Observing Application

Date :	Jul, 10 2009
Proposal ID :	VLA/09B-203
Legacy ID :	AI138
PI :	Rob Ivison
Type :	Rapid Response - Exploratory Time
Category :	Extragalactic
Total Time :	4.0

Searching for a water maser in the brightest sub-mm galaxy

Abstract:

In May we discovered by far the brightest known submillimetre galaxy (SMG). The blind detection of CO(1-0) with GBT has already enabled us to assemble the most impressive spectral-line energy distribution (SLED) of any high-redshift galaxy, via DDT at the IRAM and SMA telescopes. We recently discovered that this galaxy's spectrum resembles a Seyfert 2, making it an ideal host for a luminous water maser. We therefore request 4 hr of DDT with the VLA's new C-band receivers to search for water maser emission, so that we can publish the result of the search in the discovery paper alongside the numerous other mm-cm lines, and also as part of our small survey of water masers in SMGs (AI132).

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Related proposals:

AI132

Joint:

Not a Joint Proposal

Observing type(s):

Spectroscopy

VLA Resources

Name	Conf.	Frontend & Backend	Setup

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SMG1	C	C Band 6 cm 4000-8000 MHz VLA Correlator - Spectral Line	Rest frequencies: 22235.08 MHz Bandwidth: 12.5 MHz Spectral resolution: 781.25 kHz IF Mode: 4 No. of Channels: 16

Sources:

Name	RA / RA Range	Dec / Dec Range	Epoch	Velocity / z	Group
CosmicEyelash	21:35:11.6 00:00:00.0	-1:02:52 00:00:00	J2000	Redshift : 2.3259	Eyelash

Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
One	4.00	1	0 day	19:30:00	23:30:00	0

Session Constraints:

Name	Constraints	Comments

Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
One	CosmicEyelash	SMG1	4.0 hour	0.2 mJy/bm	

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