Spitzer Space Telescope
Cycle-4 Selection
Statistics

Awards

Distribution of selected science programs:

General Observer

Legacy	7 programs (6 lrg/1 med)	1602 hours
Medium	21 programs	1784 hours
Small	132 programs	2175 hours

Total: 160 programs, 5561 hours

Archival	25 programs	$1,850,372
Theory	11 programs	$ 803,427

Total: 36 programs, $2.7 million

Large Programs: 1483 hours (all Legacy)

- James Dunlop (ROE): 292 hours
  - *A Spitzer Public Legacy survey of the UKIDSS Ultra Deep Survey*
- Karl Gordon (U. Arizona): 285 hours
  - *SAGE-SMC: Surveying the Agents of Galaxy Evolution in the Tidally-Disrupted, Low-Metallicity Small Magellanic Cloud*
- Rob Kennicutt (Cambridge & U. Arizona): 280.5 hours
  - *The Local Volume Legacy Survey*
- Alexander Tielens (NASA Ames): 224.4 hours
  - *SAGE-Spectroscopy: The life cycle of dust and gas in the Large Magellanic Cloud*
- Dan Stern (JPL): 201 hours
  - *SDWFS: The Spitzer Deep, Wide-Field Survey*
- George Helou (SSC/IPAC): 200 hours
  - *The 5 mJy Extragalactic Spectroscopic Survey*

Medium Programs: 1904 hours 1 Legacy, 21 GO

PI		Institution	Hours	Title
Legacy				
Joseph	Hora	SAO	120.0	A Spitzer Legacy Survey of the Cygnus-X Complex
Spitzer-HST Collaborative				
Eiichi	Egami	Arizona	102.0	Characterizing Lya/LBGs at 5.7<z<7 in the Subaru Deep Field
Lin	Yan	SSC	66.0	Revealing Physical Nature of Infrared Luminous Galaxies at 0.3<z<2.7
Regular GO				
David	Neufeld	JHU	141.1	Spitzer spectral line mapping of interstellar shock waves
Heather	Knutson	Harvard	138.0	Portraits of Distant Worlds: Mapping the Atmospheres of Hot Jupiters
Steven	Majewski	Virginia	119.3	Galactic Structure and Star Formation in Vela-Carina
Carl	Grillmair	SSC	119.0	Spitzer/IRS Legacy Reference Spectrum for Exoplanet HD 189733b
John	Carpenter	Caltech	96.6	Debris Dust around Extrasolar Planetary Systems
Leslie	Looney	Illinois	96.0	An Evolutionary Survey of Massive YSOs
Joshua	Emery	SETI Inst.	87.1	IRAC reflectances of KBOs, Centaurs, and Trojan asteroids
Christine	Chen	NOAO	86.2	Evolution and Dust Dynamics in ScoCen Circumstellar Disks
Ranga-Ram	Chary	SSC	77.4	Unveiling the Galaxy Counterparts of DLAs using GRB-DLAs
Spencer	Stanford	UC Davis	77.0	A Unique IR, SZE, and X-ray Galaxy Cluster Survey
David	Alexander	Durham	72.9	Spitzer IRS Identification of Distant Compton-Thick AGN in GOODS-N
Mark	Lacy	SSC	72.0	The Masses and Ages of Galaxies in the Era of Reionization
Klaus	Meisenheimer	MPIA	71.1	Infrared SEDs and dust emission from z > 5 quasars.
Susan	Neff	NASA GSFC	67.0	Star Formation in the Tidal Streams of the M81 Group
Eric	Agol	Washington	63.6	A search for Mars-mass extrasolar planets with Spitzer
Joseph	Harrington	UCF	60.0	Target of Opportunity: New Transiting Exoplanets
Paule	Sonnentrucker	JHU	58.0	IRS Spectral Mapping of Interstellar Ices, Silicates & Gas-phase CO2
Joseph	Harrington	UCF	57.0	Intense Photometry of the Exotic Exoplanet HD 149026b
Solange	Ramirez	IPAC	56.3	Spectroscopic Study of Massive YSO Candidates in the Galactic Center

5 medium extra-solar planet proposals selected! (438 hours)

Big Program Science

- **Medium, Large and Legacy programs**
  - *High-redshift galaxies* *1231.4 hours*
  - *Nearby galaxies* *856.9 hours*
  - *Debris Disks* *182.8 hours*
  - *Extrasolar Planets* *437.6 hours*
  - *Interstellar Medium* *199.1 hours*
  - *Galactic Structure* *119.3 hours*
  - *Star Formation* *120 hours*
  - *Young Stellar Objects* *152.3 hours*
  - *Kuiper Belt Objects* *87.1 hours*

GO Investigations

	#Programs	Hours	% of Time
Domestic			
Spitzer Science Center			
small	8	210	3.8%
medium	4	334	6.0%
large	1	200	3.6%
Arizona	9	540	9.7%
SAO	13	330.2	5.9%
NASA Ames	3	267.5	4.8%
JPL	3	252.7	4.5%
JHU	4	220.4	4.0%
Harvard	2	146	2.6%
U. Central Florida	4	136.8	2.5%
All others	96	1849	33.2%
Foreign			
ROE	1	292	5.3%
Cambridge	1	280.5	5.0%
Rest of Europe	10	497.5	8.9%
Canada	1	4.1	0.1%

GO Program Success Rates

	Proposals	Requested Hours
Legacy-large	35% (6 of 17)	25 %
Legacy-medium	14% (1** of 7)	14 %
Collaborative	40% (2 of 5)	42 %
GO-Large	0% (0 of 5)	0 %
GO-Medium	25 % (13 of 56)	23 %
GO-small	25 % (174 of 531)	22 %
All GO/Legacy	25 % (160 of 631)	22 %
Extrasolar Planets	55% (12 of 22)	56%
Foreign-led	20 % (31 of 153)	22 %
Spitzer Science Center	25 % (13 of 51)	20%

[** submitted as Legacy-large, approved as medium]

Joint Time in Cycle-4

- **HST - 90 orbits available**
  - *9 proposals (98.5 orbits)* *1 selected (1 orbit)*
- **Chandra - 400 ksec available**
  - *8 proposals (626 ksecs)* *2 selected (180 ksec)*
- **NRAO - 200 hrs each VLA/GTS**
  - *3 proposals (VLA 92/GBT 14 hrs)* *none selected*
- **NOAO Gemini, CTIO, NOAO, SMARTS**
  - *10 proposals* *1 selected (26.5 hrs Gemini)*
- **HST Cycle-16 TAC awarded 203 Spitzer hours**
  - *Joint + Collaborative programs*
- **Chandra Cycle-9: 90 Spitzer hours requested**
  - *Chandra TAC meets in late June*

Targets of Opportunity

- **3 high-impact ToO programs selected (5 impacts)**
- **Gamma-Ray Bursts**
  - **Spitzer-Chandra ToO Observations of a Short Duration GRB**
    - PI: Hurley, Cycle-3 program hasn't triggered
    - Includes simultaneous Chandra observations
  - **First extinction curve of a GRB afterglow**
    - PI: D. Watson, new program
- **Dark Matter**
  - **Are LMC/SMC microlensing events due to dark matter?**
    - PI: A. Gould, new program

Archive/Theory Success Rates

	Proposals
• Archive Proposals	38% (25 of 66)
– ***36% of requested $$***	
• Theory Proposals	31% (11 of 35)
– ***31% of requested $$***	

- TAC recommended $2.7 million Archive/Theory
  - ***35% more than allocation guideline***
  - ***Based on high quality of proposals***

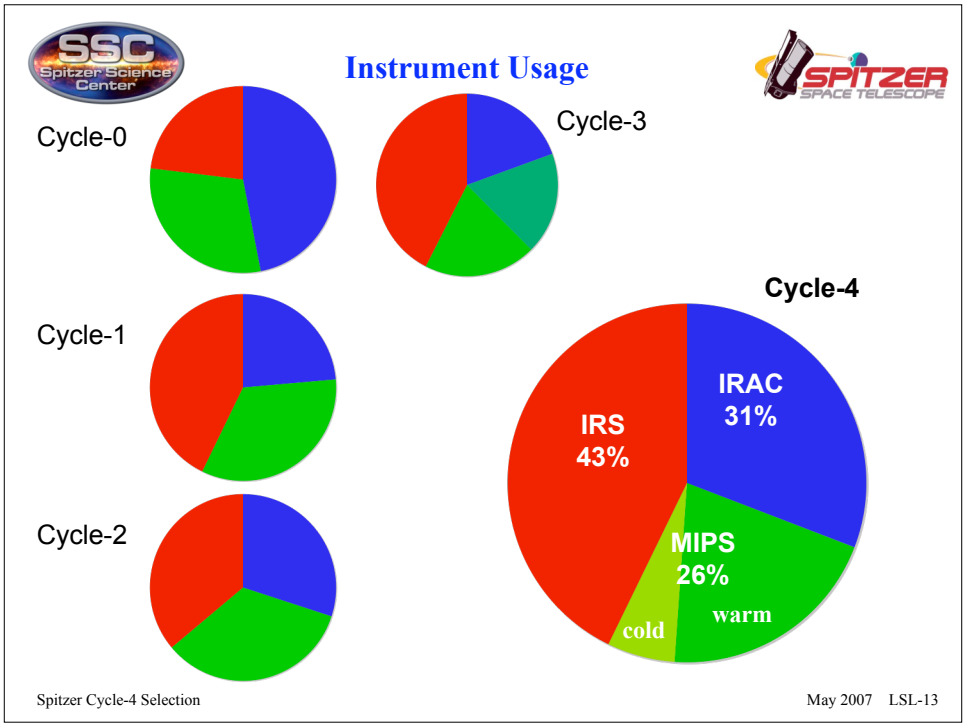
Selected Archive/Theory Programs

PI		Institution	Award	Title
Archive				
Julian	Krolik	JHU	$37,926	Measuring the Fraction of Obscured Quasars by the IR Luminosity of Unobscured Quasars
Louis	Allamandola	NASA ARC	$40,000	PAH Spectra for Everyone
Amaya	Moro-Martin	Princeton	$40,000	Study of solar-type stars with planets, planetesimals and dust
Jean	Brodie	UCSC	$48,294	Star Clusters in M31: Stellar Populations and Mass Loss
David	Trilling	U. Arizona	$49,935	The Spitzer Asteroid Catalog II: 10,000 more asteroids
Catrina	Hamilton-Drager	Dickinson Coll.	$53,525	Extending the Timeline for Angular Momentum Evolution
TalaWanda	Monroe	Indiana U	$59,617	Effects of Stellar Metallicity on the Frequency of Debris Disks in Young Star Clusters
Louis	Allamandola	NASA ARC	$63,016	IR Spectroscopy of PAHs in Dense Clouds
Eric	Gawiser	Rutgers	$63,281	A SIMPLE Proof that Lyman Alpha Emitters are Galaxies in the Act of Formation
Alyssa	Goodman	SAO	$64,181	All c2d Spitzer Outflows
Asantha	Cooray	UC Irvine	$66,973	A Reanalysis of IR Background Fluctuations in Spitzer IRAC GOODS fields
Edwin	Bergin	Michigan	$70,221	Peering into the Heart of Galactic Star Formation
Timothy	Lee	NASA ARC	$71,074	Computing the Temperature Dependent Rovibrational Spectrum of Ammonia
Kenneth	Mighell	NOAO	$73,081	Improving the Photometric Precision of IRAC Channels 1 & 2
Michael	Liu	Hawaii	$76,632	A Wide-Field Low-Mass Census of the Nearest Star-Forming Region
Haojing	Yan	OCIW	$77,635	A Systematic Study of the Global Stellar Mass Density at 0.5<z<6
Philip	Massey	Lowell Obs.	$80,618	Circumstellar dust around Red Supergiants in the Local Group
Diane	Wooden	NASA ARC	$86,378	Mining the Deep Impact Spitzer Archive for Crystalline Silicates
Schuyler	Van Dyk	SSC	$87,378	Galactic Evolved Massive Stars Survey (GEMSS)
Gregory	Brunner	Rice	$96,765	Mapping Molecular Hydrogen Excitation & Mass in Nearby Galaxies from the SINGS Archive
Sylvain	Veilleux	Maryland	$97,921	Opening the Window on Warm Dust in Starburst- and AGN-Driven Superwinds
James	Jackson	Boston U	$100,000	Protostars in Infrared Dark Clouds
Martin	Cohen	UC Berkeley	$100,456	LMC Planetary Nebulae: IR Luminosity Functions, AGB Halos & Search for New Candidates
August	Muench	SAO	$106,363	Constraints on the stellar initial mass function from Spitzer
Barry	Madore	OCIW	$139,102	GALEX-Spitzer study of resolved galaxies
Theory				
Romeel	Dave	Arizona	$31,706	TOGA: A Web Interface for Testing Galaxy Formation Models Against Observations
Alice	Quillen	Rochester	$39,510	Simulating 3D disks with planets and central clearings
Barbara	Whitney	SSI	$70,247	Improved Grid of YSO Radiative Transfer Models …
Mark	Marley	NASA ARC	$73,653	Understanding L/T Transition Binaries and Y Dwarfs
Eiichiro	Komatsu	Texas	$74,999	Anisotropy in the Cosmic Near Infrared Background: Simulations vs Observations
William	Mathews	UCSC	$79,447	Evolution of Dust in Elliptical Galaxies
Steven	Charnley	SETI Inst.	$80,388	Theoretical Models of Interstellar Ice Evolution
Edward	Thommes	Northwestern	$86,144	Observational signatures of extrasolar Late Heavy Bombardments
Aigen	Li	U. Mis.-Colum.	$87,146	Modeling the Infrared Emission Spectra of Specific PAH Molecules in Interstellar Space
Adam	Frank	Rochester	$89,317	Star Formation Ecology: YSO Outflow Feedback in Young Clusters
Moshe	Elitzur	Kentucky	$90,870	The AGN Obscuring Torus

Science Categories of Approved GO Programs

	Programs	Hours
• Distant Universe	42	1836
• Nearby Universe	23	1263
• Stars & Interstellar Med	46	1165
• Star & Planet Formation	38	1107
• Solar System	11	190

Complete list of selected programs is posted online @
http://ssc.spitzer.caltech.edu/geninfo/go/go4-list.txt


Instrument Usage
Cycle-0
Cycle-3
Cycle-1
Cycle-2
Cycle-4
IRAC
31%
IRS
43%
MIPS
26%
cold
warm
Spitzer Cycle-4 Selection
May 2007 LSL-13