Observing Application

Date :	Jul, 20 2009
Proposal ID :	VLA/09B-204
Legacy ID :	AG826
PI :	Paul Green
Type :	Rapid Response - Exploratory Time
Category :	Extragalactic
Total Time :	5.0

Radio Emission from the Most Luminous Binary Quasar in a Merging Galaxy

Abstract:

Serendipitous discoveries of binary AGNs in merging galaxies are beginning to flesh out a physical sequence in this critical evolutionary phase of galaxies. Statistically, binary AGNs are expected to be radio quiet (RQ), making them key testbeds for Laor & Behar's coronal framework for RQ AGNs. We are almost ready to report the discovery of the first unambiguous major merger explicitly selected in a survey for binary AGNs: SDSS J1254+0846 is a RQ double quasar at z=0.44 with nuclei A and B separated by 3.8" (21 kpc). From our Chandra data, the coronal framework predicts that A and B will be sub-mJy sources at 8.5 GHz. We will test these predictions by using the current C configuration to search for such faint emission. VLA detections of A and B, at the predicted levels, will endorse the coronal framework as a new tool to further our understanding of SDSS J1254+0846, as well as other binary AGNs.

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Related proposals:

Joint:

Not a Joint Proposal

Observing type(s):

Continuum, Single Pointing(s)

VLA Resources

Name	Conf.	Frontend & Backend	Setup
Cconfig4cm	C	X Band 3.6 cm 8080 - 8750 MHz VLA Correlator - Single Channel Continuum	Rest frequencies: 8435.1,8485.1 MHz Bandwidth: 50 MHz

Sources:

Name	RA / RA Range	Dec / Dec Range	Epoch	Velocity / z	Group
SDSS J1254+0846	12:54:54.9 00:00:00.0	+08:46:52 00:00:00	J2000	Redshift : 0.44	Binary quasar

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
Mine	5.00	1	0 day	00:00:00	24:00:00	0

Session Constraints:

Name	Constraints	Comments
Mine		Dynamic scheduling is acceptable.

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
Mine	SDSS J1254+0846	Cconfig4cm	5.0 hour	0.01 mJy/bm	

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