

USR





SOFIA Cycle 6 Schedule

Harold Yorke Science Mission Operations Director 16 November 2017



SUG12 – 16 November 2017 Yorke: Cycle 6 Selection





- A set of new Acceptance Categories was implemented in the proposal selection for Cycle 6: "Priority 1", "Priority 2", and "Priority 3".
 - For proposals accepted in the "Priority 1" category, funding will be released at the time of selection and observations will be automatically carried over into the next cycle if incomplete.
- A new proposal category, "Thesis Enabling Programs", was introduced in Cycle 6 to enable and support (up to \$100k per year for 2 years) PhD theses based in a substantial part on SOFIA data.
- GREAT: HFA/LFA and HFA/4G (bands 3 & 4) offered in dual cryocooler mode; commissioned in June/July
- HIPO and FLITECAM were not offered in this call







	US Queue	German Queue	Total
Hours Offered	500	75	575
Proposals Received	198	271	225
Joint US/DE Impact Proposals			1
Hours Requested	2038	133	2171
Oversubscription Rate	4.1	1.8	3.78

¹Joint impact proposal counted only once in US queue

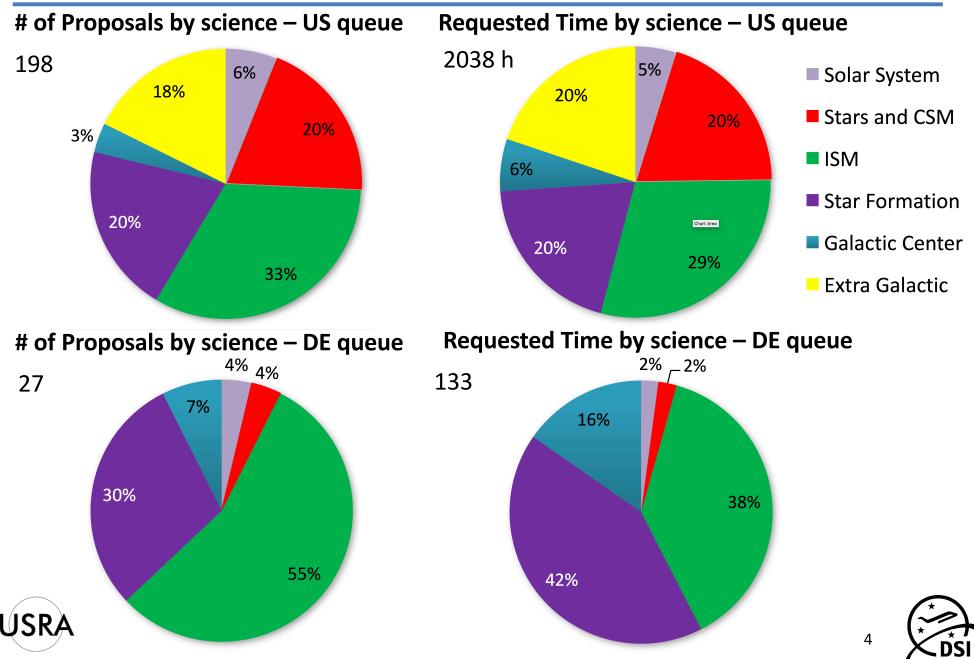




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Cycle 6 Response: Proposal requests

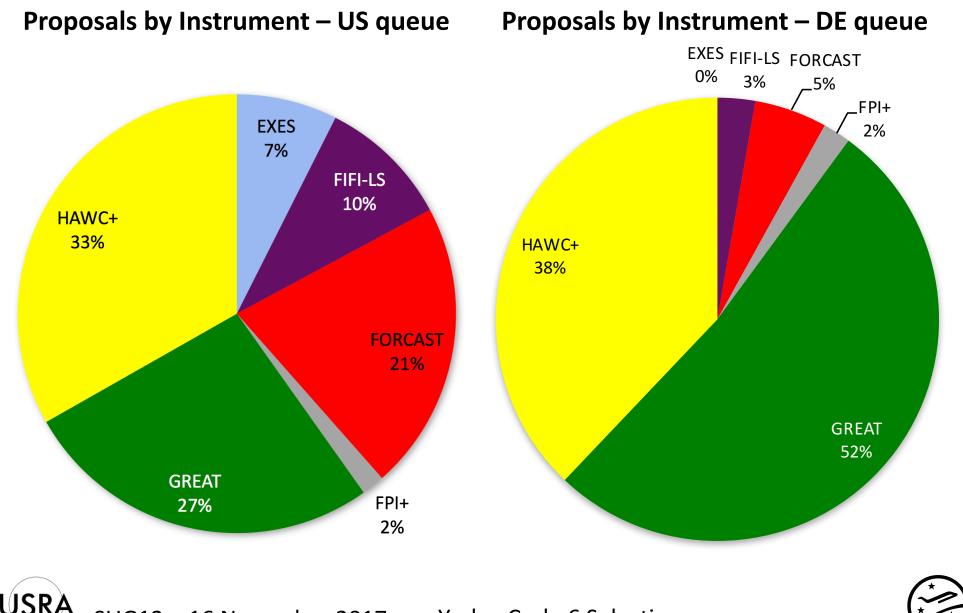






Cycle 6 Response: Proposal time requests





SUG12 – 16 November 2017

Yorke: Cycle 6 Selection

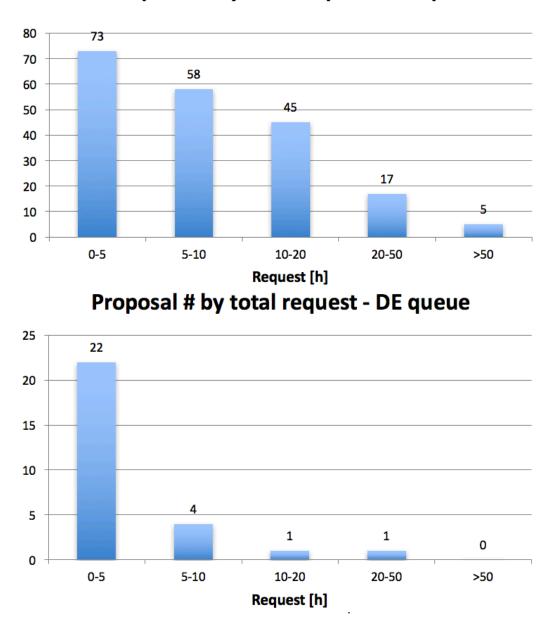


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Cycle 6 Response: Proposal requests





Proposal # by total request - US queue









- Technical review of feasibility & compliance with CfP conducted by SMO
- Science review of proposals by Time Allocation Committees
 - US TAC met in San Jose August 14-16, 2017
 - German TAC met in Stuttgart September 11-12, 2017 and approved by the GSSWG on September 13, 2017
- Recommendations from both TACs were combined in discussion with Hans Zinnecker (former SMO Deputy Director who presided over German TAC) and Holger Jakob (current acting SMO Deputy Director)
 - Some adjustments of numerical ratings were necessary to normalize results between 5 separate US TAC panels and the single German TAC panel
- Prioritized list of programs was produced: Priority 1 [Will do], Priority 2 [Should do], Priority 3 [Do if Time] and "Don't Do")
 - No determination was made at this point whether all "Priority 1" rated programs could actually be scheduled (some were mutually exclusive)







- General layout was guided by Cycle Scheduler runs
 - Only included Priority 1 & 2 observations for ~470h
 - Multiple runs: Priority 1 targets strongly drove the schedule
- SOFIA Program constructed Cy6 Draft lego October 19, 2017
 - Cycle starts Feb 3, 2018 and ends Feb 7, 2019
 - 109 Science Flights, 27 contingency flights
 - GREAT and HAWC+ deployed to Southern Hemisphere
 - 3 maintenance/upgrade periods; Standard template for instrument swaps
 - Use 75% of 579.5 h (= 434.6h = 385.2h[US] + 49.4h[DE]) for Priority 1 & 2 proposals
- Short Term Scheduler (STS)
 - Once general layout was determined, individual STS runs were used to schedule the campaigns
 - If highly rated proposals could not be scheduled by STS, they were not selected (i.e. wrong instrument on deployment) – two Priority 1 programs were eliminated at this point.





Cycle 6 Daily Overview – Page 1 of 2 - DRAFT



	/ Cy	cle 6 S																								ARC	(TBD)		
V			OC#6 A I	ORCAS	T .								OC#6 B	HAWC+										OC#6 C	GREAT	LFA/HFA			
			2 Flights		_	SI Rem	SI Install			SI Install					5 Flights		-			SI Rem		SI Ir	nstall			5 Fli	ights LFA/	HFA	
	S	S	М	Т	W	Т	F	S	S	М	Т	W	Т	F	S	S	Н	Т	W	Т	F	S	S	М	Т	W	Т	F	S
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_													February	2018													Ма	arch 20)18

	7																			LA C Airsho	ounty w (TBD)													
	OC#6 C	GREAT	LFA/HFA					OC#6 D	FIFI-LS						SI Rem						Ν	/laintena	nce / Upg	rades #1	6						AFRC Safety Day			
				SI Rem	SI Install			SI Install		3 Fli	ights				Eng LO															Eng LO		Chk Flt	SI Install	\square
S	М	Т	W	Т	F	S	S	М	T	W	Т	F	S	S	М	Т	W	Т	F	S	S	М	Т	W	Т	F	S	S	М	Т	W	Т	F	S
4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7
													March	2018																A	pril 20	18		

									0	C#6 E E>	(ES																OC#6 F	HAWC+							_
	SI Inst	all				-				8 F	lights	_						_	SI Rem	SI Install			SI Install				_	8 Flights					_		
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8	9		10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12
											A	pril 20	18																May -	- 2018					

	OC	#6 F HAV	VC+						OC#6 G	GREAT	LFA/HFA											NZ		OC#6	H (NZ) 0	GREAT								
			-	SI Rem		SI I	nstall				3 Flights	LFA/HFA					Aircra	ft Prep		Fer	ry CHC -	2 fitsTime	Media	Orient	8 FI	lights LFA	/HFA	Soft cont.	Post	Down	Prep			
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							Soft con	t																							dena, CA			7
							OC#6	H (NZ) (GREAT														Code O Safety Day					OC#6	I (NZ) H	AWC+				
Soft cont.	Swap	Down	Prep	8 F	lights 4G/	HFA	Soft cont.	Post	Down	Prep				Soft cont.	SI Rem.	Down	SI In	istall		8 Flights		Soft cont.	Post	Down	Prep				Soft cont.		Prep		Ferry	/ PMD
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17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
	_					June	2018								_								J	uly 201	8									

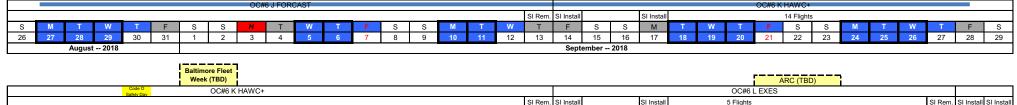
	 	EAA Air	Venture	<mark>Oshkosh</mark> ,	Wisconsi	in (TBD)		į																										
		00	#6 I					MD Inst.								Main	tenance /	Upgrade	es #17										OC#	6 J FOR	CAST			
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22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
				July	- 2018																Αι	igust 2	018											

Key Observing Cycle: 6 Baseline Science Flights: TBD Baseline RHs: TBD	Planned Science Flights*: 109 Estimated RHs*: 872 (*Year to date + Estimate)
S Weekend day H US or German Holiday F Instr. Commissioning Flight 7 (black text with no fill) 4 (day of week box H or GH w/ red fill) 6 (bold white text, purple fill, bold border)	F Observing Flight F Ferry/Maint./Non-Sci Flight Educator on Flight 6 (bold white text, blue fill, bold border) 6 (white text, green fill, bold border) 6	F Return to Base (RTB) Flight (single slash through day and date)
F Work day F Line Operations F Contingency Instr. Comm. Flight 6 (black text w/ day box grey fill) 6 (bold border) 6 (day box with purple fill)	F Contingency Obser. Flight F Contingency Ferry/Maint./Non-Sci Flt F Media/VIP on Flight 6 (day box with blue fill) 6 (day box with green fill) 6 (day box with green fill)	Canceled Flight (x through day and date)
F AFRC Regular Day Off F 6 (day and date shown in red) F Deployment Observing Flights (day and date shown in red) 6	S Short Flight S Half Sci. & Half Ferry/Maint./Non-Sci F Key Projects 28 (colored fill only lower half, bold bdr.) 13 (two colored fill) 6 (orange fill on day of week)	F Deployment Key Projects 6 (light orange fill on the orange k)
USRA SUG12 – 16 November 2017	Yorke: Cycle 6 Selection	× DSI

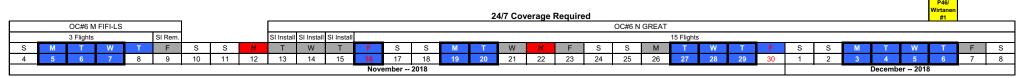


Cycle 6 Daily Overview – Page 2 of 2 - DRAFT



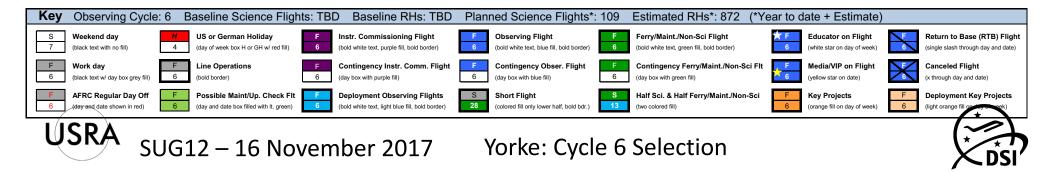


				_								_						SI Rem.	SI Install			SI Install			5 Flights	_						SI Rem.	SI Install	I SI Install
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30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3
															Oct	tober 2	018															Nov	ember	2018



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					#2																							23	33rd AAS	Meeting,	Seattle, V	NA		
					OC#6 N	I GREAT																	OC#	6 O FOR(CAST				2019 'Back i the Saddle'	n				
				-		-					SI Rem.	SI Install												SI Install	4 FI	ights	Prep	BFI		AAS Tour	6	PMD	SI Rem.	
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9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12
										Dec	ember	2018																Januar	y 2019	1				

	MD Inst.											Main	tenance /	Upgrade	es #18										
	Eng LO																						Eng LO	Chk Flt	MD Rem
S	Μ	Т	W	Т	F	S	S	Н	Т	W	Т	F	S	S	М	Т	W	Т	F	S	S	М	Т	W	Т
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7
								Jar	nuary 2	019											Feb	oruary	2019		





Determination of hours offered

	-																	
CYCLE	6	Non-Commissioning Contingency Fits	27															
Cycle Start	2/2/18	Contingency %	25%															
Cycle End	2/1/19																	
Inputs		Supporting/Intermediate Computations:																
Total Flight Opportunities	109	supporting intermediate computations.																
US Commissioning Flights	109	US commissioning hours:			US commi	issioning hour	convolution of t	IC an exercise	ioning flight	te timor hou	er nor flight							
	0	-				-												
German Comissioning Flights	0	German commissioning hours:				ommissioning					times hours	per flight						
		# planned science flights:		109	Total fligh	nt opportuntie	is minus US ai	nd German	commissini	ng flights								
# hours per flight	8																	
Planned Mission Capacity	100%																	
1		Non-commissioning hours before reduction	on:	872.0	Number o	of planned scie	ence flights ti	mes numbe	r of hours p	er flight tim	es planned m	ission capac	ity					
Loss of RH due to Sci Instr capability	y:																	
Number of flights	0.0	Total reduction of RH		0.0	Reduction	n in research h	nours due to s	specific redu	uced hours	per flight								
Reduction in RH / flight	0.0	Planned non-commissioning hours total:		872.0	Adjusted (for reduced H	AWC+ hours	per flight										
	0.0																	
	A.	Director Discretionary Time:		61.0	To provide	e the highest	onnortunity f	or impactfu	I science re	sults, DDT h	asis of calcula	tion is all no	n-calibration	RH hours. P	By subtract	ing off the r	alibration h	ours, we are effective
						Calibration 7									.,			
					Allocable													
	1000			52.0	Anocubie	001												
		4																
Deadlegs and Other Overhead	0.0	Revised RH Baseline After DDT Subtracted			New Pres	aseline After												
		Revised RH Baseline After DDT Subtracted	1	811.0	New RH B	Saseline After	DDT Subtract	ed										
Calibration hrs per flight	1.1																	
DDT percentage:	7%	80/20 baseline:	NASA:			anned non-co	-											
			DLR:	162.2	20% for PI	lanned non-co	ommissioning	; hours (afte	er DDT)									
		DLR GTO (GREAT, FIFI-LS and Consortium	Time)	81.1	Per Germa	an policy, up	to 50%-33% o	of time goes	to GTO/cor	nsortium wit	h balance for	r competed o	community s	cience.				
						: Per Erick, DL												
					(2) 201 22.													
US GTO (hours)	30.0	Calibration / Overhead hours required:	NASA:															culation for NASA
US GTO (hours)	30.0	Calibration / Overhead hours required:	NASA: DLR:															culation for NASA ther overhead time
US GTO (hours)	30.0	Calibration / Overhead hours required:																
US GTO (hours)	30.0	Calibration / Overhead hours required:																
	30.0 16.0	Calibration / Overhead hours required:																
US Hours Carried from Prior Cycle	30.0 16.0	Calibration / Overhead hours required:																
US Hours Carried from Prior Cycle		Calibration / Overhead hours required:																
US Hours Carried from Prior Cycle		Calibration / Overhead hours required:																
US Hours Carried from Prior Cycle			DLR:									ns and other	overhead. C	alculation fo				
US Hours Carried from Prior Cycle		Calibration / Overhead hours required:	DLR:	11.2					d therefore	carries its o	wn calibratio	ns and other	overhead. C	alculation fo				
US Hours Carried from Prior Cycle		Computation of CFP (using intermediate ca	DLR:	11.2 DLR					d therefore Max Ava	ailable RH (1)	wn calibratio	NASA 697.6	overhead. C <u>DLR</u> 174.4	Total 872.0				
US Hours Carried from Prior Cycle		Computation of CFP (using intermediate ca 80/20 baseline after DDT:	DLR: alculations) NASA 648.8	11.2 DLR 162.2					Max Ava Less DD1	ailable RH (1)	wn calibratio	NASA 697.6 48.8	overhead. C <u>DLR</u> 174.4 12.2	<u>Total</u> 872.0 61.0				
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		Computation of CFP (using intermediate ca 80/20 baseline after DDT:	DLR: alculations) NASA 648.8	11.2 DLR 162.2					Max Ava Less DD1	ailable RH (1)	wn calibratio	NASA 697.6 48.8	overhead. C <u>DLR</u> 174.4 12.2	<u>Total</u> 872.0 61.0				
US Hours Carried from Prior Cycle		Computation of CFP (using intermediate ca 80/20 baseline after DDT: GTO (to be subtracted):	DLR: alculations) NASA 648.8	11.2 DLR 162.2		STO is conduct	ted by per-flig		Max Ava Less DD1	ailable RH (1)	wn calibratio	NASA 697.6 48.8	overhead. C <u>DLR</u> 174.4 12.2	<u>Total</u> 872.0 61.0				
US Hours Carried from Prior Cycle		Computation of CFP (using intermediate ca 80/20 baseline after DDT: GTO (to be subtracted): Calibration,, Deadlegs, Other Overhead	DLR: alculations) NASA 648.8 30.0	11.2 DLR 162.2 81.1			ted by per-flig		d therefore Max Ava Less DD1 Adjusted	silable RH (1) r d RH	wn calibratio	NASA 697.6 48.8 648.8	DLR 174.4 12.2 162.2	<u>Total</u> 872.0 61.0 811.0				
US Hours Carried from Prior Cycle		Computation of CFP (using intermediate ca 80/20 baseline after DDT: GTO (to be subtracted): Calibration, Deadlegs, Other Overhead (to be subtracted)	DLR: alculations) NASA 648.8 30.0 89.2	DLR 162.2 81.1 11.2		STO is conduct	ted by per-flig		d therefore Max Ava Less DD1 Adjusted GTO Calibrati	silable RH (1) r d RH	wn calibratio	NASA 697.6 48.8 648.8 30.0	DLR 174.4 12.2 162.2 81.1	Total 872.0 61.0 811.0 111.1				
US Hours Carried from Prior Cycle	4.0	Computation of CFP (using intermediate ca 80/20 baseline after DDT: GTO (to be subtracted): Calibration, Deadlegs, Other Overhead (to be subtracted) GO Hours carried from prior cycle CIP hours:	DLR: alculations) NASA 648.8 30.0 89.2 16.0	11.2 DLR 162.2 81.1 11.2 4.0	German G	P1+P2 (75%)	ted by per-flig		d therefore Max Ava Less DD1 Adjusted GTO Calibrati	ailable RH (1) r d RH	wn calibratio	NASA 697.6 48.8 648.8 30.0 89.2	DLR 174.4 12.2 162.2 81.1 11.2	<u>Total</u> 872.0 61.0 811.0 111.1 100.4				
US Hours Carried from Prior Cycle DE Hours Carried from Prior Cycle	4.0	Computation of CFP (using intermediate ca 80/20 baseline after DDT: GTO (to be subtracted): Calibration,, Deadlegs, Other Overhead (to be subtracted) GO Hours carried from prior cycle CIP hours: Priority 1	DLR: alculations) NASA 648.8 30.0 89.2 16.0 513.6	11.2 DLR 162.2 81.1 11.2 4.0 65.9	German G 579.5 144.9	P1+P2 (75%)	ted by per-flig		d therefore Max Ava Less DD1 Adjusted GTO Calibrati Max Ava	ailable RH (1) r d RH on ailable GO H	wn calibratio 00%) ours (100%)	NASA 697.6 48.8 648.8 30.0 89.2 529.6	DLR 174.4 162.2 81.1 11.2 69.9	<u>Total</u> 872.0 61.0 811.1 100.4 599.5				
US Hours Carried from Prior Cycle DE Hours Carried from Prior Cycle Priority 1 Al Priority 2 Al	4.0 Jiocation 259 Viocation 509	Computation of CFP (using intermediate ca 80/20 baseline after DDT: GTO (to be subtracted): Calibration,, Deadlegs, Other Overhead (to be subtracted) GO Hours carried from prior cycle CIP hours: Priority 1	DLR: alculations) NASA 648.8 30.0 89.2 16.0 513.6 128.4	11.2 DLR 162.2 81.1 11.2 4.00 65.9 16.5	German G	P1+P2 (75%)	ted by per-flig		Max Ava Less DD1 Adjustec GTO Calibrati Max Ava GO Hour	ailable RH (1) r d RH on ailable GO Ho rs Carried fro	wn calibratio 00%) ours (100%) m prior cycle	NASA 697.6 48.8 648.8 30.0 89.2 529.6 2 16.0	DLR 174.4 12.2 162.2 81.1 11.2 69.9 4.0	Total 872.0 61.0 811.0 111.1 100.4 599.5 20.0				
US Hours Carried from Prior Cycle DE Hours Carried from Prior Cycle	4.0 Jiocation 259 Viocation 509	Computation of CFP (using intermediate ca 80/20 baseline after DDT: GTO (to be subtracted): Calibration, Deadlegs, Other Overhead (to be subtracted) GO Hours: Priority 1 Priority 2	DLR: alculations) NASA 648.8 30.0 89.2 16.0 513.6 128.4 256.8	11.2 DLR 162.2 81.1 11.2 4.00 65.9 16.5	German G 579.5 144.9	P1+P2 (75%)	ted by per-flig		Max Ava Less DD1 Adjustec GTO Calibrati Max Ava GO Hour	ailable RH (1) r d RH on ailable GO H	wn calibratio 00%) ours (100%) m prior cycle	NASA 697.6 48.8 648.8 30.0 89.2 529.6	DLR 174.4 162.2 81.1 11.2 69.9	<u>Total</u> 872.0 61.0 811.1 100.4 599.5				
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US Hours Carried from Prior Cycle DE Hours Carried from Prior Cycle Priority 1 Al Priority 2 Al	4.0 Jiocation 259 Viocation 509	Computation of CFP (using intermediate ca 80/20 baseline after DDT: GTO (to be subtracted): Calibration, Deadlegs, Other Overhead (to be subtracted) GO Hours carried from prior cycle CfP hours: Priority 1 Priority 2 Total DDT DDT Calibration	DLR: alculations) NASA 648.8 30.0 89.2 16.0 513.6 128.4 256.8 61.0 8.4	11.2 DLR 162.2 81.1 11.2 4.00 65.9 16.5	German G 579.5 144.9	P1+P2 (75%)	ted by per-flig		Max Ava Less DD1 Adjustec GTO Calibrati Max Ava GO Hour	ailable RH (1) r d RH on ailable GO Ho rs Carried fro	wn calibratio 00%) ours (100%) m prior cycle	NASA 697.6 48.8 648.8 30.0 89.2 529.6 2 16.0	DLR 174.4 12.2 162.2 81.1 11.2 69.9 4.0	Total 872.0 61.0 811.0 111.1 100.4 599.5 20.0				
US Hours Carried from Prior Cycle DE Hours Carried from Prior Cycle Priority 1 Al Priority 2 Al	4.0 Jiocation 259 Viocation 509	Computation of CFP (using intermediate ca 80/20 baseline after DDT: GTO (to be subtracted): Calibration,, Deadlegs, Other Overhead (to be subtracted) GO Hours carried from prior cycle CfP hours: Priority 1 Priority 2 Total DDT	DLR: alculations) NASA 648.8 30.0 89.2 16.0 513.6 128.4 255.8 61.0	11.2 DLR 162.2 81.1 11.2 4.00 65.9 16.5	German G 579.5 144.9	P1+P2 (75%)	ted by per-flig		d therefore Max Ava Less DD1 Adjusted GTO Calibrati Max Ava GO Hour GO Avai	ailable RH (1) r d RH ailable GO H rs Carried fro lable for Cur	ours (100%) ours cycle	NASA 697.6 48.8 648.8 30.0 89.2 529.6 513.6	DLR 174.4 12.2 162.2 81.1 11.2 69.9 4.0	Total 872.0 611.0 811.0 111.1 100.4 599.5 20.0 579.5				
US Hours Carried from Prior Cycle DE Hours Carried from Prior Cycle Priority 1 Al Priority 2 Al	4.0 Jiocation 259 Viocation 509	Computation of CFP (using intermediate ca 80/20 baseline after DDT: GTO (to be subtracted): Calibration, Deadlegs, Other Overhead (to be subtracted) GO Hours carried from prior cycle CfP hours: Priority 1 Priority 2 Total DDT DDT Calibration	DLR: alculations) NASA 648.8 30.0 89.2 16.0 513.6 128.4 256.8 61.0 8.4	11.2 DLR 162.2 81.1 11.2 4.00 65.9 16.5	German G 579.5 144.9	P1+P2 (75%)	ted by per-flig		d therefore Max Ava Less DD1 Adjusted GTO Calibrati Max Ava GO Hour GO Avai	ailable RH (1) r d RH ailable GO H rs Carried fro lable for Cur	wn calibratio 00%) ours (100%) m prior cycle	NASA 697.6 48.8 648.8 30.0 89.2 529.6 513.6	DLR 174.4 12.2 162.2 81.1 11.2 69.9 4.0	Total 872.0 61.0 811.0 111.1 100.4 599.5 20.0				
US Hours Carried from Prior Cycle DE Hours Carried from Prior Cycle Priority 1 Al Priority 2 Al	4.0 Jiocation 259 Viocation 509	Computation of CFP (using intermediate ca 80/20 baseline after DDT: GTO (to be subtracted): Calibration, Deadlegs, Other Overhead (to be subtracted) GO Hours carried from prior cycle CfP hours: Priority 1 Priority 2 Total DDT DDT Calibration	DLR: alculations) NASA 648.8 30.0 89.2 16.0 513.6 128.4 256.8 61.0 8.4	11.2 DLR 162.2 81.1 11.2 4.00 65.9 16.5	German G 579.5 144.9	P1+P2 (75%)	ted by per-flig		d therefore Max Ava Less DD1 Adjusted GTO Calibrati Max Ava GO Hour GO Avai	ailable RH (1) r d RH ailable GO H rs Carried fro lable for Cur	ours (100%) ours cycle	NASA 697.6 48.8 648.8 30.0 89.2 529.6 513.6	DLR 174.4 12.2 162.2 81.1 11.2 69.9 4.0	Total 872.0 611.0 811.0 111.1 100.4 599.5 20.0 579.5				
US Hours Carried from Prior Cycle DE Hours Carried from Prior Cycle Priority 1 Al Priority 2 Al	4.0 Jiocation 259 Viocation 509	Computation of CFP (using intermediate ca 80/20 baseline after DDT: GTO (to be subtracted): Calibration, Deadlegs, Other Overhead (to be subtracted) GO Hours carried from prior cycle CfP hours: Priority 1 Priority 2 Total DDT DDT Calibration	DLR: alculations) NASA 648.8 30.0 89.2 16.0 513.6 128.4 256.8 61.0 8.4	11.2 DLR 162.2 81.1 11.2 4.00 65.9 16.5	German G 579.5 144.9	P1+P2 (75%)	ted by per-flig		d therefore Max Ava Less DD1 Adjusted GTO Calibrati Max Ava GO Hour GO Avai	ailable RH (1) r d RH ailable GO H rs Carried fro lable for Cur	ours (100%) ours cycle	NASA 697.6 48.8 648.8 30.0 89.2 529.6 513.6	DLR 174.4 12.2 162.2 81.1 11.2 69.9 4.0	Total 872.0 611.0 811.0 111.1 100.4 599.5 20.0 579.5				
US Hours Carried from Prior Cycle DE Hours Carried from Prior Cycle Priority 1 Al Priority 2 Al	4.0 Jiocation 259 Viocation 509	Computation of CFP (using intermediate co 80/20 baseline after DDT: GTO (to be subtracted): Calibration, Deadlegs, Other Overhead (to be subtracted) GO Hours carried from prior cycle CIP hours: Priority 1 Priority 2 Total DDT DDT Calibration Allocable DDT Sanity checks:	DLR: alculations) NASA 648.8 30.0 89.2 16.0 513.6 128.4 256.8 61.0 8.4	11.2 DLR 162.2 81.1 11.2 4.00 65.9 16.5	German G 579.5 144.9	P1+P2 (75%) 434.6	ted by per-flig		d therefore Max Ava Less DD1 Adjusted GTO Calibrati Max Ava GO Hour GO Avai	ailable RH (1) r d RH ailable GO H rs Carried fro lable for Cur	ours (100%) ours cycle	NASA 697.6 48.8 648.8 30.0 89.2 529.6 513.6	DLR 174.4 12.2 162.2 81.1 11.2 69.9 4.0	Total 872.0 611.0 811.0 111.1 100.4 599.5 20.0 579.5				
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US Hours Carried from Prior Cycle DE Hours Carried from Prior Cycle Priority 1 Al Priority 2 Al	4.0 Jiocation 259 Viocation 509	Computation of CFP (using intermediate ca 80/20 baseline after DDT: GTO (to be subtracted): Calibration,, Deadlegs, Other Overhead (to be subtracted) GO Hours carried from prior cycle CIP hours: Priority 1 Priority 2 Total DDT DDT Calibration Allocable DDT Sanity checks: % non-commissioning hours for NASA: % non-commissioning hours for NASA:	DLR: alculations) NASA 648.8 30.0 89.2 16.0 513.6 128.4 256.8 61.0 8.4	11.2 DLR 162.2 81.1 11.2 4.00 65.9 16.5	German G 579.5 144.9	P1+P2 (75%) 434.6 80% 20%	ted by per-flig		d therefore Max Ava Less DD1 Adjusted GTO Calibrati Max Ava GO Hour GO Avai	ailable RH (1) r d RH ailable GO H rs Carried fro lable for Cur	ours (100%) ours cycle	NASA 697.6 48.8 648.8 30.0 89.2 529.6 513.6	DLR 174.4 12.2 162.2 81.1 11.2 69.9 4.0	Total 872.0 611.0 811.0 111.1 100.4 599.5 20.0 579.5				
US Hours Carried from Prior Cycle DE Hours Carried from Prior Cycle Priority 1 Al Priority 2 Al	4.0 Jiocation 259 Viocation 509	Computation of CFP (using intermediate ca 80/20 baseline after DDT: GTO (to be subtracted): Calibration, Deadlegs, Other Overhead (to be subtracted) GO Hours: Priority 1 Priority 1 Priority 2 Total DDT DDT Calibration Allocable DDT Sanity checks: % non-commissioning hours for NASA: % non-commissioning hours for NASA: % non-commissioning hours for NASA:	DLR: alculations) NASA 648.8 30.0 89.2 16.0 513.6 128.4 256.8 61.0 8.4	11.2 DLR 162.2 81.1 11.2 4.00 65.9 16.5	German G 579.5 144.9	P1+P2 (75%) 434.6 80% 200% 89%	ted by per-flig		d therefore Max Ava Less DD1 Adjusted GTO Calibrati Max Ava GO Hour GO Avai	ailable RH (1) r d RH ailable GO H rs Carried fro lable for Cur	ours (100%) ours cycle	NASA 697.6 48.8 648.8 30.0 89.2 529.6 513.6	DLR 174.4 12.2 162.2 81.1 11.2 69.9 4.0	Total 872.0 611.0 811.0 111.1 100.4 599.5 20.0 579.5				
US Hours Carried from Prior Cycle DE Hours Carried from Prior Cycle Priority 1 Al Priority 2 Al	4.0 Jiocation 259 Viocation 509	Computation of CFP (using intermediate co 80/20 baseline after DDT: GTO (to be subtracted): Calibration, Deadlegs, Other Overhead (to be subtracted) GO Hours: Priority 1 Priority 2 Total DDT DDT Calibration Allocable DDT Sanity checks: % non-commissioning hours for NASA: % non-commissioning hours for NASA: % non-commissioning hours for DLR: Percent of CIP hours for DLR:**	DLR: alculations) NASA 648.8 30.0 89.2 16.0 513.6 128.4 256.8 61.0 8.4	11.2 DLR 162.2 81.1 11.2 4.00 65.9 16.5	German G 579.5 144.9	P1+P2 (75%) 434.6 80% 20%	ted by per-flig		d therefore Max Ava Less DD1 Adjusted GTO Calibrati Max Ava GO Hour GO Avai	ailable RH (1) r d RH ailable GO H rs Carried fro lable for Cur	ours (100%) ours cycle	NASA 697.6 48.8 648.8 30.0 89.2 529.6 513.6	DLR 174.4 12.2 162.2 81.1 11.2 69.9 4.0	Total 872.0 611.0 811.0 111.1 100.4 599.5 20.0 579.5			hours and of hours and of a b b b b b b b b b b b b b b b b b b	
US Hours Carried from Prior Cycle DE Hours Carried from Prior Cycle Priority 1 Al Priority 2 Al	4.0 Jiocation 259 Viocation 509	Computation of CFP (using intermediate ca 80/20 baseline after DDT: GTO (to be subtracted): Calibration, Deadlegs, Other Overhead (to be subtracted) GO Hours carried from prior cycle C[P hours: Priority 1 Priority 2 Total DDT DDT Calibration Allocable DDT Sanity checks: % non-commissioning hours for NASA: % non-commissioning hours for DLR: Percent of C[P hours for DLR:** ** Percent of C[P hours for DLR:**	DLR: alculations) NASA 6488 30.0 513.6 128.4 256.8 61.0 8.4 52.6	11.2 DLR 162.2 81.1 11.2 4.0 65.9 16.5 33.0	German G 579.5 144.9	P1+P2 (75%) 434.6 80% 80% 89%	ted by per-flig		d therefore Max Ava Less DD1 Adjusted GTO Calibrati Max Ava GO Hour GO Avai	ailable RH (1) r d RH ailable GO H rs Carried fro lable for Cur	ours (100%) ours cycle	NASA 697.6 48.8 648.8 30.0 89.2 529.6 513.6	DLR 174.4 12.2 162.2 81.1 11.2 69.9 4.0	Total 872.0 611.0 811.0 111.1 100.4 599.5 20.0 579.5				
US Hours Carried from Prior Cycle DE Hours Carried from Prior Cycle Priority 1 Al Priority 2 Al	4.0 Jiocation 259 Viocation 509	Computation of CFP (using intermediate co 80/20 baseline after DDT: GTO (to be subtracted): Calibration, Deadlegs, Other Overhead (to be subtracted) GO Hours: Priority 1 Priority 2 Total DDT DDT Calibration Allocable DDT Sanity checks: % non-commissioning hours for NASA: % non-commissioning hours for NASA: % non-commissioning hours for DLR: Percent of CIP hours for DLR:**	DLR: alculations) NASA 648.8 30.0 9.2 16.0 513.6 128.4 256.8 61.0 8.4 52.6	11.2 DLR 162.2 81.1 11.2 4.0 65.9 16.5 33.0	German G 579.5 144.9	P1+P2 (75%) 434.6 80% 80% 89%	ted by per-flig		d therefore Max Ava Less DD1 Adjusted GTO Calibrati Max Ava GO Hour GO Avai	ailable RH (1) r d RH ailable GO H rs Carried fro lable for Cur	ours (100%) ours cycle	NASA 697.6 48.8 648.8 30.0 89.2 529.6 513.6	DLR 174.4 12.2 162.2 81.1 11.2 69.9 4.0	Total 872.0 611.0 811.0 111.1 100.4 599.5 20.0 579.5			hours and of hours and of a b b b b b b b b b b b b b b b b b b	





		Computation of CFP (using intermediate				
			NASA	DLR		
		80/20 baseline after DDT:	648.8	162.2		
		GTO (to be subtracted):	30.0	81.1		
		Calibration,, Deadlegs, Other Overhead				
		(to be subtracted)	89.2	11.2		
		GO Hours carried from prior cycle	16.0	4.0		P1+P2 (75%)
		CfP hours:	513.6	65.9	579.5	434.6
Priority 1 Allocation	25%	Priority 1	128.4	16.5	144.9	
Priority 2 Allocation	50%	Priority 2	256.8	33.0	289.8	
Total Not to Exceed 75%						
		Total DDT	61.0			
		DDT Calibration	8.4			
		Allocable DDT	52.6			





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- Consideration of "Thesis enabling" (TE) programs
 - A TE program provides two years of funding for a graduate student (capped at \$100k per year), if a highly ranked proposal provides critical and significant data for the student's thesis
 - A TE program is automatically carried over into the next observing cycle if not completed within Cycle 6
 - 10 proposals were submitted as "thesis enabling" (6 US and 4 non-US); none were initially in the Priority 1 category
 - 2 proposals selected as "thesis enabling" (1 Survey + 1 Priority 2); letters of congratulations were sent





Summary of Cycle 6 Selections



	US + INT hours	German hours	Total hours	US + INT numbers	German numbers	Total numbers
P1	130	18	148	24	4	28
P2	248	31	279	43	12	55
P1+P2	378	49	427	67	16	83
Р3	275	21	296	44	7	51
Survey	90	0	90	3	0	3
Thesis- enabling	50	0	50	1 "Survey" + 1 "P2"	0	2



SUG12 – 16 November 2017

Yorke: Cycle 6 Selection

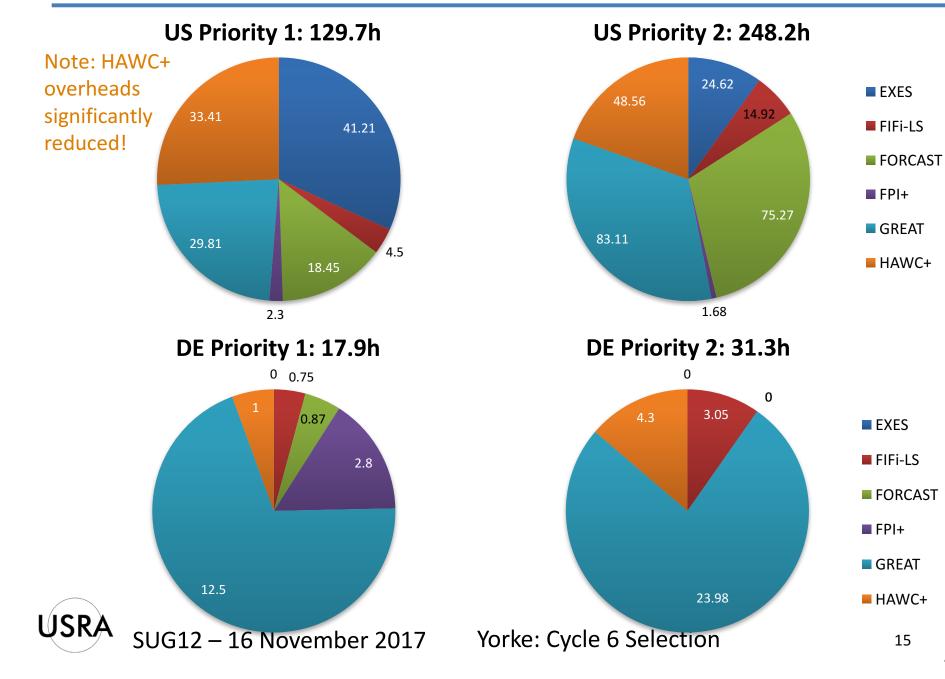


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Summary of Cycle 6 Selections

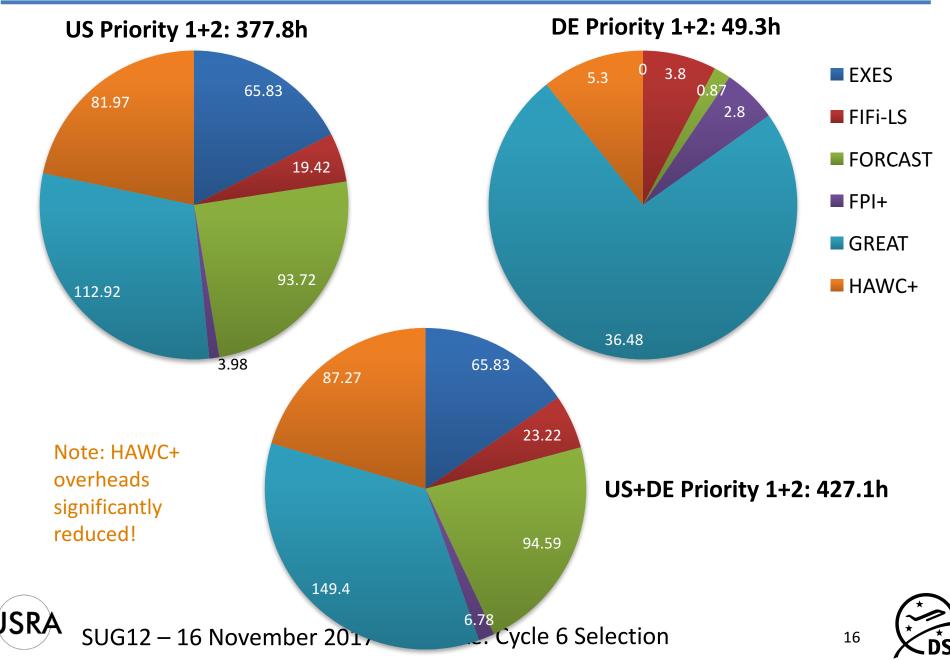






Summary of Cycle 6 Selections

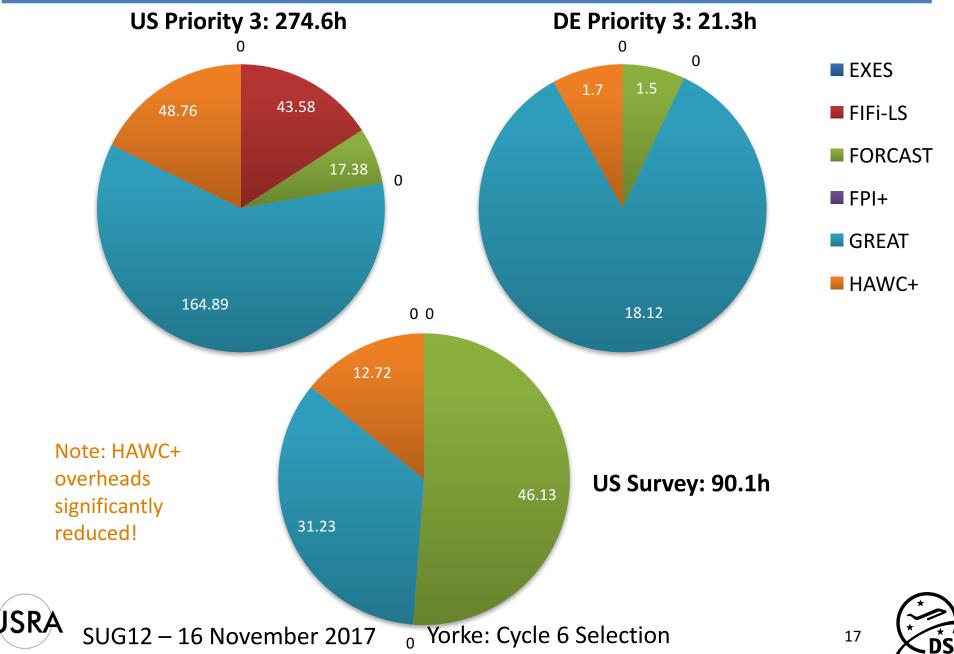






Summary of Cycle 6 Fillers









- The original estimate of HAWC+ overheads were based on theoretical considerations + margin
 - Analogous original estimates for FORCAST underestimated the settling time by large margins, leading to incorrect observing times when FORCAST was first used.
- The HAWC+ team did not want to repeat FORCAST's mistake and therefore multiplied the expected settling times by a "fudge factor".
 - Experience on the airplane showed, however, that the theoretical settling times were actually too long
 - After the HAWC+ repair (heat switch swap, fixing non-functioning pixels in the detectors, ADR hold time) the sensitivity and stability increased.
 - After adjusting the HAWC+ overhead, all HAWC+ proposed observations were recalculated, leading to significant decreases of necessary HAWC+ observing times with the same sensitivity.

