



Observing Application

Date : Dec, 02 2009
 Proposal ID : VLA/09C-194
 Legacy ID : AS1023
 PI : Jennifer Sokoloski
 Type : Rapid Response - Target of Opportunity
 Category : Stellar
 Total Time : 2.0

High state of the jet-producing white dwarf in CH Cygni

Abstract:

CH Cygni (CH Cyg) is a nearby symbiotic star that contains an accreting, jet-producing white dwarf (WD). It shows complex radio, optical, soft X-ray, and hard X-ray variability. Although the hard X-rays appear to arise from the accretion-disk boundary layer, the origin of the soft X-ray emission is unclear. CH Cyg has recently entered an optical and X-ray bright state, for the first time in more than 10 years. Chandra will observe CH Cyg for 80-ks over the course of this week. We request that a short VLA observation (2 hours, including overhead) be performed at some point during this same time period or soon as possible thereafter. The goals of the proposed VLA ToO observation are to determine whether or not CH Cyg is producing a radio jet in association with the current X-ray brightening and to help determine which of the two proposed models for the soft X-ray emission is correct.

Authors:

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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
L band	D	L Band 20 cm 1000 - 2000 MHz VLA Correlator - Single Channel Continuum	Rest frequencies: 1464.9,1385.1 MHz Bandwidth: 50 MHz
C band	D	C Band 6 cm 4000-8000 MHz VLA Correlator - Single Channel Continuum	Rest frequencies: 4885.1,4835.1 MHz Bandwidth: 50 MHz
X band	D	X Band 3.6 cm 8080 - 8750 MHz VLA Correlator - Single Channel Continuum	Rest frequencies: 8435.1,8485.1 MHz Bandwidth: 50 MHz
K band	D	K Band 1.3 cm 18000 - 26500 MHz VLA Correlator - Single Channel Continuum	Rest frequencies: 22485.1,22435.1 MHz Bandwidth: 50 MHz
Q band	D	Q Band 0.7 cm 40000 - 50000 MHz VLA Correlator - Single Channel Continuum	Rest frequencies: 43314.9,43364.9 MHz Bandwidth: 50 MHz

Sources:

Name	RA / RA Range	Dec / Dec Range	Epoch	Velocity / z	Group
CH Cygni	19:24:33.7 00:00:00.0	+50:14:29 00:00:00	J2000	Velocity : 0.00	CH Cyg

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
CH Cyg L	0.33	1	0 day	00:00:00	24:00:00	0
CH Cyg C	0.33	1	0 day	00:00:00	24:00:00	0
CH Cyg X	0.33	1	0 day	00:00:00	24:00:00	0
CH Cyg K	0.33	1	0 day	00:00:00	24:00:00	0
CH Cyg Q	0.67	1	0 day	00:00:00	24:00:00	0

Session Constraints:

Name	Constraints	Comments

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
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Session Name	Source	Resource	Time	Figure of Merit	Subarray
CH Cyg L	CH Cygni	L band	0.33 hour	0.06 mJy/bm	
CH Cyg C	CH Cygni	C band	0.33 hour	0.06 mJy/bm	
CH Cyg X	CH Cygni	X band	0.33 hour	0.05 mJy/bm	
CH Cyg K	CH Cygni	K band	0.33 hour	0.1 mJy/bm	
CH Cyg Q	CH Cygni	Q band	0.67 hour	0.2 mJy/bm	

Present for observation: no

Staff support: None

Plan of Dissertation: no

