Spitzer Cycle-2 Statistics

Cycle-2 Awards

The science projects recommended by the TAC for selection by the SSC Director are:

Large projects – 3 projects, 1148 hours of observing time
Medium projects – 15 projects, 1475 hours
Small projects – 223 projects, 3376 hours
Archival research – 20 projects, $1,253,734 in funding
Theoretical research – 8 projects, $514,064 in funding

TAC Recommended 3 Large GO Programs (1148 hours)

- Margaret Meixner (STScI): 511 hours
  - *Spitzer Survey of the Large Magellanic Cloud: Surveying the Agents of a Galaxy's Evolution*
    - A Legacy Survey of the LMC
- Sean Carey (SSC/Caltech): 417 hours
  - *MIPSGAL: A 24 and 70 micron survey of the Inner Galactic Disk with MIPS*
    - Follow-on MIPS Legacy Survey of the Galaxy previously surveyed by IRAC in the GLIMPSE survey
- David Sanders (U. Hawaii): 220 hours
  - *S-Cosmos: The Spitzer Deep Survey of the HST COSMOS 2 Degree ACS Field*
    - The Spitzer (IRAC) coverage of the HST COSMOS area

All the selected large projects have a major Legacy element

TAC Recommended 15 Medium GO Programs (1475 hours)

- **Charles Woodward** (Minnesota) 55 hrs *Solar System Comet Astromineralogy*
- **William Bottke** (SWRI) 100 hrs *High Latitude Dust Bands in the Main Asteroid Belt: Fingerprints of Recent Breakup Events*

- **David Ciardi** (MSC) 68 hrs *A Search for Warm Dust in the Habitable Zones Around Solar-Type Stars*
- **Judith Pipher** (Rochester) 82 hrs *A Fresh Look at Distributed vs. Clustered Star Formation: IRAC and MIPS Imaging of the Cep OB3 and Mon R2 Molecular Clouds*
- **Charles Lada** (CFA) 106 hrs *The Darkest Cloud: An IRAC/MIPS survey of the Pipe Nebula*
- **John Carpenter** (Caltech) 122 hrs - *Circumstellar Disk Evolution Across the Stellar Mass Spectrum in the Upper Scorpius OB Association*
- **Edwin Bergin** (Michigan) 98 hrs *Molecular Hydrogen As a Probe of Warm Interstellar Gas on Parsec Scales*
- **Steven Majewski** (Virginia) 69 hrs -*Galactic Structure Through the Dusty Veil*
- **Ed Churchwell** (Wisconsin) 149 hrs *GLIMPSE II: Imaging the Central +/-10 Degrees of the Galactic Plane with IRAC*

- **C. Megan Urry** (Yale) 59 hrs *IRS Spectroscopy of Intermediate Redshift AGN in the GOODS Field: A study in AGN dust structure and evolution*
- **Ranga-Ram Chary** (SSC) 89 hrs *Balancing the Cosmic Energy Budget between AGN and Starbursts in the Great Observatories Origins Deep Survey*
- **Pieter van Dokkum** (Yale) 123 hrs *A Public Deep IRAC Survey in the Extended CDF-South*
- **Peter Garnavich** (Notre Dame) 83 hrs *Testing the Preposterous Universe with Infrared Supernovae*
- **Andrew Blain** (Caltech) 90 hrs *Mid-IR spectroscopy of high-redshift ultraluminous dusty galaxies*
  - **(submitted as large [241 hours] but TAC approved as medium)**
- **Lin Yan** (SSC) 181 hrs *Characterize the 24micron Population with Systematic IRS Spectroscopy*

Spitzer Space Telescope

GO Investigations

Domestic	# programs	hours	% of time
Spitzer Science Center			
-small	22	453	7.6
-medium	2	270	4.5
-large	1	417	7.0
IPAC + JPL	9	195	3.2
Caltech (campus)	13	416	6.9
Hawaii	7	285	4.8
CFA/SAO	16	270	4.5
Other Universities	84	1904	31.7
Non-Profits	21	390	6.5
STScI	5	555	9.2
NASA	13	193	3.2
Federal Labs	5	42	0.7
Industry	1	10	0.3
Foreign			
Europe	39	550	9.2
Japan/Korea	3	43	0.7
Canada	1	14	0.2

Spitzer Space Telescope

GO Program Success Rates

	Proposals	Requested Hours
Large Proposals	50 % (3 of 6)	51 %
Medium Proposals	25 % (15 of 59)	26 %
Small Proposals	39 % (223 of 565)	32 %
All GO Proposals	38 % (241 of 630)	33 %
Foreign-led	30 % (45 of 148)	24 % *(25% GO1)*
Foreign-small	*32% (45 of 142)*	*28 %*
Germany	*50 % (14 of 28)*	*36 %*
UK	*35 % (8 of 23)*	*36 %*
France	*33 % (7 of 21)*	*36 %*
Netherlands	*22 % (2 of 9)*	*10 %*
Japan	*15 % (2 of 13)*	*14 %*
Spitzer Science Center	47 % (25 of 53)	53%
SSC-*small*	*46 % (22 of 48)*	*42 %*
NASA Centers-*small*	68 % (13 of 19)	55%
STSCI	25 % (5 of 20)	60%

AR/TR & PI Success Rates

	Proposals
• Archive Proposals	36% (20 of 56)
• Theory Proposals	44% (8 of 18)

Principal Investigator Success Rates

	Experienced	New
• Archive/Theory PIs	26	46 *(64% are new PIs)*
Success Rate	46%	35%
• GO PIs	286	236 *(45% are new PIs)*
Success Rate	46%	38%

Foreign Investigations

- **Foreign-led investigations**
  - *148 proposals received -- 142 small, 6 med, 0 large*
  - *Account for 16% (26%) of the recommended GO programs*
  - *Account for 10 % (23%) of the recommended observing time*
  - *Awarded 24% (25%) of requested hours*
    - 28% of requested small-program hours
    - 32% of foreign-led small programs were successful
- **Foreign-only investigations**
  - *Account for 4% (13%) of the recommended GO programs*
  - *Account for 3% (10%) of the recommended observing time*

(#) = corresponding result from cycle 1

TAC Recommended 20 Archival Research Programs ($1,253,735)

Allamandola	$72,000	NASA Ames	PAH Emission Features in the 15 to 20 Micron Region:
Van Dyk	$66,315	SSC	A GLIMPSE at Hidden Wolf-Rayet Stars in the Galaxy
Wilson	$57,232	SSC	Detecting Clusters of Galaxies at 1 < z < 2 in SWIRE
Sawicki	$61,000	UCSB	What Drives the Differential Evolution of Lyman Break Galaxies?
Steffen	$74,559	Penn. State	Revealing the Unresolved Hard Cosmic X-ray Background
Jayaraman	$154,558	PSI	Creating a Spitzer Zodiacal Cloud Database
Forman	$47,530	SAO	Chandra-Spitzer Study of Low Lum. AGN in a Sample of …
Cheng	$51,829	Cal State Fullerton	Are Dust Disks and Circumstellar Gas Around Young A Stars …
Eisenstein	$74,722	Univ. of Arizona	The Evolution of the 24 Micron Luminosity Function from …
Gardner	$61,800	NASA Goddard	Multivariate Optical-IR Luminosity Functions of SWIRE Galaxies
Gal	$66,835	UC Davis	Gas, Dust, and Star Formation in Wolf-Rayet Galaxies
Croft	$50,000	LLNL	Studying the Populations of Radio Sources in the Bootes Field
Lai	$21,000	U. of Maryland	Digging faint young stellar objects in molecular clouds …
Stassun	$69,062	Vanderbilt Univ.	Angular Momentum Evolution of Young, Low-Mass Stars
McCabe	$58,500	JPL	Investigating T Tauri Disk Evolution
Turner	$28,490	UCLA	Searching for the Most Massive Stars in Starbursts
Wachter	$32,321	SSC	Shedding New Light on the Stellar Graveyard
Audard	$80,000	Columbia Univ.	Spitzer IRAC/MIPS/IRS and XMM-Newton Survey of Taurus …
Tytler	$68,362	UCSD	Meta Analysis on Debris Disks Surveys
Cochran	$57,620	Univ. of Texas	Archival Study of Hyades Debris Disks

TAC Recommended 8 Theoretical Research Programs ($514,064)

- Eve Ostriker (U. of Maryland) $73,552
  - ***Global Modeling of Spur Formation in Spiral Galaxies***
- Aigen Li (U. of Missouri) $80,000
  - ***Modeling the Dust Infrared Emission from Nearby Galaxies***
- Fabio Governato (U. of Washington) $85,000
  - ***Interpreting the SPITZER View of Galaxy Formation and Evolution***
- Romeel Dave (U. of Arizona) $50,877
  - ***High-Redshift Galaxies in GOODS: Simulations vs. Observations***
- Adam Frank (U. of Rochester) $70,000
  - ***Jets, Outflows and Feedback in Young Clusters***
- Gary Ferland (U. of Kentucky) $51,444
  - ***Unfolding the Information of the Interstellar H2 Spectrum***
- Sara Seager (Carnegie-DTM) $55,000
  - ***Characterizing Hot Jupiter Transiting Extrasolar Planets with Spitzer Data***
- Joseph Weingartner (George Mason Univ.) $48,191
  - ***Optical Properties of Cosmic Dust Materials***

Targets of Opportunity

- **6 Target of Opportunity proposals were recommend**
  - *These programs represent 10 scheduling interrupts*
    - Programs totaling 17 ToO interrupts were recommended and the TAC selected the 10 allowed for Cycle-2
- **Recommended Programs**
  - *J. Tomsick (UC San Diego) 7 hours (1 interrupt)*
    - Compact Jets from Galactic Black Holes
  - *D. Fox (Caltech) 38.9 hours (5 interrupts)*
    - Spitzer Observations of the Highest-Redshift Gamma-Ray Bursts
  - *P. Garnavich (Notre Dame) 22.7 hours (2 interrupts)*
    - Gamma-Ray Burst Physics in the Spitzer/Swift Era
  - *A. Gould (Ohio State) 19.8 hours (2 interrupts)*
    - Spitzer Observations of Magellanic Cloud Microlensing Events
  - *D. Wooden (NASA Ames) 9.8 hours (0 interrupts)*
    - Spitzer Observations of a ToO Bright Oort Cloud Comet at Five Heliocentric Distances
  - *P. Meikle (Imperial College) 46.8 hours (0 interrupts)*
    - Infrared Study of Supernova Ejecta and Dust

U.S. Geographic Distribution
(Number of Programs)

83	**California**
23	**Maryland**
19	**Massachusetts**
18	**Arizona**
12	**Colorado, New York**
7	**Hawaii**
5	**Ohio, Virginia, Washington D.C.**
4	**Michigan**
3	**Connecticut, Indiana, Minnesota, Missouri, New Mexico, Washington**
2	**Illinois, Texas**
1	**Delaware, Florida, Kentucky, North Carolina, Pennsylvania, South Carolina, Tennessee, Wisconsin, Wyoming**

International Distribution
(Number of Programs Selected)

Germany	**14** (11)
UK	**8** (7)
France	**7** (5)
Italy	**4** (3)
India	**2** (2)
Netherlands	**2** (2)
Japan	**2** (0)
Switzerland	**1** (1)
Hungary	**1** (1)
Korea	**1** (1)
Spain	**1** (0)
Denmark	**1** (0)
Canada	**1** (0)

Figures in parentheses denote # with US participation

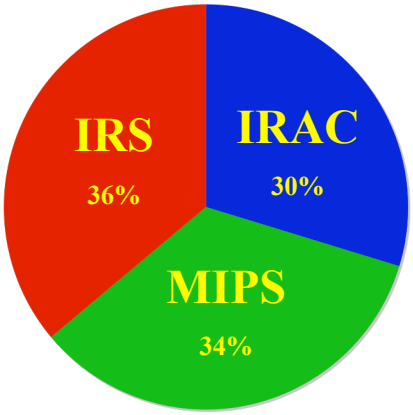
TAC Recommended 223 Small GO Programs
(3376 hours)

	Programs	Hours	% of Request
• **Distant Universe**	**65**	**1152**	**32%**
• **Nearby Universe**	**38**	**641**	**31%**
• **Stars & Interstellar Med**	**64**	**723**	**31%**
• **Star & Planet Formation**	**36**	**555**	**36%**
• **Our Solar System**	**20**	**305**	**36%**

Complete list of selected programs posted online @
http://ssc.spitzer.caltech.edu/approvdprog/

Instrument Usage

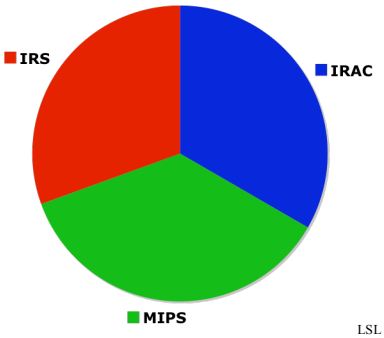
Awarded



Basic Instrument Campaign

- 10.4 days IRAC
- 12 days MIPS
- 12.6 days IRS

Requested



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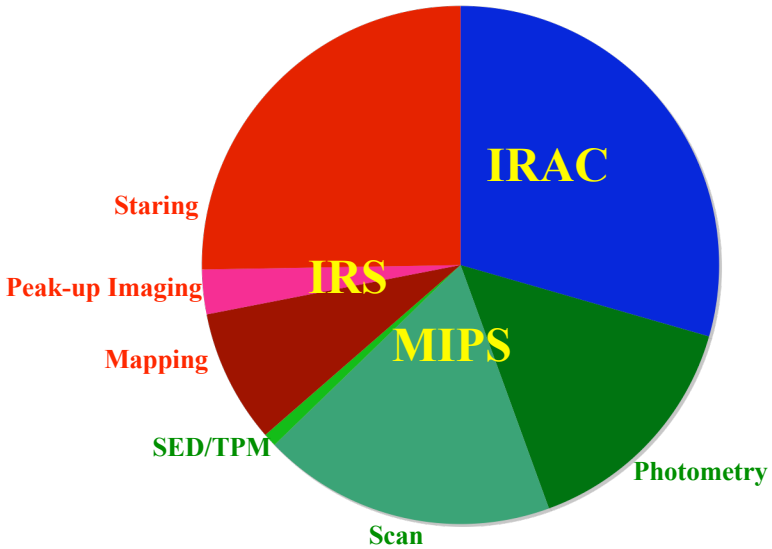

Sky Distribution of Targets