



Observing Application

Date : Jul, 23 2009
Proposal ID : VLA/09B-206
Legacy ID : AD616
PI : Kiruthika Devaraj
Type : Rapid Response - Target
of Opportunity
Category : Solar System
Total Time : 24.0

Short-term variations in synchrotron emission from Jupiter due to recent impact

Abstract:

There has been evidence that an object has impacted Jupiter between 3.00 am and 9.00 am PDT on July 20th, 2009. Infrared images by Glenn Orton taken with the IRTF and Keck II telescope facility show the impact site to be near the South Pole. We propose to observe Jupiter with the VLA at 20 cm and 6 cm wavelengths to monitor and study any short-term variations of the synchrotron emission that resulted from the impact of the object. Previous impact of Shoemaker-Levy 9 on Jupiter resulted in an increase in Jupiter's synchrotron emission during a few weeks following the impact. It is of crucial importance that the synchrotron emission from Jupiter be monitored continuously for the next few weeks.

Authors:

Name	Institution	Email	Status
Kiruthika Devaraj	Georgia Institute of Technology	kiruthika@gatech.edu	Graduating: 2010 Thesis: false
Bryan Butler	National Radio Astronomy Observatory	bbutler@nrao.edu	
Paul Steffes	Georgia Institute of Technology	steffes@gatech.edu	

Principal Investigator: Kiruthika Devaraj
Contact: Kiruthika Devaraj
Telephone: 4048246863
Email: kiruthika@gatech.edu

Related proposals:

Joint:

Not a Joint Proposal

Observing type(s):

Continuum

VLA Resources

Name	Conf.	Frontend & Backend	Setup
LBand	C	L Band 20 cm 1000 - 2000 MHz VLA Correlator - Single Channel Continuum	Rest frequencies: 1464.9, 1385.1 MHz Bandwidth: 50 MHz

Name	Conf.	Frontend & Backend	Setup
CBand	C	C Band 6 cm 4000-8000 MHz VLA Correlator - Single Channel Continuum	Rest frequencies: 4885.1,4835.1 MHz Bandwidth: 50 MHz

Sources:

Name	RA / RA Range	Dec / Dec Range	Epoch	Velocity / z	Group
Jupiter 1	21:45:00.0 00:00:00.0	-14:27:00 00:00:00	J2000	Velocity : 0.00	Jupiter

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
1	4.00	1	0 day	21:30:00	01:30:00	20
2	4.00	1	0 day	19:00:00	23:00:00	25
3	4.00	1	0 day	19:00:00	23:00:00	25
4	4.00	1	0 day	19:00:00	23:00:00	25
5	6.00	1	0 day	18:30:00	00:30:00	20
6	2.00	1	0 day	19:30:00	21:30:00	28

Session Constraints:

Name	Constraints	Comments

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
1	Jupiter 1	LBand	4.0 hour	0.011963 mJy/bm	
2	Jupiter 1	CBand	4.0 hour	0.011664 mJy/bm	
3	Jupiter 1	LBand	4.0 hour	0.011963 mJy/bm	
4	Jupiter 1	CBand	4.0 hour	0.011664 mJy/bm	
5	Jupiter 1	LBand	6.0 hour	0.009768 mJy/bm	
6	Jupiter 1	CBand	2.0 hour	0.016495 mJy/bm	

Present for observation: no

Staff support: None

Plan of Dissertation: no