

Gemini Observatory Instrument Upgrades Program
Proposers Conference
24 August 2017
1:00pm US MT

In Attendance:

Gemini IUP Team:

Ruben Diaz, *Instrument Program Scientist*, Cathy Blough, *Project Support Associate*, Paul Hirst, *Head of Technology Development Department*; Marie Lemoine-Busserolle, *Project Scientist*, John Basset, *Systems Engineer*; and Karen Godzyk, *AURA Contracts Officer*.

Participants:

Luke Schmidt, *Texas A&M University*.

Darren De Poy, *Texas A&M University*.

Luc Simard, *National Research Council of Canada*.

Darren Erickson, *National Research Council of Canada*.

Jennifer Dunn, *National Research Council of Canada*.

Dennis Bodewitz, *University of Maryland*.

Ray Sharples, *University of Durham*.

Heather Goehner, *Advanced Design Consulting Inc*.

Hwihyun Kim, *University of Texas, Austin*.

Questions and Answers

Question 1:

Regarding telescope time, do you want proposers to use Gemini templates to write a proposal and include that as a separate document in the proposal?

Answer 1:

No, you do not need to use the Phase I templates or include a separate document. The request for telescope time is a section of the proposal to justify the scientific use of the 10 hours with the new capability. We aim for the proposals to be science driven; therefore the section on telescope time has to have a strong scientific justification.

Question 2:

You may not receive all of the 10 hours of telescope time?

Answer 2:

If the use of the telescope time is not well justified scientifically, you may not receive the total allocation of 10 hours.

Question 3:

Is the detector a 10 or 15 micron format? The website also states there are some bad pixels.

Answer 3:

It is a 15 micron pixel format detector. On the website it is stated that the useable area of the detectors for which we have access is about 3600 pixels on the side. Most of the corners and some borders have high dark current values which means more than 0.1 electron per second per pixel. Any upgrade must take into account that the corners of the detectors may not be useable.

Question 4:

When you say that Gemini will provide the controller, is that the full data-handling stream? Essentially to use this detector we need to provide a cryostat and potentially any filters that are needed? Gemini provides all of the rest of the software?

Answer 4:

Gemini will not necessarily provide a full end-to-end data acquisition system, as the design of that may depend strongly on the instrument the detector is being used in. We will provide the detector and the detector controller, but do not guarantee to provide the higher-level data acquisition hardware and software.

However, Gemini is aspiring to reduce the diversity of detector controller and data acquisition systems in use at the observatory, and to promote hardware and software commonality between instruments. To that end, we will work with any successful team proposing to use the H4RG device to determine if the data acquisition hardware or software systems in use on other instruments would be suitable for the proposed instrument, and if so will work with the successful team to integrate these into the instrument being developed.

Question 5:

Do we know anything about the optimal operating temperature of the detector, persistence and other characteristics for these detectors?

Answer 5:

No we don't have information on that at this time.

Question 6:

In terms of science, are you leaving it up to proposers to come up with interesting science cases to drive the upgrade? Is there an internal Gemini discussion within the observatory and the broader community to determine an initial list of priorities or are you trying to leave it open and see what happens?

Answer 6:

Yes. Gemini is not emphasizing particular science cases and we are trying to be as responsive as possible to the Gemini community and to their scientific desires. So there is no emphasis on any special science cases at this moment.

Question 7:

What does DUNS stand for?

Answer 7:

DUNS stands for Data Universal Numbering System, a unique nine-digit identification number for each physical location of a business. The assignment of a D-U-N-S Number is free for all businesses required to register with the federal government for contracts or grants.

Question 8:

It is the nature of these proposals that it will involve some Gemini technical staff doing something whether it's taking an instrument off the telescope or pulling a camera out of an instrument. We don't cost that in the proposal, but do you need some guidance on what level of technical support we will need from Gemini or do you make that assessment? Can you give us an understanding referencing Flamingos whether Gemini installed the filters and the team commissioned it on sky?

Answer 8:

The proposer should include with as much precision as possible in a particular stage how many resources will you require from Gemini or any special set of tools. Depending on the complexity of the task the proposing team may be involved with the installation of the upgrade. For example, in the case of the

Flamingos-2 filters proposal, Gemini staff installed the filters during a planned instrument shutdown.

Question 9:

The budget numbers that we quote in our budget are the cost of our efforts, and then there's a cost to Gemini. It is the cost to Gemini that will be a factor in the selection of the proposal. Do we send an email saying what we expect to be a cost to Gemini?

Answer 9:

If it's an actual out of pocket cost Gemini will have to absorb that should be include in the budget. However, in the proposal you will need to include what services you believe will be needed from Gemini.

Question 10:

Who at an institution should answer the questions on the proposal form?

Answer 10:

The institution's Sponsored Projects Office should be able to complete the proposal form.

Question 11:

Regarding the commissioning of the Near Infrared on instrument wavefront sensors. It sounds like all the hardware exists. Can you provide more details on this subject?

Answer 11:

The hardware for all three IR OIWFS units exists. They are in various stages of operational capability:

NIRI - The OIWFS has not been used in many years and although it did work previously it has not been turned on for at least 8+ years as it was determined to be too slow to provide adequate guide corrections. The SDSU controller has special code to enable it to run faster but this did not help much.

GNIRS - The OIWFS imager portion is working but has not been fully commissioned. The original array was damaged and an engineering grade array is presently installed. The Pyramid optics was removed to make the system more sensitive (single spot) and for slow TT corrections only. The OIWFS experiences flop at various telescope elevation and CRCS positions. To investigate this issue will require a full tear down of the instrument.

NIFS - The OIWFS has been commissioned to be used SOLELY in conjunction with ALTAIR adaptive optics (NGS mode) and ONLY to provide *slow* flexure corrections. It was used for this purpose until end of 2012. An internal intermittent problem with Gimbal sensor 2B has also made it difficult to rely on. An on-sky probe mapping test is needed to recheck the system.

Question 12:

Is it the case of lack of documentation about software or is it that people were just trying to get it working on sky? Is the present state of the software compatible to the interfaces?

Answer 12:

The IR OIWFS units utilize early Hawaii I arrays that cannot be read out quickly enough with the SDSU controller for the intended guiding capability. All three systems do work with the single back end OIWFS SDSU interface connecting through a fiber switch. GNIRS and NIFS have been tested sporadically and can take images. NIRI has not been tested in some time.

There is some mechanical and electronic documentation available however the S/W modifications to the NIRI controller are likely not well documented. Full mechanical and electronic documentation is available in "paper copy" only.