Astrophysics
Division

NASA Advisory Council Astrophysics Subcommittee: Research, Analysis and Enabling Technology Programs

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Statistics for ROSES competitions

	Due Date	Notification	Days past due date	Proposals	Δ	Selected	Success
ROSES-2011							
Astrophysics Theory	3-Jun-11			194	1%		
Origins of Solar Systems	27-May-11			36	0%		
Astrophysics Data Analysis	20-May-11			279	50%		
ROSES-2010							
Strategic Astrophysics Technology	25-Mar-11			56	55%		
Astrophysics Research and Analysis	25-Mar-11			166			
Kepler Participating Scientists	11-Feb-11	17-Jun-11	126	30		12	40%
Fermi Guest Investigator -- Cycle 4	21-Jan-11	28-Apr-11	97	208		87	42%
Euclid Science Teams	20-Dec-10	15-Feb-11	57	2		0	
Kepler Guest Observer - Cycle 3	17-Dec-10	25-Mar-11	98	40		22	55%
Suzaku Guest Observer -- Cycle 6	19-Nov-10	28-Feb-11	101	91		40	44%
Swift Guest Investigator -- Cycle 7	29-Sep-10	21-Dec-10	83	182		61	34%
Astrophysics Theory	4-Jun-10	21-Oct-10	139	193	-4%	33	17%
Origins of Solar Systems	28-May-10	19-Oct-10	144	36	24%	6	17%
Astrophysics Data Analysis	14-May-10	2-Sep-10	111	186	13%	63	34%
ROSES-10 INVESTIGATION TOTALS		weighted mean =	108	968		324	**33%**
Core (Non-GO) solicitations				415		102	**25%**
Guest Observer solicitations				521		210	**40%**
ROSES-2009							
Astrophysics Research and Analysis	26-Mar-10	5-Aug-10	132	143	17%	45	31%

Modifications for ROSES-11 (18 February 2011)

D.2 Astrophysics Data Analysis Program (ADAP): wording explicitly allows 'AISR' proposals for "development of tools for mining the vast reservoir of information locked within" the Astrophysics data archives.

D.3 Astrophysics Research and ~~Analysis~~ Enabling Technology (now APRET): new name better describes program content: TRL1-3, up to TRL 6 for Explorers LISA technology now in SAT; Australia sounding rocket opportunities in 2014, 2016

D.4 Astrophysics Theory (ATP): no substantial changes

D.6 Fermi Guest Investigator: explicit budget caps removed. Two-year proposals allowed, as introduced in ROSES-10

D.8 Strategic Astrophysics Technology (SAT): mid-TRL for strategic missions
Expect changes as we respond to Astro2010

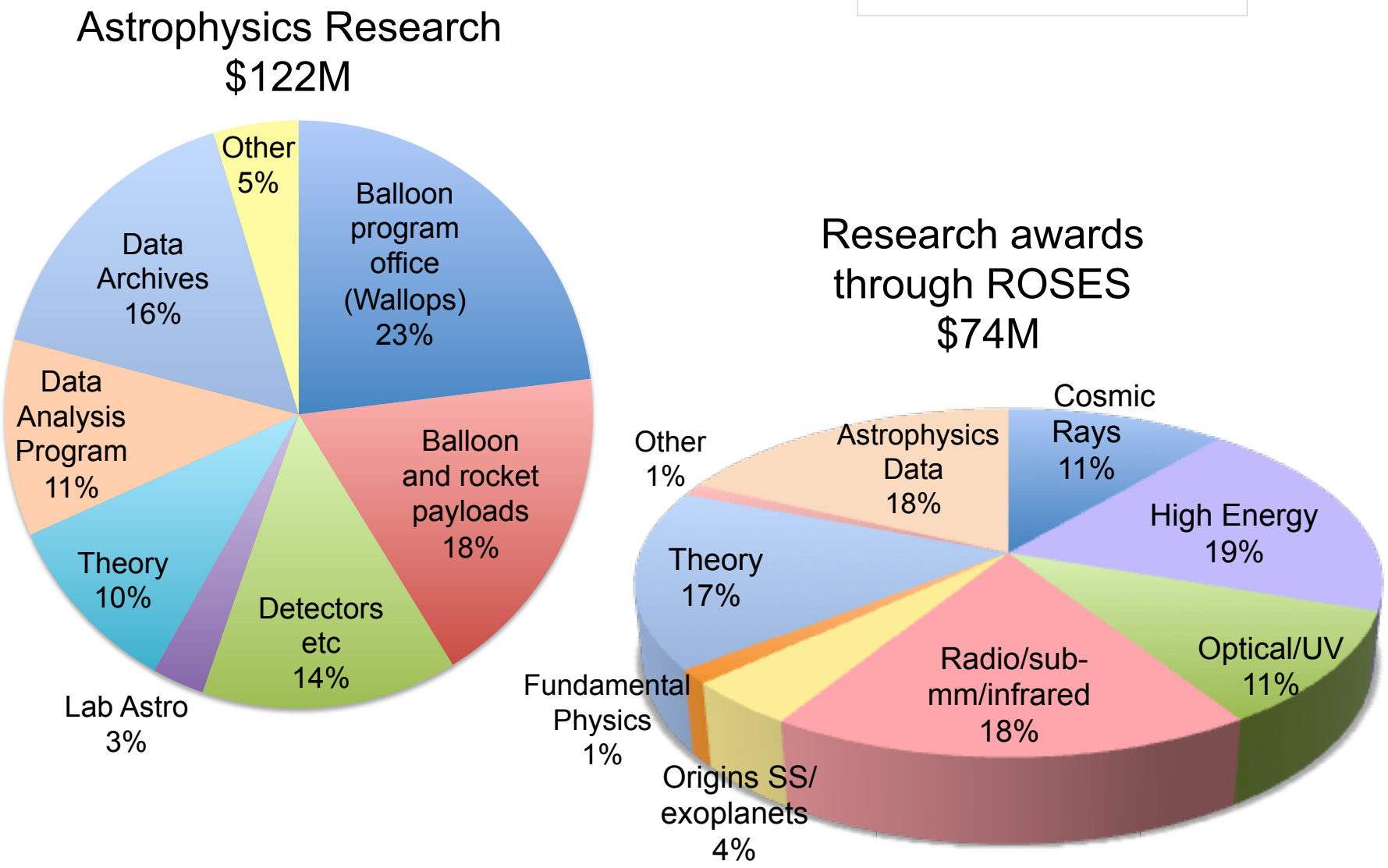
D.9 Astrophysics Technology Fellowship: on NSPIRES for comment through July 18

E.2 Conference Proposals: Astrophysics will not participate for ROSES-11

E.3 Origins of Solar Systems: exoplanet detection (only) in Astrophysics panels
Clarification: Planetary Major Equipment explicitly excluded from Astro proposals

NASA Astrophysics Research Program FY10

FY11 will be similar



Research Program Funding History

	FY04 Final Released	FY05 Final Released	FY06 Final Released	FY07 Final Released	FY08 Final Released	FY09 Final Released	FY10 Final Released	FY11 Anticipated
Particle Astro	$ 8,248,000	$ 7,670,887	$ 8,543,526	$ 7,631,233	$ 6,671,579	$ 8,201,428	$ 8,259,840	$ 8,280,144
High Energy	$14,548,000	$13,693,202	$14,779,227	$12,781,980	$12,405,649	$13,886,226	$14,110,293	$13,847,612
UV/Opt/IR/ Sub-mm	$20,409,000	$18,742,126	$21,850,678	$17,442,434	$19,094,421	$22,353,194	$21,534,307	$21,327,100
Other	$ 1,019,000	$ 854,085	$ 337,664	$ 394,000	$ 593,764	$ 669,550	$ 672,677	$ 680,000
APRA Total	$44,224,000	$40,960,300	$45,511,095	$38,249,647	$38,765,413	$45,110,398	$44,577,117	$44,134,856
Orig Solar Systems	$ 4,209,000	$ 3,871,613	$ 4,149,617	$ 3,673,163	$ 2,965,064	$ 2,999,535	$ 2,807,315	$ 2,884,436
Astro Theory Program	$ 7,860,000	$ 7,363,285	$10,245,457	$10,227,007	$11,695,838	$11,890,067	$12,261,568	$12,591,708
R&A (399131)	$56,293,000	$52,195,198	$59,906,169	$52,149,817	$53,426,315	$60,000,000	$59,646,000	$59,611,000
ADAP/LTSA	$16,986,000	$15,700,000	$15,188,960	$12,640,683	$12,013,000	$14,383,900	$13,258,126	$14,132,000
Core R&A	$73,279,000	$67,895,198	$75,095,129	$64,790,500	$65,439,315	$74,383,900	$72,904,126	$73,743,000
TPF/FS	$ 2,000,000	$ 2,000,000		(Foundation Science; now in ATP)				
Beyond Einstein FS	$ 4,000,000	$ 3,000,000	$ 2,000,000					
ASMCS (399131)	Mission concept studies				$ 3,451,685	$ 442,100		
PCOS SR&T					(Fundamental Physics; now APRA)		$ 967,609	$ 184,000
TOTAL R&A	$79,279,000	$72,895,198	$77,095,129	$64,790,500	$68,891,000	$74,826,000	$73,871,735	$73,927,000
		$7M R&A cut	smaller R&A cut	15% R&A cut	Partial recovery	More R&A recovery	flat	flat

The Research Program budget has been roughly flat since FY 2009

Astrophysics Research & Analysis and Suborbital Payloads (budgets notional)

($ in thousands, does not include civil servant labor)

	PBR FY11	PBR FY12	FY13	FY14	FY15	FY16
Research & Analysis	**$57,881**	**$64,312**	**$82,836**	**$83,932**	**$85,105**	**$87,995**
Suborbital payloads	21,964	23,779	29,604	30,803	30,992	31,958
Lab Astrophysics	3,193	3,544	4,692	4,692	4,957	5,016
Rest of APRA/APRET	20,751	22,966	26,657	27,690	27,152	27,892
Astrophysics Theory Program	11,805	12,723	15,178	15,274	15,751	15,982
Theory and Computation Networks		500	3,000	3,077	3,127	4,000
Technology Fellows		800	2,705	2,396	3,126	3,147
Astrophysics Data Analysis	**$13,932**	**$16,957**	**$18,451**	**$18,937**	**$19,466**	**$19,832**

Large Suborbital (MO)		2,000	8,000	9,000	9,000	9,000
R&A Suborbital payloads	21,964	23,779	29,304	30,803	30,992	31,958
Total Suborbital Payloads		**$25,779**	**$37,304**	**$39,803**	**$39,992**	**$40,958**

This is the same chart that you saw at the February meeting

Review of Astrophysics Programs in Research, Analysis and Enabling Technology

The report (received June 2, 2011) is available in preliminary form pending final correction at
http://science.nasa.gov/science-committee/subcommittees/nac-astrophysics-subcommittee/
Over the coming months we will consider how we can best respond to its findings. Our current programs already address some issues:

High-risk/high-reward projects: these are funded
– through APRET as low-TRL development, and
– as Advanced Innovative Concepts (NIAC) by OCT (Chief Technologist)

Workforce development: we are moving forward with new Astrophysics Technology Fellowships;
– NPP Postdoctoral Fellowships at NASA centers;
– graduate students are funded through SMD's NESSF and OCT's Space Technology fellowships

Review of Astrophysics Programs in Research, Analysis and Enabling Technology

A new communication plan for the Astrophysics Division is in the works; PAGs have been established with communication from the Program Offices

APRET – the Strategic Astrophysics Technology program was developed in response to a perceived funding gap for mid-TRL development

ATP – we will examine opportunities for larger theory projects in the light of the Theory and Computation Networks recommended in Astro2010

Origins of Solar Systems and Exoplanets – we will call out opportunities for exoplanet research explicitly within ATP and ADAP

Review of Astrophysics Programs in Research, Analysis and Enabling Technology

The report views these programs as increasingly vital to the future of Astrophysics: we must show that they are well-managed and effective.

– starting from a clear statement of the goals for each program, we need good metrics to show whether those goals are achieved.

– we must gather data to track metrics, without an undue burden on PIs or unrealistic staff requirements at HQ. GI/GO programs are effective here: e.g. award letters ask PIs to use specific words in publications to acknowledge the award.

– we will seek ways to set up an equivalent of “User Committees” for the observatories.

– we aim to develop mechanisms to obtain programmatic advice, as the MOWGs formerly provided.

Backups

Panelists for Research Program Review

Jay	Gallagher	U Wisconsin	Chair; spectroscopy, galaxies, journal editor
John	Blondin	N Carolina State U	theory, supernova remnants, X-rays
Steve	Boggs	UC Berkeley	Balloon PI, gamma rays
Dennis	Ebbets	Ball Aerospace, Colorado	UV spectroscopy, exoplanets
Miriam	Forman	Stony Brook	particle acceleration: cosmic rays, solar wind
Tom	Greene	Ames, civil servant	exoplanets
Mary Beth	Kaiser	Johns Hopkins	Ap SubCttee, rocket PI
Tom	Loredo	Cornell	LSST, astrostatistics
Amber	Miller	Columbia	CMB instrumentation
James	Neff	College of Charleston	X-ray, UV, stellar coronae (sabbatical 2010-11)
Joseph	Nuth	GSFC	dust, molecules (planetary)
Sterl	Phinney	Caltech	theory, fundamental physics
Howard	Smith	CfA, formerly at NASA HQ	IR spectroscopy
Chris	Walker	Arizona	hardware: far-infrared

Research Program Review: Timeline

First telecon meeting 13 December 1-3pm EST
Welcome, introductions, planning: decide what to do when.

First in-person meeting 9 January 2011 noon-5pm PST in Seattle
Presentations on Fermi Guest-Investigator program (Julie McEnery)
and Origins of Solar Systems (Mario Perez; Don Terndrup from NSF)
Public comment session 12 January 2011

Meeting in the DC area: 24-25 March 2011
Presentations from Hubble, Chandra, Spitzer Guest Observer programs
(to be confirmed) with info on plans for SOFIA;
from HQ discipline scientists on APRA, Astrophysics Theory, ADAP;
from HQ on Technology Roadmap plans from OCT

Meeting in the DC area: 28-29 April 2011
Writing the report; last-minute or forgotten items

Report received June 2, 2011