



TELESCOPE TIME CHARGE (DRAFT, SUBJECT TO CHANGE)

Ken Tatematsu

Director, Nobeyama Radio Observatory

TOPICS

- (A) Basic idea (confirmation and minor update)
- (B) Detailed schedule
- (C) Form and so on

(A) BASIC IDEA

1. Introduction

We plan to introduce the charge system for telescope time (not only observations, but also instrumental/technical test etc) beyond March, 2022.

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(A) BASIC IDEA

2. System to be offered: Identical to what we offered for the open use. That is,

- Nobeyama 45 m telescope
- Receiver: FOREST, T70, Z45 (-2024.3.31) , H22, H40, and newly developed facility receivers if available
- Backend: SAM45, continuum backend (pointing only, on-site observation only), VLBI backend (VLBI only, only if Mizusawa VLBI Observatory can support it)
- **On-site** at Nobeyama **or remote** observations (from several Japanese universities, ASIAA, KASI). The number of observers **at Nobeyama** should be **three or less at a certain time**.

We continue to offer opportunities of charged telescope time for instrumental/software development and resulting observations which were **accepted as the Nobeyama development programs**.

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(A) BASIC IDEA

- 3. Fee and Time to be Offered
 - JPN¥10,000/hr + 10% tax for PIs belonging to Japanese institutes (including NAOJ)
 - JPN¥30,000/hr + 10% tax for PIs belonging to institutes outside Japan.
 - The minimum telescope time per day is set to four hours
 - The fee is charged for period (time slot) needing the telescope move and/or the use of the facility receiver, including commissioning and hands-on tutorials.
 - a total of 3,000 hours per year
 - No scientific assessment
 - Hands-on observational tutorials are offered for Japanese universities/institutes only and for low-frequency observations (23 or 43 GHz only).
 - should be paid in advance
 - risk-shared, and we will not compensate for the user for any losses due to high system noise temperatures under bad weather, snowfalls, earthquakes, instrumental failures (except for intentional or gross negligence).
 - However, it is possible that we allocate supplemental time only if the total session time is 20 hours or less, and the whole session time is lost.

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(A) BASIC IDEA

5. Support

We **will not provide the observation assistant or supporter.** Observer should learn the system from the web. We **strongly recommend including those who has enough experience** in observations with the 45 m telescope.

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(A) BASIC IDEA

6. Intellectual property and proprietary data period

NAOJ Data Policy requires the public data release at some moment. NAOJ keeps the intellectual property of the data, and the exclusive right of the data use will be allowed for the paying PI (and team) for three years from execution.

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(A) BASIC IDEA

7. NAOJ and NRO policies

Applicants are requested to agree the relevant policies of NAOJ and NRO as well as safety regulations, when they apply for the charged time.

NRO has kept its policy to exclude military researches since 1993, and continues the same policy for telescope time charging.

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(A) BASIC IDEA

8. Restriction of institutions

Users belonging to institutes **outside Japan** (including Japanese nationals) or foreign nationals whose stay in Japan is shorter than six months are requested **to submit the form for security export control**

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(A) BASIC IDEA

9. Time allocation

We will allocate times within a total of 3,000 hours, with **LST** (Local Sidereal Time) **balancing**.

- If the sum of **foreign time exceeds 2,500 hours** and also if the sum of Japanese time is 500 hours or less, we **preferentially schedule Japanese time**. Alternatively,
- if the sum of **Japanese time exceeds 2,500 hours** and also if the sum of foreign time is 500 hours or less, we **preferentially schedule foreign time**.

Otherwise, we allocate time by treating Japanese and foreign time requests evenly to fill 3,000 hours with LST balancing.

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(A) BASIC IDEA

10. Opportunities for Japanese graduate students

NRO may offer observing time **free of charge for graduate students** belonging to Japanese institutes within yearly limit of **100 hours as the total sum**. We expect observations will be done remotely or three persons or less on-site at Nobeyama. Local supervisors are supposed to provide tutoring for observations and their preparation. NRO assumes that Japanese Science Advisory Committee for ALMA (**JSAC**) **selects programs** with time allocation within the total time boundary, with **priority to master-course** students.

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VLBI PROGRAMS

- Nobeyama does not have VLBI expertise.
- Nobeyama will consult Mizusawa VLBI Observatory for the total time of acceptable VLBI programs after receiving requests.

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(B) DETAILED SCHEDULE

- B-1 Regular calls (international)
- B-2 Tutorials and Commissioning (Japan only + alpha*)

*Taiwan eQ receiver

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(B) DETAILED SCHEDULE

B-1 Regular calls (international) 2022-2023

- Request deadlines: Aug 1, Dec 1
 - Allocation: Nov 1-Apr 29, Feb 1-Apr 29
 - Invoice: Sep 1 (for Nov-Jan runs), Dec 15 (for Feb-Apr runs),
 - Payment deadline: Oct 24, 2023 Jan 24
- DRAFT: Subject to change**

(B) DETAILED SCHEDULE

B-2 Tutorials and Commissioning (Japan only + alpha)

- Request deadlines: 2022 Jun 1
- Allocation: 2022 Sep 1-Oct 30
- Invoice: Jul 1
- Payment deadline: Aug 24

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(C) FORM AND SO ON

- We go back to the LaTeX form, from Web Service (Formstack)

Ver. 5.00

Registration No. _____ 2021. Request No.

Application Form for 45-m Telescope Time (1/2)

Categories: Observation Commissioning Hands-on Others Date: Y 2021 M 09 D 01

Title **Detection of C₄₅H in Interstellar Space**

Scientific Category: indicate one category into which this proposal falls.
1 Cosmology 2 Galaxies, nuclei 3 Star formation, ISM 4 Disks, solar system 5 Stars 6 Other

1. Principal Investigator: Name (Family, First Name) NOBEYAMA, Taro

2. Institution: Nobeyama Radio Observatory Present Position Professor

3. Address: Nobeyama, Minamihyaki, Nagano 384-1305 Country: JAPAN

Phone: phone number Fax: fax number E-mail: e-mail

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(C) FORM AND SO ON

- Bottom of the Form

Liability Waiver: I confirm that I, the Principal Investigator, and any and all Collaborator(s) named in section 4 of this application form have read and agree to the terms contained in the following link

(<https://www.nro.nao.ac.jp/%7enro45mrt/html/prop/liabilitywaiver.html>)

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HTTPS://WWW.NRO.NAO.AC.JP/~NRO45MRT/HTML/PROP/LIABILITYWAIVER.HTML

Liability Waiver

Liability Waiver for the user of the Nobeyama Radio Observatory, a branch of the National Astronomical Observatory of Japan

Indemnification

The user agrees to indemnify and hold harmless NAOJ and its affiliates, the respective directors, officer, and employees, to the maximum extent permitted under the laws of Japan, from and against all claims, demands, damages, losses, liabilities and expenses including, without limitation, reasonable attorneys' fees and expenses which NAOJ may suffer or incur as a result of (i) any failure by user to perform or fulfill any of its obligations set forth in the terms of use, (ii) the negligence or intentional misconduct of user, or (iii) user's failure to comply with all applicable laws, rules and regulations.

Disclaimer of Warranty

NAOJ makes no warranties with respect to any equipment, infrastructure, services, technology or documentation which is provided under the program set forth in the terms of use, including, but not limited to, any warranty of merchantability, non-infringement, or fitness for any particular purpose. The user agrees that all such equipment, infrastructure, services, technology or documentation under this program are provided on an "as is" basis with all faults. The entire risk as to the quality of the equipment, infrastructure, services, technology or documentation under this program are with the user.

Limitation of Liability

NAOJ shall not be liable for any special, indirect, incidental, or consequential damages of any kind arising out of or in any way related to this program, whether such liability is asserted based on contract, tort, or otherwise, even if NAOJ has been advised of the possibility of such loss or damages.

Force Majeure

NAOJ shall not be held liable or responsible to the user for failure or delay in providing the services and facilities pursuant to this program to the extent that such failure or delay is caused by or results from causes beyond the reasonable control of NAOJ including but not limited to fire, flood, earthquake, or other natural forces, shortage of supply, labor disputes, strikes, civil commotion, acts of terrorism, wars, unforeseen public health events such as epidemic, plagues, disease, or emergency outbreaks, acts of God, or acts, omissions or delays in acting by any governmental authority or the user.

Acknowledgement

The user acknowledges that it has had adequate opportunity to review the terms of use and agrees to be bound by all the terms and provisions thereof.

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DEVICE SETTING TABLE

Proposal ID	PI Name
Filled by NRO	FAMILY NAME, Given name

(P-L) Pointing (Line/Spectroscopy)

Proposal ID	PI Name	Setup ID	Source		Device				Backend				Comments	
			Vlsr (km/s) or z		Frontend		Backend		Backend					
			Frame	Value	FE	Frequency shifted ?	1st LO freq. (GHz)	IF/Sideband	SpW	Line/Transition	Rest/Center Frequency (GHz)	Resolution (kHz)		Bandwidth (MHz)
Filled by NRO	FAMILY NAME, Given name	PL	Filled by NRO		H22	NOT shifted (Rest frame)	17.1	USB-L (5-7GHz)	non SpW	H2O maser	22.235		#N/A	
Filled by NRO	FAMILY NAME, Given name	PL	Filled by NRO		H40	NOT shifted (Rest frame)	37	USB-L (5-7GHz)	non SpW	SiO maser 1-0 v=1	43.12209		#N/A	
										SiO maser 1-0 v=2	42.82057			
Filled by NRO	FAMILY NAME, Given name	PL	Filled by NRO		Z45	NOT shifted (Rest frame)	37	USB-L (4-8GHz)	non SpW	SiO maser 1-0 v=1	43.12209		#N/A	
										SiO maser 1-0 v=2	42.82057			

(P-C) Pointing (Continuum)

Proposal ID	PI Name	Setup ID	Source		Device				Backend				Comments	
			Vlsr (km/s) or z		Frontend		Backend		Backend					
			Frame	Value	FE	Frequency shifted ?	1st LO freq. (GHz)	IF/Sideband	SpW	Line/Transition	Rest/Center Frequency (GHz)	Resolution (kHz)		Bandwidth (MHz)
Filled by NRO	FAMILY NAME, Given name	PC	Filled by NRO		H22			USB-L (5-7GHz)					2000	
Filled by NRO	FAMILY NAME, Given name	PC	Filled by NRO		Z45			USB-L (4-8GHz)	-	-			2000	

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SCIENTIFIC JUSTIFICATION

- Usually not required (we only need “abstract”)
- only necessary for FREE-OF-CHARGE application by Japanese-institution graduate students (to be evaluated by JSAC)

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