



# Observing Application

Date : May, 28 2013  
 Proposal ID : VLA/13A-526  
 Legacy ID : AB1479  
 PI : Bryan Butler  
 Type : Director's Discretionary  
 Time - Target of Opportunity  
 Category : Solar System, Stars, Planetary Systems  
 Total Time : 6.0

## Observations of Near Earth Asteroid 1998 QE2

### Abstract:

Near Earth Asteroid 1998 QE2 will pass within 0.04 AU of Earth on May 31, 2013. We propose to use VLA observations at C-, Ku-, and Ka-bands just after this closest approach to characterize the surface of this NEA. We will also observe with the Sub-Millimeter Array at 230 and 345 GHz to further aid in understanding the surface layer of this NEA. Understanding the surface characteristics of NEAs is an important component of NASA's research program, especially given the recent push for a manned, or capture-and-return, mission to an NEA.

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### Related proposals:

### Joint:

Not a Joint Proposal

### Observing type(s):

Continuum, Solar System

### VLA Resources

Name	Conf.	Frontend & Backend	Setup
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Name	Conf.	Frontend & Backend	Setup
C-band	C	C Band 6 cm 4000-8000 MHz WIDAR ECSO	Comments: We will use the 3-bit samplers to get the full coverage of C-band.
Ka-band	C	Ka Band 0.9 cm 26500 - 40000 MHz WIDAR ECSO	Comments: 3-bit samplers to get the full 8 GHz.
Ku-band	C	Ku Band 2 cm 12000 - 18000 MHz WIDAR ECSO	Comments: 3-bit samplers to get the full 6 GHz bandwidth.

### Sources:

Name	Position		Velocity		Group
1998QE2	Coordinate System	Equatorial	Convention	Radio	
	Equinox	J2000		Ref. Frame	LSRK
	Right Ascension	16:30:00.0	Velocity		0.00
		00:30:00.0			
	Declination	-4:00:00.0			g1998
Calibrator	No				

### Sessions:

Name	Session Time (hours)	Repeat	Separation	LST minimum	LST maximum	Elevation Minimum
session1998	6.00	1	0 day	13:30:00	19:30:00	0

### Session Constraints:

Name	Constraints	Comments

### Session Source/Resource Pairs:

Session Name	Source	Resource	Time	Figure of Merit	Subarray
session1998	1998QE2	C-band	3.0 hour	0.003 mJy/bm	
session1998	1998QE2	Ku-band	2.0 hour	.005 mJy/bm	
session1998	1998QE2	Ka-band	1.0 hour	.014 mJy/bm	

Present for observation: yes

Staff support: None

Plan of Dissertation: no