



Observing Application

Date : Oct, 05 2012
Proposal ID : VLA/12B-389
Legacy ID : AY228
PI : LIN YAN
Type : Director's Discretionary
Time - Exploratory Time
Category : High Redshift and Source
Surveys
Total Time : 1.0

An Extraordinary group of 3.6um sources with extended, bright far-IR emission

Abstract:

Based on WISE and recent Herschel PACS far-IR data, we discovered one intriguing source whose optical/mid-IR SED is extremely red, with extended, bright 70 & 170micron emission (400-500mJy). This bright far-IR blob is spatially coincide with a group of IRAC 3.6micron sources with extremely faint optical counterparts. The complete SED suggests that this group of galaxies are likely at redshift of 2. This is consistent with the fact that this source is not detected by NVSS at 1.4GHz although the predicted 1.4GHz flux would be above NVSS limit if it were at lower redshift. Because Herschel PACS images do not have sufficient angular resolution to identify the actual far-IR emitting sources, we request 1hour of EVLA DDT time at 8 and 1.4GHz in A configuration to localize the sources responsible for the unresolved far-IR emission. The radio sources are expected to be bright, 1.2 and 0.3mJy at 1.4 and 8GHz based on the standard far-IR/radio correlation. We request DDT time because waiting for next A (or B) configuration will delay our science analysis by more than 1 year.

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Related proposals:

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
Aconfig Cband	A	C Band 6 cm 4000-8000 MHz WIDAR OSRO, Full Polarization	Rest frequencies: 4000.0,8000.0 MHz Subband Bandwidth: 128.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 2000.0 kHz Total Bandwidth: 2,048.00 MHz
Aconfig Lband	A	L Band 20 cm 1000 - 2000 MHz WIDAR OSRO, Full Polarization	Rest frequencies: 1250.0,1750.0 MHz Subband Bandwidth: 64.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 1000.0 kHz Total Bandwidth: 1,024.00 MHz

Testing Resource Images

Sources:

Name	Position		Velocity		Group
W0010+3236	Coordinate System	Equatorial	Convention	Radio	Group1
	Equinox	J2000			
	Right Ascension	00:10:14.2 00:00:00.0	Ref. Frame	LSRK	
	Declination	+32:36:16.6 00:00:00.0	Velocity	0.00	

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
W0010	1.00	1	0 day	00:20:30	03:30:00	45deg

Session Constraints:

Name	Constraints	Comments
W0010	Avoid observation during LST 23h to 1 hr when source is in transit (elevation > 80deg).	

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
W0010	W0010+3236	Aconfig Lband	0.5 hour	0.02 mJy/bm	
W0010	W0010+3236	Aconfig Cband	0.5 hour	0.01 mJy/bm	

Present for observation: no

Staff support: None

Plan of Dissertation: no