GLAST E/PO Program Status

Science Working Group Meeting 9/13/02

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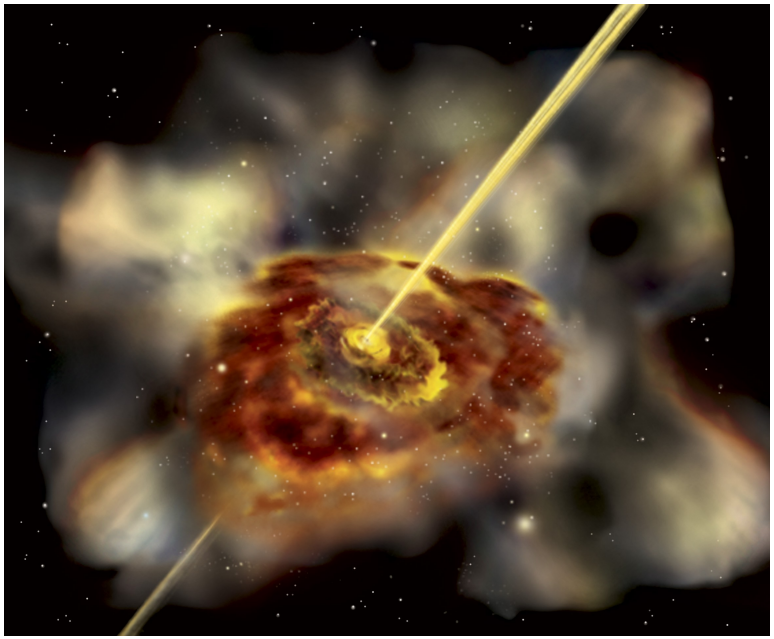
E/PO Work Breakdown Structure

1) Management
2) Assessment and Evaluation (WestEd)
3) Web based Materials
   - Web Site
   - *Space Mysteries (2003-2005)*
4) Educator Training
   - Educator Ambassadors Program
   - Conference participation
5) Printed materials
   - TOPS Lesson Modules
   - Posters and Activities
6) *SLAC Virtual Visitor Center (2004)*
7) PBS documentary (Tom Lucas Productions) (2003-2005)
8) GLAST Telescope Network



Web Materials

http://glast.sonoma.edu

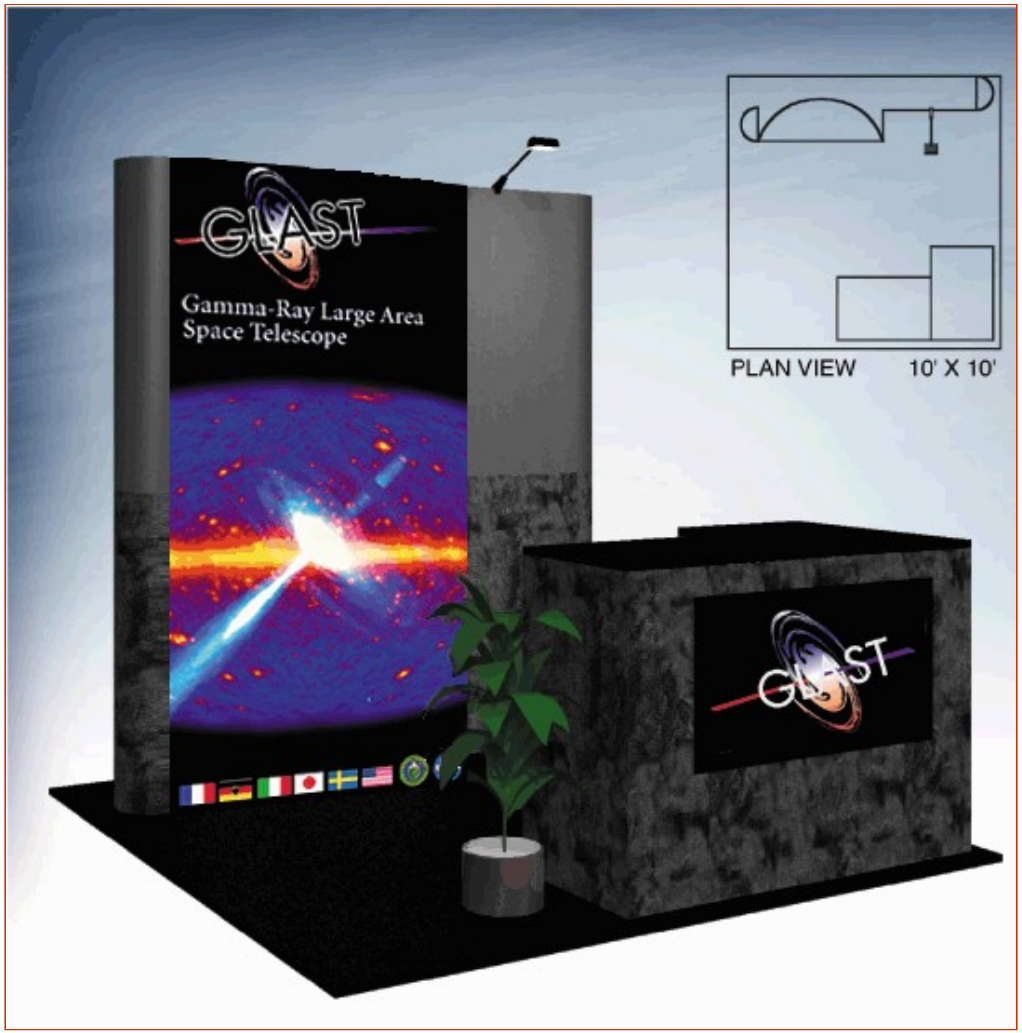
- Recently underwent complete makeover
- Standardized format with http://swift.sonoma.edu
- Easier to find classroom materials
- News section
- Upcoming events include Ambassadors

Educator Training

- Meetings supported in 2002:
  - National Science Teachers Association (National and 2 Regionals)
  - National Council for Teachers of Mathematics
  - California Science Teachers Association
  - American Astronomical Society
  - AAS High Energy Astrophysics Division Meeting
  - Expanding Your Horizons (8th grade girls)
  - American Association of Variable Star Observers
  - CSU-NASA Collaboration Planning
- Near-Future meetings:
  - National Science Teachers Association (TOPS workshop in FY03)
  - National Council for Teachers of Mathematics (TOPS workshop in FY03)
  - California Science Teachers Association (booth)
  - American Association of Physics Teachers (workshop in FY03)

Exhibit Booth – upcoming events

- CSTA in San Francisco (10/02)
- AAS in 1/03 (combined with Swift)
- AAPT in 1/03 (combined with Swift)



Educator Ambassadors Training Week

- 5 GLAST + 3 SEU + 2 Swift EAs attended week-long training at SSU during July 15-19, 2002
- Training featured lectures by SSU personnel and invited speakers on a variety of astronomical topics including the electromagnetic spectrum, supernovae, black holes, and gamma-ray bursts, as well as a tour of SLAC
- Assessment included a generalized pre-test & post-test, questions about each activity after it was performed, and extensive post-workshop surveys and interviews
- Preliminary reports indicate the workshop was very successful.
- Highly rated activities, included the SSU personnel lectures, the tour of SLAC and several of the classroom exercises.
- We learned as much from the EAs as they did from us.

Educator Ambassadors Training Week

Teena Della's Magic Show

Jason Smith and Daryl Taylor

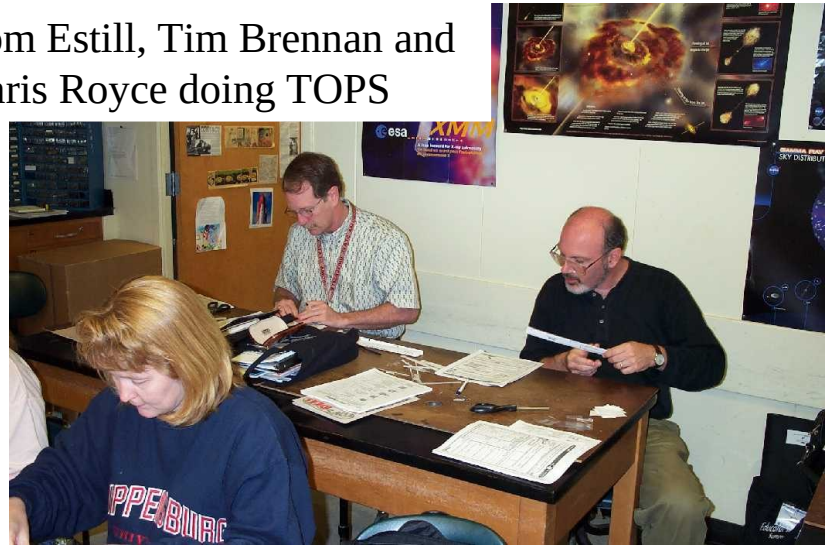
Tom Estill (SEU) and Tim Brennan

At SLAC

Printed Materials and Curriculum Development

Magic Cube!

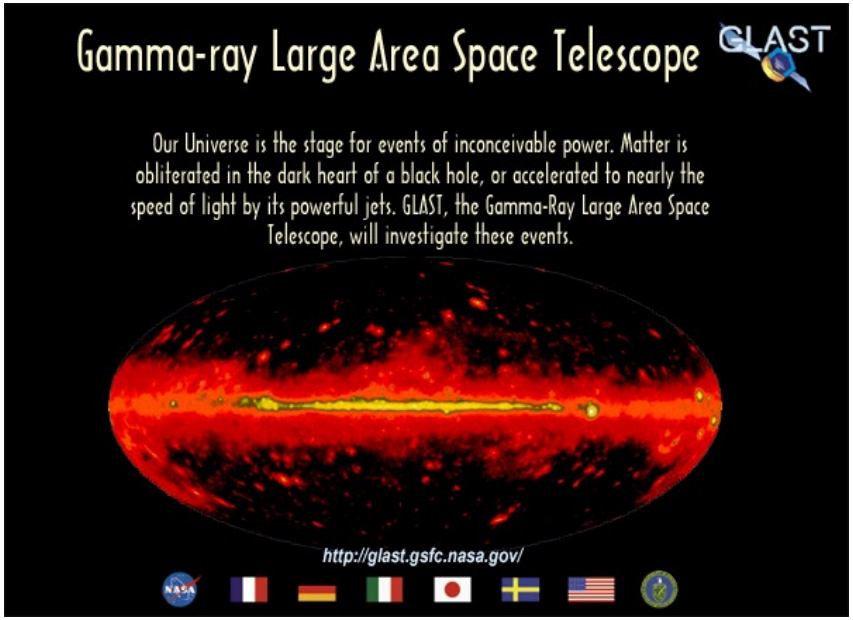
Tom Estill, Tim Brennan and Chris Royce doing TOPS

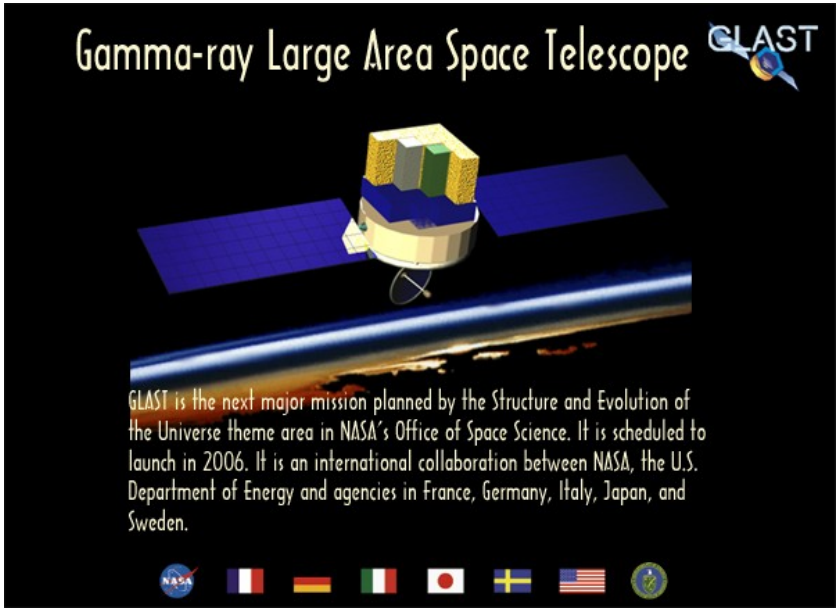


- TOPS (Ron Marson)
  - "Far Out Math!": using slide rules to understand powers and logarithms – draft available!
- GLAST AGN Poster
  - Poster describes unified model of AGN
  - Activities and teacher's guide – coming soon
- CD containing GLAST promotional movie
- Cosmic Journeys card game features GLAST as one of 5 missions – also GLAST trading cards available individually

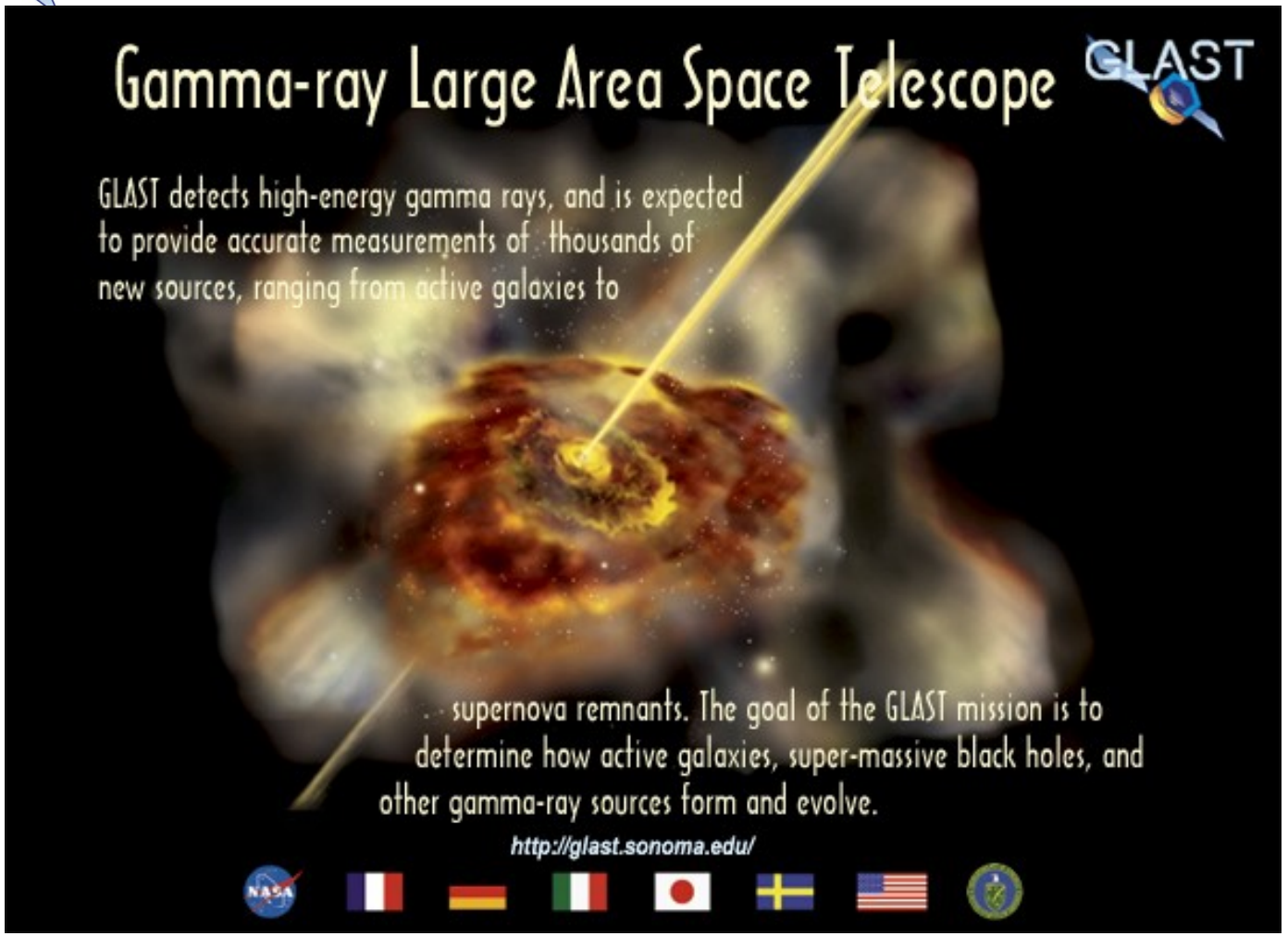
SEU Museum Exhibit

- Cosmic Questions opens 9/19 at Boston Museum of Science
- Space Science Update kiosk has interactive computer display of current and future missions, including GLAST





SEU Museum Exhibit



PBS Special

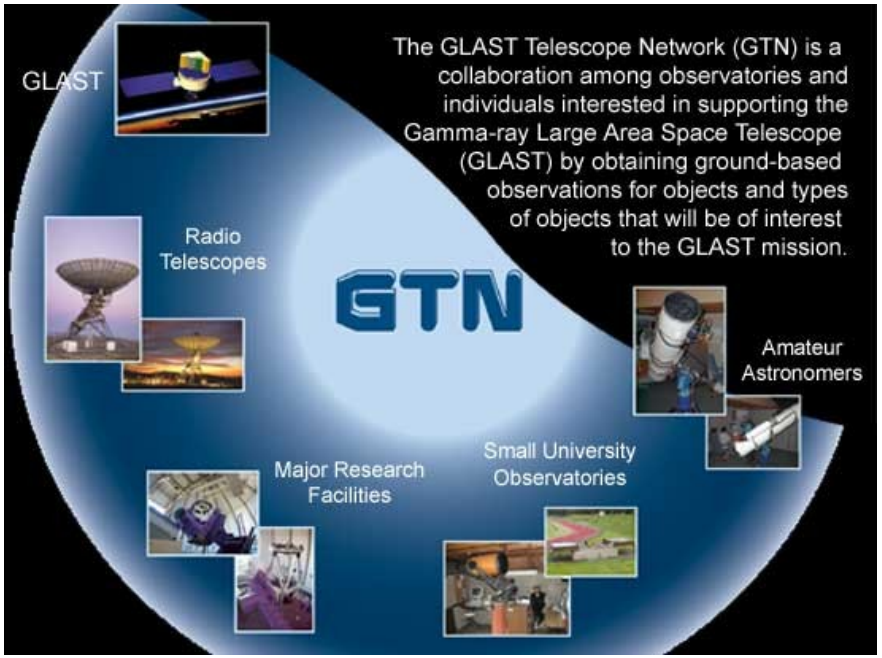
- Preproposal letter submitted to NSF by Lucas and Cominsky
- NSF (yesterday!) encourages full proposal
- Full proposal due 11/15/02
- “Realm of the Black Hole” features a look at black holes, gamma-ray bursts, active galaxies and includes GLAST, Swift, Chandra, and perhaps LIGO as well as super-computer simulations of various BH effects

GLAST Telescope Network

- Goal: Provide multi-wavelength long-timescale monitoring of GLAST active galaxy and GRB targets in partnership with GLAST scientists - now being expanded to include Swift scientists and science
- Blazar target list, finding charts and sequences now on line for both Northern and Southern hemispheres
- Spear and Graves developing prototype Java-based archiving system and testing various robotic telescope hardware and software configurations
- Additional tests underway using telescopes already available through the Internet (Wyoming, Arkansas, New Mexico)

GLAST Telescope Network

- EA Michiel Ford (Holton, KS) will participate to help develop distance observing and archiving
- Ford has already signed up two other groups in Kansas
- Dr. John Mattox (FMU), member of the RCT consortium, is helping archive development efforts
- RCT MOU signed
- RCT should be on-line in 1/03



GLAST Telescope Network

- Professor Gordon Spear attended AAVSO meeting → partnership with AAVSO in progress. MOU drafted, awaiting signature at AAVSO:
  - AAVSO will adopt GTN blazars, BVRI sequences, determine magnitudes and submit images to GTN archive (CCD data only)
  - GTN will archive images, send magnitudes to AAVSO for immediate display using their lightcurve software
  - AAVSO will establish blazar posting area for campaigns, gamma-ray blazar activity notices, technical info - similar to their current GRB efforts
  - GTN will continue to hold technical and scientific workshops for AAVSO blazar observers
- **GLAST scientists needed to partner with AAVSO, high school students and other participants**

Program Assessment

- Program assessment provided by WestEd
- Ted Britton, Associate Director for WestEd's National Center for Improving Science Education, is Lead Evaluator
- Bulk of FY02 effort spent on educator training assessment. Draft report is now on-line:
- *"The participating ten new NASA Ambassadors found the training to be useful and effective…. They felt that the agenda achieved all three of the training's major goals: enhancing their science content knowledge, familiarizing them with NASA-sponsored classroom materials and activities, and preparing them for their roles as NASA Ambassadors. "*

Dissemination

- Dissemination being tracked by SSU for EDCATS reports
- GLAST Products entered into Space Science Resource Directory
- Ambassadors using online form for EdCats submission to track their activities
- Over 15,000 teachers have received GLAST materials to date

Issues and Concerns

- GLAST AGN activities lagging somewhat due to need for increased testing and instructional design review
- EIT Review in progress (includes Code 508)
- NASA Education Reorganization
- NASA OSS Ed Task Force Recommendations
- Need increased involvement by Science Team
  – *GTN is the ideal way to get involved*
- How can we partner with known groups (e.g., ASP) to increase dissemination and product quality?

FY2002 Metrics

- 3 Activities entered into EdCats
  - Student Workshops: 3 given, 310 students, 20 faculty, 10 other
  - Teacher Workshops: 5 given , 152 teachers, 100 other
  - Colloquia: 8 given, 60 scientists, 1130 general public
- 5,000 AGN posters distributed as part of SEU kits, 5000 more being assembled for FY03
  - NSTA 1500
  - NCTM 1000
  - ITEA 500
  - SEU, brokers, Ambassadors, miscellaneous 2000

Summary

- E/PO program is ramping up
- Educator Ambassadors a big success
- Activity development will be improved using better instructional design
- GTN adding new partners – AAVSO!
- Continuing to develop and distribute formal and informal materials
- On schedule and within budget