



Observing Application

Date : May, 13 2013
 Proposal ID : VLBA/13A-522
 Legacy ID : BW106
 PI : R. Craig Walker
 Type : Director's Discretionary
 Time - Exploratory Time
 Category : Active Galactic Nuclei
 Total Time : 11.0

Time Dependence of Distortions of the M87 Jet

Abstract:

The background observation of M87 at 43 GHz with the VLBA for the transient project BW098 was made on Jan. 12, 2013. No high energy trigger was received, so there is no follow-up. But the high dynamic range image, allowed by the first use of the 2 Gbps system on M87, shows significant deviation from the simple (parabolic?) shape seen previously. Whether those deviations are stationary, slowly moving, or fast will be significant in their interpretation. We request one additional epoch as soon as reasonably possible to look for changes. This will also be a test of the deep imaging capabilities with the DDC.

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Related proposals:

VLBA/13A-002, VLBA/12A-276, VLBA/11A-119, VLBA/10A-135, VLBA/09A-123, BW090, BW088

Joint:

Not a Joint Proposal

Observing type(s):

Continuum, Single Pointing(s)

VLBA Resources

Resource Name: 43GHz img

Details	Stations	Observing Parameters	Correlation Parameters	Special Features
Wavelength: 7 mm Processor: Socorro-DiFX Observing Mode: Standard	VLBA <input checked="" type="checkbox"/> Br <input checked="" type="checkbox"/> Fd <input checked="" type="checkbox"/> Hn <input checked="" type="checkbox"/> Kp <input checked="" type="checkbox"/> La <input checked="" type="checkbox"/> Mk <input checked="" type="checkbox"/> NI <input checked="" type="checkbox"/> Ov <input checked="" type="checkbox"/> Pt <input checked="" type="checkbox"/> Sc <input checked="" type="checkbox"/> <hr/> HSA <input type="checkbox"/> Ar <input type="checkbox"/> Ef <input type="checkbox"/> GBT <input type="checkbox"/> VLA-Y27 <input type="checkbox"/> <hr/> VLA-Y1 <input type="checkbox"/> <hr/> Geodetic	Observing System: DDC System Bandwidth: 128 MHz Baseband Channels: 4 Polarization: Dual Agg. Bit Rate (Mbits/sec): 2048	Correlator Passes: 1 Integration Period (sec): 2.0 Spectral Points /BBC: 256 No of Fields: 1	Full Polarization <input checked="" type="checkbox"/> Pulsar Gate <input type="checkbox"/> Convert to Mark4 <input type="checkbox"/>

Sources:

Name	Position	Velocity	Group
M87	Coordinate System	Equatorial	M87
	Equinox	J2000	
	Right Ascension	12:30:49.4 00:00:00.0	
	Declination	+12:23:28 00:00:00	
	Calibrator	No	
	Convention	Redshift	
	Ref. Frame	LSRK	
	Redshift	0.004233	

Sessions:

Name	Session Time (hours)	Repeat	Separation	GST minimum	GST maximum	Elevation Minimum
Img 1	11.00	1	0 day	14:00:00	01:00:00	0

Session Constraints:

Name	Constraints	Comments
Img 1		A full 11 hours is best. This could be shortened to a minimum of 7 hr if required for scheduling at some loss of image quality

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit
Img 1	M87	43GHz img	11.0 hour	0.070 mJy/bm

Staff support: None

Plan of Dissertation: no