



Fermi Users Group



FSSC News and GI Program Update

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- Archive and distribution of LAT, GBM science products
- Maintenance and distribution of analysis SW
- All areas of user support
- GI program management
- Operations support; scheduling & planning
- Support of Fermi EPO

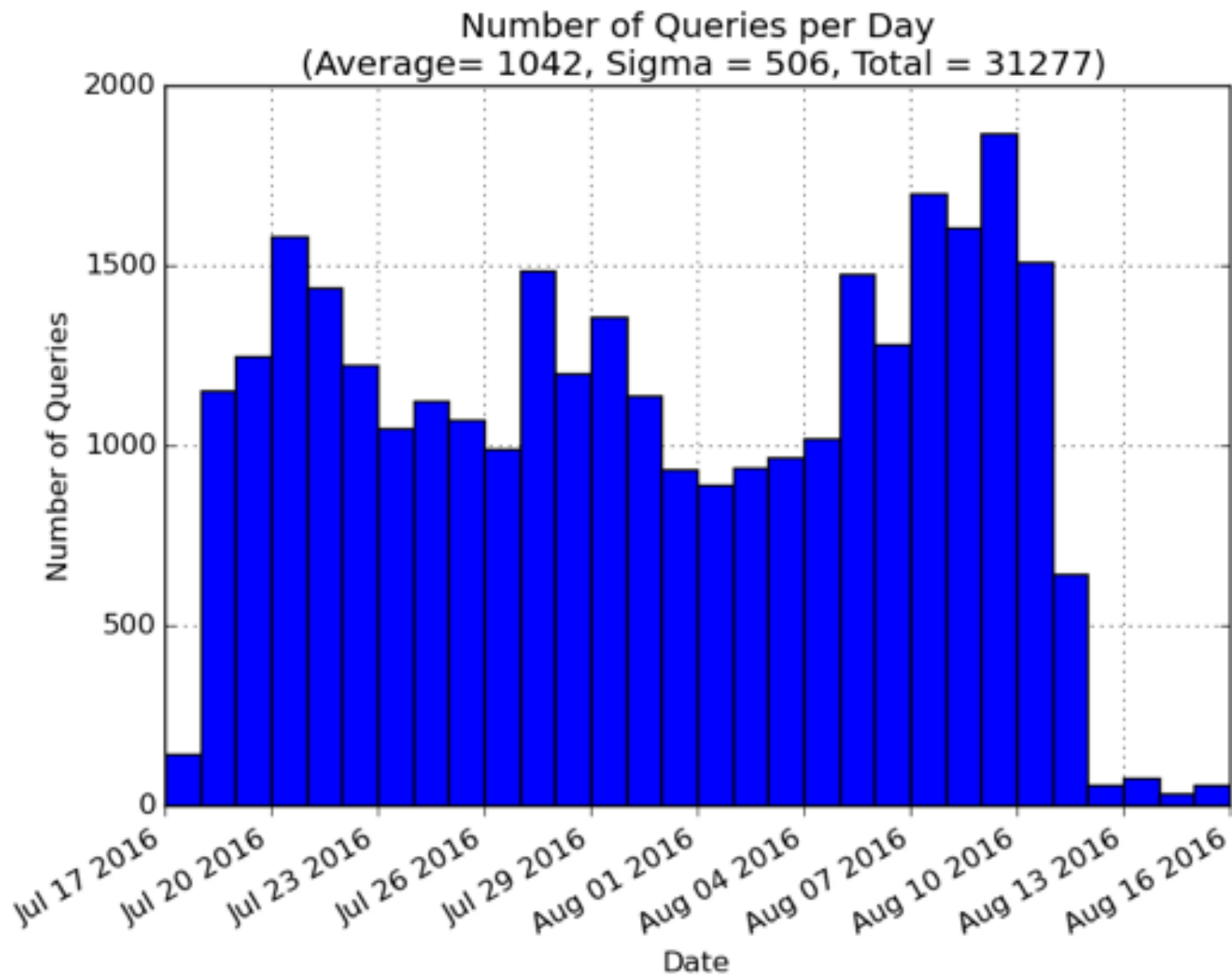
- FSSC Staffing level flat
 - Michelle Hui replaces Colleen Wilson-Hodge replaced as GBM team liaison
- User Support: Cycle 9 started last week
 - Stage-II selections/awards finalized yesterday
 - 8 months after proposal deadline; need to speed up, may move deadline 1 or 2 months next year
 - Cycle 10: Fermi ROSES text revisions next month

- Scheduling and planning support nominal
 - Various ToOs ...
 - FSSC role expected to expand into the future
- Data operations, archive support activities nominal
 - Several performance improvements

- Community interest continues at a robust level
- Data server is averaging about 1500 queries/day
- Statistics on GBM and LAT weekly files tabulated separately

Archive Activity

- FSSC has served ~33 TB of LAT photon data (not counting the weekly files)



- Latest Mac Port, “*OS X el Capitan ST*” version should be available next week
 - there are still some minor issues with plotting.
- FSSC is still serving Science Tools version *v10r0p5*
 - upgrade to current LAT team version this fall.
- FSSC help desk has answered >3300 questions and gets 1 query per ~1.5 days.

- RC continues to lead collaboration between Fermi scientists and art students at Maryland Institute College of Art.
 - Latest set of animations on gravitational lensing, solar flares, gamma-ray bursts, Cyg X-3, black widow pulsars, VERITAS.
- Expanded collaboration to include Maryland Science Center in Baltimore
 - adapted for screening on planetarium dome.

- Maryland Science Center will be screening at least one of the animations on dome routinely at monthly evening sessions.
- Presented animations at Cosmos of Animation conference
- FSSC also supports local EPO activities (“Explore NASA”, Science Jamboree,..) as well as at AAS winter meeting led by EF

- New γ -ray binary in the LMC - first outside the Milky Way (*Corbet+, ApJ in press*).
 - 10.3-day period found in LAT light curve.
 - Also seen in X-ray and radio counterpart.
 - Much more luminous in gamma-rays, X-ray and radio than Galactic systems
 - Radial velocity measurements of O giant companion suggests neutron star.
 - Implications for galactic γ -ray binary population, birth rotation periods of pulsars.

Cycle 9 Summary



- 183 proposals received, 36 selected
 - Flat *wrt* Cy-8 but ~15% drop *wrt* Cy-5-7
 - 20% approval rate, also flat *wrt* Cy 8
- Funding levels:
 - \$3.0M for: \$1.92M new awards after \$1.08M Cy 7-8 obligations
 - Average grant \$53.5k
 - Dollar over subscription, 5.8X
- FY16 grants being processed as we speak

Cycle-9 Statistics

183 proposals received (180 new), involving 500 individual investigators at 240 institutions, 2 Large, 53 2-year, 5 Prog Rep.

38% Data Analysis, 33% Theory, 27% Correlated Observations, 2% pointed observation requests

35% Extragalactic, 14% Pulsars, 19% GRBs, 2% Solar, 16% diffuse/SNRs/stellar, 13% misc

\$11.14M requested, \$63k/yr average (excl large) Assuming \$3M new funds (and \$1.077M obligation) dollar, oversubscription is 5.8X

Approved

**36 new programs (no Large or multi-year)
\$53.5k average grant
4 LP continuations, 1 pending**

Joint programs (proposals/Obs time)

Requested

/ Total Allocation

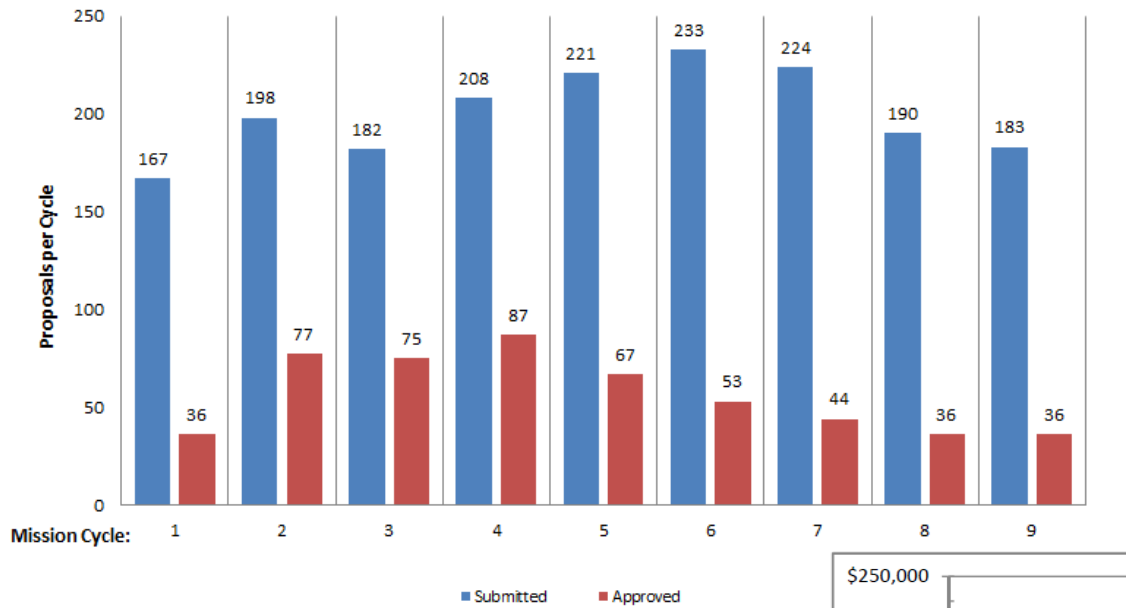
NRAO: (19 / 681 hrs) / (450-600 hrs on GBT, VLA & VLBA)
 NOAO: (6 / 588 hrs) / (3-5% for various telescopes)
 VERITAS: (4 / 72 hrs) / (120 hrs)
 Arecibo: (2 / 80 hrs) / (300 hrs)
 INTEGRAL: (1 / 250 ksec) / (300 ksec)

Approved

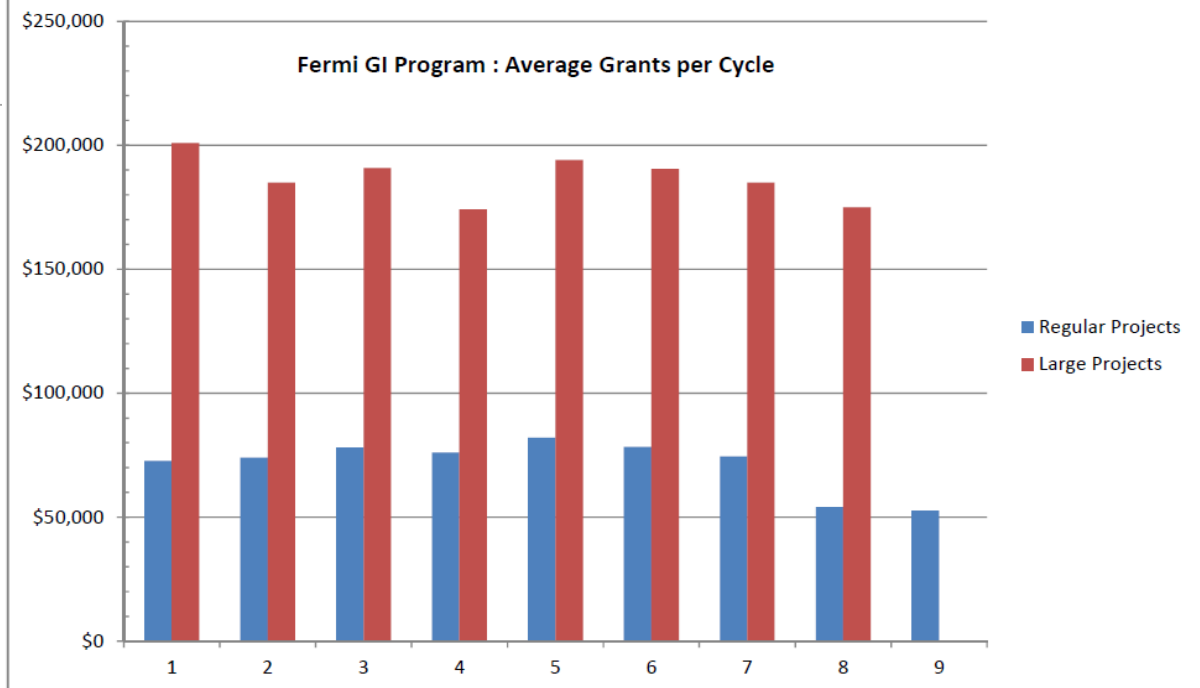
NOAO (3 / 236)
 NRAO (7 / 128)
 Arecibo (1 / 30)
 VERITAS (1 / 20)
 INTEGRAL (0 / 0)

GI Program History

Fermi GI Proposal History



Fermi GI Program : Average Grants per Cycle



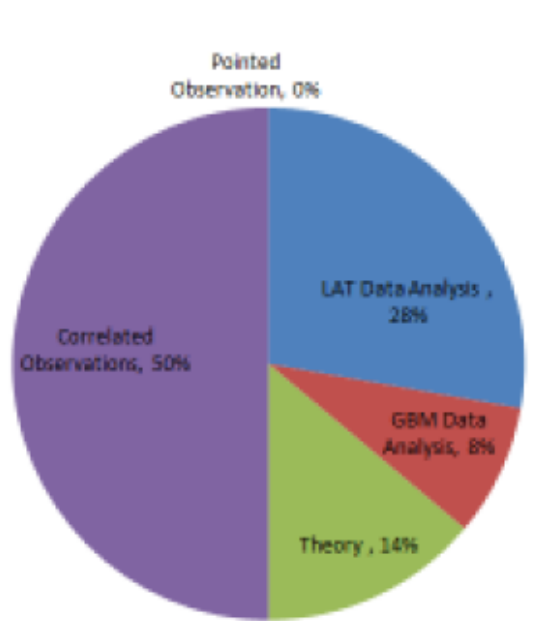
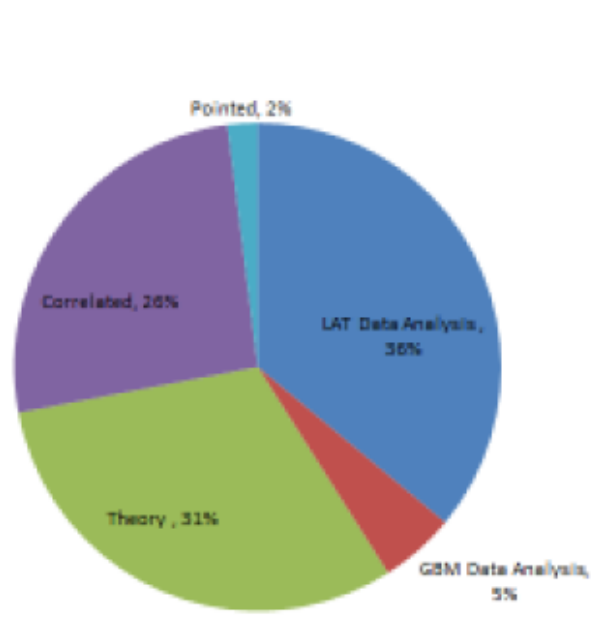
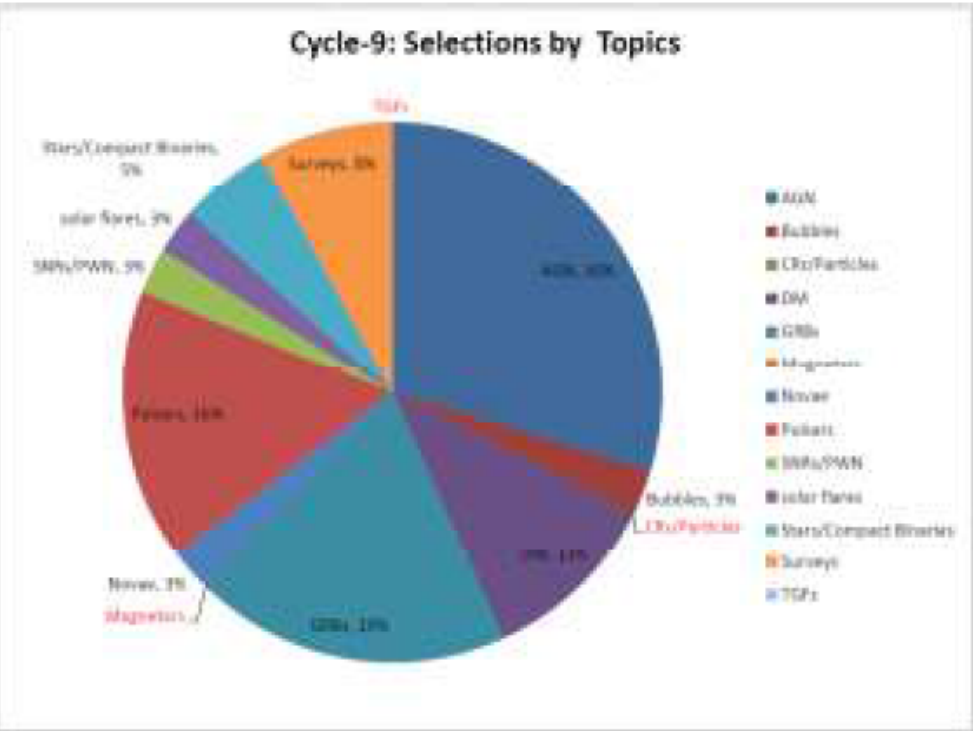
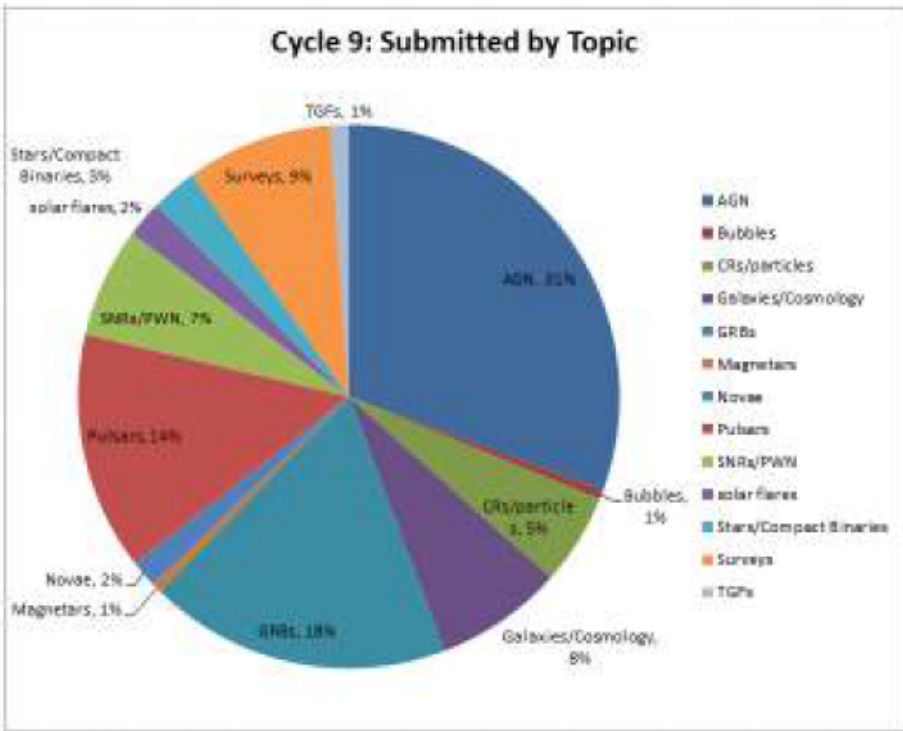
Cycle 9: A Few Trends



- GI program has always been driven by proposal pressures, i.e. among a given science topic or proposal type proposed fraction \approx approved fraction
- This is generally held true, as resources diminish, but few notable trends:

- SNRs/PWN, CR propagation; *proposed/selected* ≈ 4 consistently for last several cycles
- Proportion of correlated observation proposals increased from $\sim 1/3$ (averaged over Cycle 2-6) to greater than $1/2$ (Cycles 8 & 9)
 - In dollar weighted proportions this is more pronounced, w/about $2/3$ of the total GI budget now for radio, UVOIR supporting observations
 - Note that this mostly impacts theory and LAT data analysis support

Cycle 9 topical and programmatic breakdown:



Future Considerations



- Large Projects: historically about 5 ongoing per mission cycle, translating to ~\$0.7M
- OK, when GI budget was \$7-8M but too much w/\$3M or less currently?
 - Recap or limit?
- Other multi-year projects can lead to problems in era of year-to-year budgetary uncertainty
 - Eliminate?

- **Schedule: tbd, but likely Feb/March due date**
 - ~May review, July stage-II awards
- **Budgeting tbd, hopefully program can continue @\$2.5-3M**
 - As per FUG recommendations we've reduced obligations (by ~30% in consecutive years), so for Cycle 10 only \$0.33M
- **No significant policy changes anticipated**
 - Note that Joint programs expected to continue despite changes with GBT, Arecibo management

Extra Slides

