Gemini Observatory Publications, Statistics and Archive

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Abstract

We describe the statistics of Gemini refereed publications, including relative productivity and impact of instruments and observing modes, and overall statistics such as the total publication count. We identify factors which may influence the probability of a publication emerging from a given observing program. At present, only a small fraction of publications arise purely from archival data. We present some of our plans for post-observing community support, and solicit input on various options for increased productivity in archival research.

Notes in italics on each slide are the comments added to the information in the course of the talk.
Show some of the more interesting statistics relating to publications from Gemini observations - AJA

Show some of the ways in which we may be able to increase the publication rate, and solicit input on options - ANC
Publication count has now plateaued - about 200/yr, or a couple of papers per week at each telescope. Lead time is about 2 years.

Noted in discussion: Gemini PIs across the whole partnership publish about two papers a week per telescope. Looks like we may now be at a plateau, and the influence of Large/Long programs is yet to be seen.
Noted in discussion: There’s really great variation between instruments. All lie on the same line, with a slope of about 40-50% (meaning there’s room to grow in terms of publication count).
Multiple publications

- A program that publishes, tends to publish twice
- Again, instrument-invariant
Note added in discussion:
GMOSs being at the top is not surprising (they dominate the program count). “Multiple” instrument publications coming just below that is more interesting, probably reflects the many possible combinations of more than one instrument, and programs over more than one semester contributing to a publication.
Note in discussion: interesting that the cheapest instrument ever on the telescope has the highest current impact (but remember this is a snapshot). Also the fact that NICI - another exoplanet instrument - comes second shows that this chart is about subject fields, not instruments per se.
Note added in discussion: since this is all to do with programs at the same minimum completion rate, the indication is that the TACs can spot a winner.


In discussion: within Band 1, Joint programs have by far the highest impact when published.
Note in discussion: once a program gets above 60-70% complete, the chance that its data will appear in the literature does not increase. This point has been discussed by Gemini and its Governance and has affected queue execution policy to some extent.
Feedback from Users

Data Gathering (NGOs):
2013-2015, with two-year lead time

Main Themes (consistent across partnership):
• Low priority data set <- longer programs
• Circumstances changed <- fast turnaround
• Postdoc left <- fast turnaround
• Didn’t detect the target

Note in discussion: the most typical responses were not what had been expected. Changes in our offered observing modes may address some of these, as indicated in red.
Papers emerging from purely archival data amount to only a few percent of all Gemini publications.
Gemini Science User Support, Data reduction and Archive possibilities

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Science User Support

- 4.6 FTE working on DR software
- 1 FTE focused on support

Avenues:

- Helpdesk
- Contact Scientists
- DR Forum
- Contacts page
  - Sus_inquiries
  - NGO contact info
Our Archive

So you have seen it at least once

https://archive.gemini.edu/

Gemini Observatory Archive

Program ID: [leave empty for Any] (or Obs. ID / Data Label. Exact Match)
UTC Date: [leave empty for Any] (YYYYMMDD or start - end)
Instrument: Any (Select GMOS for GMOS-N and GMOS-S)
Obs. Class: Any (help)
Obs. Type: Any (help)
Mode: Any (Imaging / Spectroscopy etc)
Adaptive Optics: Any (help)
Target Name: [leave blank for Any] (Name of Target)
Resolver: None (Name Resolver)
RA: [leave blank for Any] (HH:MM:SS.ss or decimal degrees)
Dec: [leave blank for Any] (±DD:MM:SS.ss or decimal degrees)
Search radius: [leave blank for 180 arcsec] (arcseconds or decimal degree)
Raw / Reduced: Any (Select data by processing state)
Advanced Options (click to show / hide) Column Selection (click to show / hide)

Set at least one of the search criteria above to search for data. Mouse over the (text in brackets) to see more help for each item.
Reducing archive data

Two possible approaches:

- People can figure it out…

- Ain't nobody got time for that!!!
Resources currently available

Gemini reduction packages
- Gemini IRAF packages
- AstroConda!
  - set of astronomy-related packages for Anaconda
  - testing channel is now available
  - main Astroconda channel at STScI later this month

(One can contact James Turner from Gemini for any question about AstroConda.)

Reduction cookbook

http://ast.noao.edu/sites/default/files/GMOS_Cookbook/
But we could do more!!!

- Publishing more cookbooks
  - That is on the way (F2)

- Adding reduced data to archive
  - Ready for GRACES and GNIRS XDmode!
  - Reduced data provided by PIs

- Making “pipelines”
  - Would require a tremendous additional effort
Thanks!

Questions?
Comments on priorities?