Observing Application

Date :	May, 13 2010
Proposal ID :	VLA/10A-266
Legacy ID :	AD629
PI :	Gloria Dubner
Type :	Rapid Response - Exploratory Time
Category :	Galactic
Total Time :	3.0

HESS J1731-347/G353.6-0.7: a new case of shell morphology at very high energies

Abstract:

Very recent (confidential, unpublished) HESS data revealed that the TeV source HESS J1731-347, associated with G353.6-0.7 (a weak shell-type Galactic SNR) has become the fourth case of SNRs with a spatially resolved gamma-ray shell morphology. The high-energy data accumulated at present (four times the amount of data used in the discovery paper of 2008) unveiled a clear ring in gamma-rays in spatial coincidence with the radio shell. With this information in hand, it is essential to complete the study initiated with the VLA-D in 2009 by adding 1.5 hours observing with the EVLA+VLA interim instrument in the hybrid DnC configuration and another 1.5 hours in the CnB. These new observations will allow us to investigate in detail the radio emission of this interesting source, to identify the location of the main shock, to search for possible sites of particles acceleration, as well as to study the spectrum across the whole electromagnetic spectrum.

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Related proposals:

AD609

Joint:

Not a Joint Proposal

Observing type(s):

Continuum

VLA Resources

Name	Conf.	Frontend & Backend	Setup
G353.6-0.7-DC	DnC	L Band 20 cm 1000 - 2000 MHz WIDAR OSRO1: 2 Subbands/Full polz	Rest frequencies: 1328.0, 1456.0 MHz Bandwidth: 128.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 2000.0 kHz
G353.6-0.7-CB	CnB	L Band 20 cm 1000 - 2000 MHz WIDAR OSRO1: 2 Subbands/Full polz	Rest frequencies: 1328.0, 1456.0 MHz Bandwidth: 128.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 2000.0 kHz

Sources:

Name	Position		Velocity		Group
G353.6-1	**Coordinate System**	Equatorial	**Convention**	Radio	G353.6-0.7
	Equinox	J2000			
	Right Ascension	17:32:44.0	**Ref. Frame**	LSRK	
		00:00:00.0			
	Declination	-34:38:58	**Velocity**	0.00	
		00:00:00			
G353.6-2	**Coordinate System**	Equatorial	**Convention**	Radio	G353.6-0.7
	Equinox	J2000			
	Right Ascension	17:31:48.0	**Ref. Frame**	LSRK	
		00:00:00.0			
	Declination	-34:38:58	**Velocity**	0.00	
		00:00:00			
G353.6-3	**Coordinate System**	Equatorial	**Convention**	Radio	G353.6-0.7
	Equinox	J2000			
	Right Ascension	17:31:48.0	**Ref. Frame**	LSRK	
		00:00:00.0			
	Declination	-34:52:58	**Velocity**	0.00	
		00:00:00			
G353.6-4	**Coordinate System**	Equatorial	**Convention**	Radio	G353.6-0.7
	Equinox	J2000			
	Right Ascension	17:32:44.0	**Ref. Frame**	LSRK	
		00:00:00.0			
	Declination	-34:52:58	**Velocity**	0.00	
		00:00:00			

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
G353.6-DC	1.50	1	0 day	00:00:00	24:00:00	10
G353.6-CB	1.50	1	0 day	00:00:00	24:00:00	10

Session Constraints:

Name	Constraints	Comments