

March 25, 2016

Call for Observing Proposals: Semester 2016B (Jul. 2016 – Dec. 2016)

Observing proposals for the 188-cm reflector¹ at Okayama Astrophysical Observatory (OAO) are invited² for the observing season from July 2016 to December 2016, semester 2016B.

The proposal deadline is 10:00(JST) April 26, 2016.

How to prepare and submit your proposal

Foreign observers can apply to only "Normal" observations as principal investigators. We ask applicants to fill out the application form of three pages and to attach scientific justification. The scientific justification including figures, tables and references should not be more than two pages in length. A template application form and a LATEX style file can be downloaded from the English web page of our observatory (<http://www.oao.nao.ac.jp/en/>).

A graduate student can be a principal investigator. His/Her supervisor or equivalent who is responsible for the student should come together for observations.

Since observers are requested to perform their observations mostly by themselves, we ask applicants who do not speak Japanese and are not familiar with the telescope and instruments, to have a Japanese collaborator who is familiar with them. When a foreign applicant finds difficulties in finding a Japanese collaborator, please contact the observatory (cfp-consult@oao.nao.ac.jp).

The submission of a proposal should be made via e-mail. Please send both of (1) a TEX PDF file of the application form and (2) a PDF file of the scientific justification (within two pages) to proposal@oao.nao.ac.jp as e-mail attachment files. We notify you of receiving your proposal via e-mail (to the e-mail address written in the application form) within two working days. If you do not receive any response from us for more than two working days, please contact us via e-mail (proposal@oao.nao.ac.jp), telephone or fax.

1: The telescope is located at 133d35' 38"(E), +34d34'37"(N) and at an altitude of 372m. Its observing sec Z range is between 3 and 1. Objects with declination < -35.5 deg. will never be observed.

2: The applicants need to be completely free to publish the whole observational results.

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Status Report for Common User Observations (July 2016 — December 2016)

Okayama Astrophysical Observatory, NAOJ

As of March 25, 2016

HIDES (high dispersion echelle spectrograph, observatory instrument):

HIDES is a cross-dispersed echelle spectrograph, placed at the coudé focus of the 188-cm reflector. It works at optical wavelengths from 360 nm to 900 nm. The detector is a mosaic of 3 identical CCDs from EEV with 2048x4100 pixels each. Read out noises are about $5e^-$ and the gains are 2.5–3 e^-/ADU for the three CCDs. Total read out time is about 40 seconds. Instantaneous wavelength coverages are 375 nm and 234 nm with the Red and Blue cross-disperser gratings, respectively. The maximum spectral resolution ($\lambda/\Delta\lambda$) of 110,000 is achieved when the slit width is 0.38 arcsec. Details of the mosaic CCD camera can be found at http://www.oao.nao.ac.jp/~hides/wiki/index.php?Mosaic_CCD_en. Either “HIDES-Slit” or “HIDES-Fiber” (see below) is selected in the item 11 (11.Instrument) of the application form. Both can be chosen at the same time. In that case, however, the reason should be given in the item 17 (17.Technical Description).

*** HIDES-Slit:**

An observing mode with a mechanical slit at the coudé focus. The maximum spectral resolution ($\lambda/\Delta\lambda$) of 110,000 is achieved when the slit width is 0.38 arcsec. Three optional functions are available: iodine cell, image rotator, and offset guider. Observers who plan to use these functions should give a description about the usage in the item 16 (16. Requests Concerning Instruments) of the application form. Note that the iodine cell and the image rotator cannot be used at the same time. Please feel free to send any questions on HIDES to izumiura@oao.nao.ac.jp.

*** HIDES-Fiber-HE:**

An optical fiber-feeding system has been developed for HIDES to send the incident light at the Cassegrain focus of the 188-cm reflector through an optical fiber to the entrance of HIDES. Its high efficiency (HE) mode provides magnitude better sensitivity with this system than that with the coudé optical train (#1) under typical seeing condition. Its spectral resolution is ($\lambda/\Delta\lambda$) about 50,000. An iodine cell is also available that is prepared for the fiber-link system. Observers who plan to use the iodine cell should give a description about the usage in the item 16 (16. Requests Concerning Instruments) of the application form. Neither an image rotator nor an offset guider is available.

*** HIDES-Fiber-HR:**

A high resolution (HR) mode of the fiber-feeding system provides a resolution of 110,000. Its sensitivity is four times as high as that of the slit system. From 2016A the instrument is open to common use as a PI-type instrument on a shared-risk basis. Applicants who want to use the instrument should contact Dr. Eiji Kambe (kambe@oao.nao.ac.jp) prior to the submission of the proposal, at least one week earlier to the deadline. His admittance is mandatory for the proposal submission; any proposal without his admittance will be declined.

Any questions concerning the fiber-feeding system can be directed to the instrument PI, Dr. Eiji Kambe (kambe@oao.nao.ac.jp).

#1: The mode we open for the observing in this semester is the one with a spectral resolving power ($\lambda/\Delta\lambda$) of 50,000.

With this mode an improved sensitivity of one magnitude can be expected in the wavelength range from 440 to 750 nm compared to the one with the coudé optical train. However, there are two known limitations by the current system. One is that the highest achievable S/N would be around 1500. The other is that the improving

factor in the bluer region is smaller than in the redder region. More information on the fiber-link system will be found in the following URL: <http://www.oao.nao.ac.jp/~hides/wiki/>.

ISLE (near-infrared camera and low-dispersion spectrograph):

ISLE is a near-infrared (1.0 - 2.5_μm) imager and spectrograph for the Cassegrain focus (f/18) of the 1.88 m telescope at OAO (<http://www.oao.nao.ac.jp/~isle/>). The detector is a HAWAII Array (HgCdTe 1K X 1K), which covers 4.2 X 4.2 arcmin² field of view with a pixel scale of 0.25 arcsec/pixel. ISLE also provides low to medium resolution ($\lambda/\Delta\lambda = 300 - 4000$) long-slit (4 arcmin long) spectroscopic capabilities using reflection gratings. Both imaging mode and spectroscopy mode are available.

Any questions related to observations and proposal preparation should be addressed to yanagi@oao.nao.ac.jp

MuSCAT (Multi-color Simultaneous Camera for studying Atmospheres of Transiting exoplanets, PI-type instrument):

MuSCAT is a multi-color simultaneous camera in optical wavelengths for the Cassegrain focus. From 2016B the instrument is open to common use as a PI-type instrument on a shared-risk basis. Applicants who want to use the instrument should contact Dr. N. Narita (norio.narita@nao.ac.jp) prior to the submission of the proposal, at least one week earlier to the deadline. His admittance is mandatory for the proposal submission; any proposal without his admittance will be declined. Specifications of the instrument and results of past test observations are available on the instrument web page (<http://espro.mtk.nao.ac.jp/MuSCAT/observing.html>).

KOOLS (Kyoto-Okayama Optical Low-dispersion Spectrograph, PI-type instrument):

KOOLS offers two basic observing modes, namely, imaging and long-slit spectroscopy, in optical wavelength for the OAO 188-cm telescope. From 2008A the instrument has been open to common use as a PI-type instrument on a shared-risk basis. Applicants who want to use the instrument should contact Dr. I. Iwata (ikuru.iwata@nao.ac.jp) prior to the submission of the proposal, at least one week earlier to the deadline. His admittance is mandatory for the proposal submission; any proposal without his admittance will be declined. Specifications of the instrument and results of past test observations are available on the instrument web page (<http://www.oao.nao.ac.jp/~kools/>).

KOOLS-IFU (PI-type instrument):

KOOLS-IFU is an optical instrument combining KOOLS and a fiber bundle array (127 fibers) at the Cassegrain focus (on HIDES-Fiber Unit) to obtain spatially resolved spectra. The field of view is 30 arcseconds. From 2015B the instrument has been open to common use as a PI-type instrument on a shared-risk basis. Applicants who want to use the instrument should contact Dr. I. Iwata (ikuru.iwata@nao.ac.jp) and Dr. K. Ohta (ohta@kusastro.kyoto-u.ac.jp) prior to the submission of the proposal, at least one week earlier to the deadline. Their admittance is mandatory for the proposal submission; any proposal without his admittance will be declined. Any questions concerning the fiber feed system can be directed to the instrument PI, Dr. K. Ohta.

Please also see the home page of the observatory for more details of the 188-cm reflector and the instruments (<http://www.oao.nao.ac.jp/en/>).

Notes on the OAO Proposal Application Form

The OAO observing proposal application form is based on L^AT_EX. We also provide a template file with Microsoft ms-word. Please see the observatory web page (<http://www.oao.nao.ac.jp/en/>) for general information on open use observations. A proposal that does not follow the guidelines below may not be considered. If you encounter problems, please contact cfp-consult@oao.nao.ac.jp.

General Instructions:

- Download both (1) style file (oaoprop_a.sty) and (2) template L^AT_EX-file (template.tex) from the observatory web page.
- Three pages of cover sheet and maximum two pages of scientific justification (SJ), including figures, tables and the reference list, are required for normal program.
- Check if all things in your application form fall within the form. Font size must be larger than 10 pt.
- Do not include figures or tables from page 1 to 4.
- Send both of (1) your application form (PDF) and (2) a PDF file of the scientific justification (within two pages) to proposal@oao.nao.ac.jp as e-mail attachment files. We will notify you of receiving your proposal via e-mail (to the e-mail address written in the application form) within two working days. If you don't receive any response from the observatory for more than two working days after the submission, please contact the observatory (via either e-mail, fax or phone).
- The subject of the e-mail and the files should be named using the family name of PI and the semester, e.g., einstein_201Xa.tex, einstein_201Xa_sj.pdf, subject: einstein_201Xa. When you submit two or more proposals, the names of the files should be like einstein_201Xa_1, einstein_201Xa_2, and so on.
- Proposals are reviewed by Time Allocation Committee of the observatory (which consists of six Japanese astronomers outside of the observatory and one observatory staff member), based on assessment by anonymous referees.
- In SJ you may include colored figures and tables if necessary. Figures and tables must be clear and be easy to read for everyone: check whether numbers and axis labels are clear and large enough. Also, please check the application form and SJ can be correctly printable.
- Applicants, who require multiple semesters to accomplish their program, should describe "Overall observation plan" and "Plan for the next semester" in SJ. In addition, applicants, who have already observed in the same program, need to write "Current status of the program" in SJ.

Instructions for filling out the application form:

- **1. Category:** Write "N"(normal) which is the only category allowed for foreign investigators. Specify the attribute of your program, "N"(new) or "C"(continuation), in the next box.
- **2. Principal Investigator:** Write "Yes" if your proposed observation is planned to be a part of your thesis.
- **5. Collaborators:** Write all of your co-investigator names, institutions and positions.
- **6. Past Observations:** List previous use of the OAO 188-cm telescope, if any.
- **8. Supervisor:** If PI is a graduate student, the supervisor should fill out entries in section 8. Also, if the program is accepted, the supervisor must visit observatory along with PI.
- **11. Instrument:** "1 HIDES-Slit" specifies observations at the conventional coudé focus using a mechanical slit, while "2 HIDES-Fiber" does those using an optical fiber feeding from the Cassegrain

focus. One can choose both 1 and 2 at the same time. In that case, however, the reason should be given in “17. Technical Description.” For KOOLS-IFU, choose both “2 HIDES-Fiber” and “5 KOOLS” at the same time. For MuSCAT, choose “6-others(MuSCAT).”

- **12. List of Objects:** If you have 13 or more target objects, please attach a separate target list along with the scientific justification.
- **14. Preferred Dates:** Please indicate your preferred dates for observations. Three parentheses in each month indicate first, second and last parts of the month, respectively. 'U's indicate those periods are unavailable.
- $\text{\%PreferredDatesA}\{\text{\%submonth}\{U\}\{U\}\{--\}\}$ %July
- $\{\text{\%submonth}\{--\}\{--\}\{--\}\}$ % Aug
- $\{\text{\%submonth}\{--\}\{--\}\{--\}\}$ % Sept
- $\{\text{\%submonth}\{--\}\{--\}\{--\}\}$ % Oct
- $\{\text{\%submonth}\{--\}\{--\}\{--\}\}$ % Nov
- $\{\text{\%submonth}\{--\}\{--\}\{--\}\}$ % Dec

Indicate whether you accept shared night observation using Yes / No.

- **15. Requests concerning scheduling:** Enter your requests for scheduling, including moon phases.
- **16. Requests concerning instruments:** If your observation plan needs special instrument setting, describe details of the setting and the items to be prepared before the observation dates. If you need special assistance of the observatory staff, please contact the observatory in advance.
- **17. Technical Description:** Describe clearly the technical feasibility on observations and data analyses of your proposed plan.