Observing Application

Date :	Dec, 26 2012
Proposal ID :	VLA/12B-409
Legacy ID :	AH1107
PI :	Assaf Horesh
Type :	Director's Discretionary Time - Exploratory Time
Category :	Energetic Transients and Pulsars
Total Time :	6.0

Radio Observations of a Recent Tidal-Disruption-Event Candidate

Abstract:

The recent discovery of the transient source Swift J1644+57 has unveiled an entirely new class of tidal disruption events (TDEs). Motivated by this discovery, we conducted a pilot systematic EVLA transient survey. One of the 11 transients we have found in our survey, RTC2158-00, resides close to the center of a red-n-dead galaxy at z=0.3 and exhibits a self-absorbed radio spectrum, similar to Swift J1644+77. Therefore, the current hypothesis is that RTC2158-00 is a TDE. In order to test this hypothesis, we propose an initial single multi-band observation. If the source is indeed a TDE, we expect that it will exhibit an evolved self-absorbed spectrum with peak frequency at lower frequencies. If we find that this is the case, we request 3 additional epochs for long-term monitoring of the source.

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Related proposals:

Joint:

Not a Joint Proposal

Observing type(s):

Continuum

VLA Resources

Name	Conf.	Frontend & Backend	Setup
L_band	Any	L Band 20 cm 1000 - 2000 MHz WIDAR OSRO, Full Polarization	Rest frequencies: 1250.0,1750.0 MHz Subband Bandwidth: 64.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 1000.0 kHz Total Bandwidth: 1,024.00 MHz
S_band	Any	S Band 10 cm 2000 - 4000 MHz WIDAR OSRO, Full Polarization	Rest frequencies: 2500.0,3500.0 MHz Subband Bandwidth: 128.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 2000.0 kHz Total Bandwidth: 2,048.00 MHz
C_band	Any	C Band 6 cm 4000-8000 MHz WIDAR OSRO, Full Polarization	Rest frequencies: 5000.0,6000.0 MHz Subband Bandwidth: 128.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 2000.0 kHz Total Bandwidth: 2,048.00 MHz
K_band	Any	K Band 1.3 cm 18000 - 26500 MHz WIDAR OSRO, Full Polarization	Rest frequencies: 21500.0,22500.0 MHz Subband Bandwidth: 128.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 2000.0 kHz Total Bandwidth: 2,048.00 MHz
X_band	Any	X Band 3.6 cm 8000 - 12000 MHz WIDAR OSRO, Full Polarization	Rest frequencies: 8500.0,9500.0 MHz Subband Bandwidth: 128.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 2000.0 kHz Total Bandwidth: 2,048.00 MHz
Ku_band	Any	Ku Band 2 cm 12000 - 18000 MHz WIDAR OSRO, Full Polarization	Rest frequencies: 13500.0,14500.0 MHz Subband Bandwidth: 128.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 2000.0 kHz Total Bandwidth: 2,048.00 MHz
Ka_band	Any	Ka Band 0.9 cm 26500 - 40000 MHz WIDAR OSRO, Full Polarization	Rest frequencies: 32500.0,33500.0 MHz Subband Bandwidth: 128.0 MHz No. of Channels: 64 Poln. products: 4.0 Channel Width: 2000.0 kHz Total Bandwidth: 2,048.00 MHz