

Observing Application

Date : May, 06 2012 Proposal ID : VLBA/12A-475 Legacy ID : BC207 PI : Paola Castangia Type : Director's Discretionary Time - Target of Opportunity Category : Active Galactic Nuclei Total Time : 10.0

The nature of the water maser in the obscured nucleus of the Sy2 IRAS15480-0344

Abstract:

We propose for high angular resolution ToO VLBA observations of the water megamaser very recently detected in the nucleus of the Compton Thick Seyfert 2 galaxy IRAS 15480-0344. As an outcome, we will determine the origin of such maser emission associated with the interaction between molecular material and the radio jet, with a nuclear outflow, or with the accretion disk around the central engine of the galaxy. Follow-up single-dish monitoring project of the line will provide additional information on relevant maser line profile changes. Such an observation represents one of the few opportunity to access and study in a direct way the very dense molecular gas expected to be present in the inner parsecs of AGN by the Unified Scheme or alternative scenarios, such us the clumpy-torus model.

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Related proposals:

AGBT12A_052

Joint:

Not a Joint Proposal

Observing type(s):

Spectroscopy

VLBA Resources

	i			
Name	Details	Stations	Observing Parameters	Correlation Parameters

Name	Details		Stations		Observing Parameters		Correlati Paramet	ion ers		
Maser_15480	Wavelength: 1.3 cm		VLBA Br 🖌	✔ Fd ✔	Hn 🖌	Кр 🖌	Bandwidth: Baseband	16 MHz 2	Full Polarization Pulsar Gate	
	Processor: Socorro-D Observing Standard	DiFX -	La 🔽 Pt 🔽 HSA	Mk 🖌 Sc 🖌	NI 🖌	Ov 🖌	Channels Sample Rate (Msample/s)	32	Correlator Passes Integration Period (sec)	2 1.0
			Ar VLA-Y27	Ef	GBT		Bits/Sample Polarization	2 Dual	Spectral Points /BBC	128
		-	VLA-Y1 Geodetic				Agg. Bit Rate (Mbits/sec)	128	No of Fields	1

Sources:

Name	Position		Velocity		Group
iras15480	Coordinate System	Equatorial	Convention	Optical	IRAS15480
	Equinox	J2000			
	Right Ascension	15:50:41.5	Ref. Frame	LSRK	
		00:00:00.0			
	Declination -3:53:18.0 00:00:00.0 00:00:00.0	-3:53:18.0	Velocity	9084.00	
		00:00:00.0			

Sessions:

Name	Session Time (hours)	Repeat	Separation	GST minimum	GST maximum	Elevation Minimum
K-band	5.00	2	1 day	19:00:00	02:00:00	0

Session Constraints:

Name Constraints		Comments
K-band	Possibly at night and/or when Tsys is low at the stations	

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	
K-band	iras15480	Maser_15480	5.0 hour	1 mJy/bm	

Staff support: Consultation

Plan of Dissertation: no