolute Calibration
	Equinox	J2000			
	Right Ascension	13:31:08.28 00:00:00.0	Ref. Frame	Barycentric	
	Declination	+30:30:32.9 00:00:00.0	Redshift	0.8493	
1159+2914	Coordinate System	Equatorial	Convention	Radio	Phase Calibrators
	Equinox	J2000			
	Right Ascension	00:00:00.0 00:00:00.0	Ref. Frame	LSRK	
	Declination	+00:00:00.0 00:00:00.0	Velocity	0.00	
1207+2754	Coordinate System	Equatorial	Convention	Radio	Phase Calibrators
	Equinox	J2000			
	Right Ascension	00:00:00.0 00:00:00.0	Ref. Frame	LSRK	
	Declination	+00:00:00.0 00:00:00.0	Velocity	0.00	

#### Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
L band	0.34	1	0 day	00:00:00	24:00:00	0
C band	0.22	1	0 day	00:00:00	24:00:00	0
X band	0.22	1	0 day	00:00:00	24:00:00	0