IGRINS Newsletter -- 2014 Trimester 3
August 26, 2014

Dear IGRINS community:

IGRINS is on the path to success as a groundbreaking instrument in infrared spectroscopy. This Newsletter is the first of what we hope will be regular circulars, to be sent out every trimester, informing the IGRINS community of news of science, operations, plans, and public exposure for IGRINS.

We would also like to take this opportunity to remind IGRINS users of the proposal guidelines.

1) Teaming Rules

IGRINS is an open PI instrument. We are offering it in the same way as we have offered TEXES at IRTF and Gemini: Anyone may apply but a member or members of the IGRINS team must be on each proposal. The UT and KASI PIs will each be naming team members. KASI will name its members later. For UT, please contact one or more of the following team members if you wish to submit an IGRINS proposal. **Proposals should be sent to your IGRINS collaborator by September 24th so they can be reviewed for feasibility ahead of the proposal deadline (September 30th).**

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2) Sensitivity

Please read the attached SPIE proceedings from Chan Park et al. (also posted on the IGRINS wiki), which summarizes the commissioning results through May 2014. It will soon be updated with results including the July run and posted on the wiki page. In general, IGRINS obtains ~83% of the signal-to-noise predicted by the Exposure Time Calculator (http://irlab.khu.ac.kr/~igrins/).

3) Overheads

Use the following overheads in estimating total time:
Acquisition: 5 min, 10 min for faint or invisible sources
Startup: 2 min
Beam switch: 30 sec
Data taking: 600sec 93% efficient; 120sec 75% efficient
Telluric calibrators: 1 per 0.2 AM change min. 4/night.

In future trimesters, we will welcome news entries from members of our user community. Look for the next issue around December 1st, 2014.

With best wishes,
Dan Jaffe and the IGRINS Team

1. Current IGRINS Status and Performance

IGRINS is currently in the lab at UT and will be delivered to McDonald prior to the September observing run. We presented IGRINS progress at the SPIE meeting in Montreal in June, which is summarized in Park et al. 2014 (attached PDF). The primary IGRINS Software website (http://irlab.khu.ac.kr/~igrins/) features links to the Exposure Time Calculator, and Quick Look Package. This site also links to the current Pipeline Package (https://github.com/igrins/plp/wiki), which is discussed in more detail below. We ask that the IGRINS community visit the IGRINS wiki, under development at https://wikis.utexas.edu/display/IGRINS/Manuals, for observing guidelines, instrument manuals, links to other software (e.g., IGRINS observability), and troubleshooting.

2. A Summary of Commissioning Runs

IGRINS had successful commissioning runs in March, May and July of 2014. During these runs, we were able to resolve some critical technical problems with the instrument, to develop optimal strategies for IGRINS observations, to characterize the instrument performance, and to take a limited amount of sample data to demonstrate the science potential of the instrument. A major technical objective of the July run was to determine optimal strategies for calibration and for the removal of telluric effects, test and improve guiding procedures, and to validate the functionality of the spectroscopic data pipeline with results from a range of different observations. All of these technical items are being investigated further and the best method has not yet been determined. For this reason we ask observers to consider their own science requirements when observing, but to expect their calibration spectra to be tested by the full IGRINS community in hopes of gaining a better understanding on these subjects.

3. Scientific Data from the Commissioning Runs

In the May and July, 2014 commissioning runs we observed targets submitted by members of the community that could aid potential observers in assessing the scientific capabilities of IGRINS and evaluating possible observing protocols. During these runs, we took spectra of young stellar objects, late-type stars, planetary nebulae, supernova remnants, and the circum-nuclear disk in the Galactic Center. We have distributed the logs and links to the data files for those who are interested in reducing and analyzing IGRINS spectra. Any member of the IGRINS community may examine the data to help form their future proposals. If you have not yet received a link to the UTBox storage, then please contact Greg Mace (gmace@astro.as.utexas.edu) for an invitation. Please be sure to read our use policy for sample data (available on UTBox as "README_Sample_Data_Policy").

4. IGRINS at the SPIE Meeting in Montreal

IGRINS was well-represented at the 2014 meeting of the Society of Photo-Optical engineers in Montreal. Every two years, the SPIE holds a meeting centered around

astronomical instrumentation. At this year's meeting, the paper presented by Dr. Chan Park on the design and early performance of IGRINS generated considerable attention and praise. Other members of the team presented a total of 7 papers about various technical aspects of IGRINS, about GMTNIRS, and about the development of immersion gratings for these instruments. All of these papers will appear in the Proc. SPIE. IGRINS stood out as a completed instrument with demonstrated performance at a high level.

5. 2014 Trimester 3 Proposals for IGRINS
    a. Proposals

The McDonald Observatory time allocation committee received 16 proposals for IGRINS time for Trimester 3 (2014 August-November) for a total of 60 nights. For Sept-Nov, there are 45 nights of scheduled IGRINS time. Proposals covered a broad range of scientific topics. Most proposals came from within the UT and Korean communities with many having co-I's in both communities. Two proposals with PI's from outside the IGRINS community (Subaru Observatory and Lowell Observatory) also were awarded time.

    b. Schedule

IGRINS returned to Austin after the last commissioning run in July and will be at McDonald again from September onward. IGRINS is already a major player at the McDonald 2.7m telescope with runs scheduled for about 50% of the available time in Sept-Nov. The schedule is publicly available on the McDonald Observatory website (http://www.as.utexas.edu/mcdonald/schedules/).

6. 2014 Trimester 3 Observers

It is important that you familiarize yourself with the instrument before you come to the telescope. We recommend that observers review the IGRINS wiki, which you can find at https://wikis.utexas.edu/display/IGRINS/Manuals. There are specific methods for acquiring your targets and establishing guiding. Please contact Hwihyun Kim (hwihyun@astro.as.utexas.edu), Greg Mace (gmace@astro.as.utexas.edu), or Kyle Kaplan (kfkaplan@astro.as.utexas.edu) to meet and plan your observing run well in advance.

During this first trimester, IGRINS needs one qualified 107" observer **and** one qualified IGRINS observer at all times. We will supply the IGRINS observer at team expense. We need you to supply the 107" observer. You will need to support this observer with your own resources. Please see the page http://www.as.utexas.edu/mcdonald/policy/vacant_time.html#TRAINING for information about McDonald Observatory's training requirements.

7. IGRINS and Future Plans

IGRINS will be fully available to UT and Korean astronomers in 2015 Trimester 1 (December 2014 – March 2015) and beyond. There is considerable interest in developing a future arrangement with another facility to provide access for IGRINS

and for our communities to a larger telescope. We will keep the community informed as these discussions unfold.

8. Deadlines for 2015 Trimester 1

Proposals for use of IGRINS on the McDonald 2.7m telescope during 2015 Trimester 1 will be due at the end of September 2014. Anyone may apply for IGRINS time, but a member or members of the IGRINS team must be on each proposal. **Proposals should be sent to your IGRINS collaborator by September 24th so they can be reviewed for feasibility ahead of the proposal deadline.**