

IceCube M&O Staffing Matrix sort by WBS v20.0 2016.0415.xls

WBS L2	WBS L3	US / Non-US	Institution	Lab or Cat.	Names	Tasks	Source of Funds (U.S. Only)	NSF M&O Core	NSF Base Grants	U.S. Institutional In-Kind	Europe & Asia Pacific In-Kind	Grand Total
2.1 Program Management	2.1.1 Administration	US	LBNL	KE	KLEIN,SPENCER	Supervise LBNL effort	NSF M&O Core	0.05				0.05
2.1 Program Management	2.1.1 Administration	US	LBNL	KE	KLEIN,SPENCER	PINGU Coordination Committee	US In-Kind			0.03		0.03
2.1 Program Management	2.1.1 Administration	US	LBNL	KE	KLEIN,SPENCER	Gen2 HEA/Surface working group	US In-Kind			0.05		0.05
2.1 Program Management	2.1.1 Administration	US	UWRF	KE	MADSEN, JIM	Associate Director for E&O	NSF M&O Core	0.40				0.40
2.1 Program Management	2.1.1 Administration	US	UWRF	KE	SEUNARINE, SURUJ	IceCube Summer Bootcamp	US In-Kind			0.05		0.05
2.1 Program Management	2.1.1 Administration	US	DREXEL	KE	NEILSON, NAKO	ICB member	US In-Kind			0.05		0.05
2.1 Program Management	2.1.1 Administration	US	MARQUETTE	KE	ANDEEN, KAREN	Starting a new program at a new IceCube institution	US In-Kind			0.20		0.20
2.1 Program Management	2.1.1 Administration	US	MARQUETTE	PO	THARP, TIMOTHY	Starting a new program at a new IceCube institution	US In-Kind			0.10		0.10
2.1 Program Management	2.1.1 Administration	US	MSU	KE	DEYOUNG, TYCE	Deputy Spokesperson	US In-Kind			0.25		0.25
2.1 Program Management	2.1.1 Administration	US	MSU	KE	MAHN, KENDALL	ICB member	US In-Kind			0.05		0.05
2.1 Program Management	2.1.1 Administration	US	UCB	SC	FILIMONOV, KIRILL	Pubcom member	Base Grants		0.10			0.10
2.1 Program Management	2.1.1 Administration	US	UCB	SC	WOSCHNAGG, KURT	Speakers Comm member	Base Grants		0.10			0.10
2.1 Program Management	2.1.1 Administration	US	UCB	SC	WOSCHNAGG, KURT	Pubcom member	Base Grants		0.10			0.10
2.1 Program Management	2.1.1 Administration	US	UD	KE	GAISSER, TOM	ExecCom member	US In-Kind			0.20		0.20
2.1 Program Management	2.1.1 Administration	US	UD	KE	STANEV, TODOR	Pubcom member	US In-Kind			0.10		0.10
2.1 Program Management	2.1.1 Administration	US	UD	KE	SECKEL, DAVID	Pubcom member	US In-Kind			0.05		0.05
2.1 Program Management	2.1.1 Administration	US	UD	KE	EVENSON, PAUL	Managing solar and heliospheric aspects of IceTop	US In-Kind			0.05		0.05
2.1 Program Management	2.1.1 Administration	US	UMD	KE	SULLIVAN, GREG	ExecCom member	US In-Kind			0.20		0.20
2.1 Program Management	2.1.1 Administration	US	UMD	KE	SULLIVAN, GREG	M&O/Upgrade planning	US In-Kind			0.30		0.30
2.1 Program Management	2.1.1 Administration	US	UMD	SC	BLAUFUSS, ERIK	Analysis Coordinator	Base Grants		0.25			0.25
2.1 Program Management	2.1.1 Administration	US	UMD	SC	BLAUFUSS, ERIK	Analysis Coordinator	NSF M&O Core	0.15				0.15
2.1 Program Management	2.1.1 Administration	US	SBU	KE	KIRYLUK,JOANNA	Simulation Prod. Comm member, ICB member	US In-Kind			0.05		0.05
2.1 Program Management	2.1.1 Administration	US	UW	KE	HALZEN, FRANCIS	Principle Investigator	NSF M&O Core	0.38				0.38
2.1 Program Management	2.1.1 Administration	US	UW	KE	HALZEN, FRANCIS	Principle Investigator	US In-Kind			0.12		0.12
2.1 Program Management	2.1.1 Administration	US	UW	KE	KARLE, ALBRECHT	Associate Director for Science	NSF M&O Core	0.38				0.38
2.1 Program Management	2.1.1 Administration	US	UW	KE	KARLE, ALBRECHT	ExecCom member	US In-Kind			0.20		0.20
2.1 Program Management	2.1.1 Administration	US	UW	KE	HANSON, Kael	Director of IceCube Maintenance and Operations	NSF M&O Core	0.47				0.47
2.1 Program Management	2.1.1 Administration	US	UW	KE	HANSON, Kael	Director of IceCube Maintenance and Operations	US In-Kind			0.08		0.08
2.1 Program Management	2.1.1 Administration	US	UW	KE	VANDENBROUCKE, JUSTIN	Pubcom member	US In-Kind			0.10		0.10
2.1 Program Management	2.1.1 Administration	US	UW	AD	VAKHNINA, CATHERINE	IceCube Resource Coordinator	NSF M&O Core	0.75				0.75
2.1 Program Management	2.1.1 Administration	US	US Total					2.58	0.55	2.23		5.36
2.1 Program Management	2.1.1 Administration	Non-US	ALBERTA	KE	GRANT, DARREN	Pubcom Chair	Non-US In-kind				0.35	0.35
2.1 Program Management	2.1.1 Administration	Non-US	DESY	KE	KOWALSKI, MAREK	ExecCom member	Non-US In-kind				0.20	0.20
2.1 Program Management	2.1.1 Administration	Non-US	DESY	KE	ACKERMANN, MARKUS	PubCom member	Non-US In-kind				0.10	0.10
2.1 Program Management	2.1.1 Administration	Non-US	DPNC	KE	MONTARULI, TERESA	ICB Member, UHECR'neutrino coordinator	Non-US In-kind				0.20	0.20
2.1 Program Management	2.1.1 Administration	Non-US	ERLANGEN	KE	KAPPES, ALEXANDER	Pubcom member	Non-US In-kind				0.10	0.10
2.1 Program Management	2.1.1 Administration	Non-US	SKKU	KE	ROTT, CARSTEN	Speakers Comm member	Non-US In-kind				0.10	0.10
2.1 Program Management	2.1.1 Administration	Non-US	SU	KE	FINLEY, CHAD	ICB Member	Non-US In-kind				0.05	0.05
2.1 Program Management	2.1.1 Administration	Non-US	SU	KE	HULTQVIST, KLAS	ICB Member	Non-US In-kind				0.05	0.05
2.1 Program Management	2.1.1 Administration	Non-US	SU	KE	FINLEY, CHAD	Coordination with LIGO and ANTARES	Non-US In-kind				0.10	0.10
2.1 Program Management	2.1.1 Administration	Non-US	SU	KE	WALCK, CHRISTIAN	Publications Bookkeeping and author lists	Non-US In-kind				0.10	0.10
2.1 Program Management	2.1.1 Administration	Non-US	UC	KE	ADAMS, JENNI	ICB Member	Non-US In-kind				0.05	0.05
2.1 Program Management	2.1.1 Administration	Non-US	UOX	KE	SARKAR, SUBIR	Pubcom member	Non-US In-kind				0.10	0.10
2.1 Program Management	2.1.1 Administration	Non-US	ULB	KE	AGUILAR SANCHEZ JUAN ANTONIO	Institutional Lead	Non-US In-kind				0.20	0.20
2.1 Program Management	2.1.1 Administration	Non-US	UU	KE	BOTNER, OLGA	Spokesperson	Non-US In-kind				0.50	0.50
2.1 Program Management	2.1.1 Administration	Non-US	UU	KE	BOTNER, OLGA	ExecCom member	Non-US In-kind				0.20	0.20

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2.1 Program Management	2.1.1 Administration	Non-US	UU	KE	DE LOS HEROS, CARLOS	Pubcom member	Non-US In-kind				0.10	0.10
2.1 Program Management	2.1.1 Administration	Non-US	UU	KE	HALLGREN, ALLAN	Speakers Comm member	Non-US In-kind				0.10	0.10
2.1 Program Management	2.1.1 Administration	Non-US	VUB	KE	DE CLERCQ, CATHERINE	Institutional Lead	Non-US In-kind				0.20	0.20
2.1 Program Management	2.1.1 Administration	Non-US	WUPPERTAL	KE	HELBING, KLAUS	Speakers Comm member	Non-US In-kind				0.10	0.10
2.1 Program Management	2.1.1 Administration	Non-US	RWTH	KE	WIEBUSCH, CHRISTOPHER	ExecCom member	Non-US In-kind				0.20	0.20
2.1 Program Management	2.1.1 Administration	Non-US	RWTH	KE	WIEBUSCH, CHRISTOPHER	Pubcom member	Non-US In-kind				0.10	0.10
2.1 Program Management	2.1.1 Administration	Non-US	MAINZ	KE	KOPKE, LUTZ	Supernova group Co-Chair	Non-US In-kind				0.25	0.25
2.1 Program Management	2.1.1 Administration	Non-US	MAINZ	KE	BOSSER, SEBASTIAN	LE group coordinator	Non-US In-kind				0.25	0.25
2.1 Program Management	2.1.1 Administration	Non-US	Non-US Total								3.70	3.70
2.1 Program Management	2.1.1 Administration	WBS L3 Total						2.58	0.55	2.23	3.70	9.06
2.1 Program Management	2.1.2 Engineering Support	US	MIT	GR	MOULAI, MARJON	Test beam development	US In-Kind			0.10		0.10
2.1 Program Management	2.1.2 Engineering Support	US	PSU	KE	COWEN, DOUG	PINGU Co-Lead	US In-Kind			0.35		0.35
2.1 Program Management	2.1.2 Engineering Support	US	OSU	KE	BEATTY, JAMES	PINGU Electronics and Calibration Development	US In-Kind			0.10		0.10
2.1 Program Management	2.1.2 Engineering Support	US	OSU	PO	ANDERSON, TYLER	PINGU Electronics and Calibration Development	US In-Kind			0.25		0.25
2.1 Program Management	2.1.2 Engineering Support	US	UMD	KE	HOFFMAN, KARA	Detector R&D	US In-Kind			0.20		0.20
2.1 Program Management	2.1.2 Engineering Support	US	UMD	GR	SONG, MING	Detector R&D	Base Grants		0.50			0.50
2.1 Program Management	2.1.2 Engineering Support	US	UW	SC	DUVERNOIS, MICHAEL	Specialized simulations, designing new filters, unusual data selections, extracting specialized information	NSF M&O Core	0.25				0.25
2.1 Program Management	2.1.2 Engineering Support	US	UW	SC	DUVERNOIS, MICHAEL	Ongoing EMI studies & mitigation, South Pole & Northern test site instrumentation, Summer South Pole field work	NSF M&O Core	0.25				0.25
2.1 Program Management	2.1.2 Engineering Support	US	UW	EN	MEURES, THOMAS	Engineering Support: IceCube Lab Summer operations, cabling, & instrumentation testing	NSF M&O Core	0.25				0.25
2.1 Program Management	2.1.2 Engineering Support	US	UW	EN	SANDSTROM, PERRY	Engineering support: IceCube Lab Summer operations, fieldwork management, GPS & timing maintenance	NSF M&O Core	0.20				0.20
2.1 Program Management	2.1.2 Engineering Support	US	UW	MA	HAUGEN, JAMES	Engineering Support: logistics, northern hemisphere testing, & vendor management, contractor POC	NSF M&O Core	0.15				0.15
2.1 Program Management	2.1.2 Engineering Support	US	Yale	KE	MARUYAMA, REINA	Gen2 R&D	US In-Kind			0.05		0.05
2.1 Program Management	2.1.2 Engineering Support	US	US Total					1.10	0.50	1.05		2.65
2.1 Program Management	2.1.2 Engineering Support	Non-US	DESY	KE	NAHNHAUER, ROLF	Surface electronics, Optical detector R&D	Non-US In-kind				0.10	0.10
2.1 Program Management	2.1.2 Engineering Support	Non-US	DESY	KE	KARG, TIMO	Surface electronics, Optical detector R&D	Non-US In-kind				0.10	0.10
2.1 Program Management	2.1.2 Engineering Support	Non-US	DESY	SC	YANEZ, JUAN-PABLO	Optical detector R&D	Non-US In-kind				0.10	0.10
2.1 Program Management	2.1.2 Engineering Support	Non-US	ALBERTA	KE	GRANT, DARREN	PINGU Co-Lead	Non-US In-kind				0.35	0.35
2.1 Program Management	2.1.2 Engineering Support	Non-US	ALBERTA	KE	KOPPER, CLAUDIO	Lead in-ice high-energy extension	Non-US In-kind				0.15	0.15
2.1 Program Management	2.1.2 Engineering Support	Non-US	HUMBOLDT	GR	HEBECKER, DUSTIN	Optical detector calibration & R&D	Non-US In-kind				0.10	0.10
2.1 Program Management	2.1.2 Engineering Support	Non-US	RWTH	PO	AUFFENBERG, JAN	Surface detectors Performance & Simulation	Non-US In-kind				0.10	0.10
2.1 Program Management	2.1.2 Engineering Support	Non-US	SKKU	PO	BOSE, DEBANJAN	Reconstruction tools	Non-US In-kind				0.15	0.15
2.1 Program Management	2.1.2 Engineering Support	Non-US	ULB	PO	O'MURCHADHA, AONGUS	EMI Measurements	Non-US In-kind				0.10	0.10
2.1 Program Management	2.1.2 Engineering Support	Non-US	GENT	SC	UGENT SC	Acoustic R&D Support	Non-US In-kind				0.05	0.05
2.1 Program Management	2.1.2 Engineering Support	Non-US	GENT	GR	UGENT GR	Acoustic R&D Support	Non-US In-kind				0.05	0.05
2.1 Program Management	2.1.2 Engineering Support	Non-US	Non-US Total								1.35	1.35
2.1 Program Management	2.1.2 Engineering Support	WBS L3 Total						1.10	0.50	1.05	1.35	4.00
2.1 Program Management	2.1.3 Usap Support	US	UW	MA	HAUGEN, JAMES	USAP Support: yearly sip, coordination with contractor (ASC)	NSF M&O Core	0.20				0.20
2.1 Program Management	2.1.3 Usap Support	US	US Total					0.20				0.20

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2.1 Program Management	2.1.3 Usap Support	WBS L3 Total										
2.1 Program Management	2.1.4 Education & Outreach	US	PSU	KE	COWEN, DOUG	Education & Outreach	US In-Kind	0.20	0.00	0.00		0.20
2.1 Program Management	2.1.4 Education & Outreach	US	MSU	KE	DEYOUNG, TYCE	Education & Outreach	US In-Kind			0.05		0.05
2.1 Program Management	2.1.4 Education & Outreach	US	SDSMT	KE	XINHUA, BAI	Education & Outreach	US In-Kind			0.05		0.05
2.1 Program Management	2.1.4 Education & Outreach	US	UCB	KE	PRICE, BUFORD	Education & Outreach	US In-Kind			0.10		0.10
2.1 Program Management	2.1.4 Education & Outreach	US	UD	PO	DEMBINSKI, HANS	MasterClass lead	US In-Kind			0.10		0.10
2.1 Program Management	2.1.4 Education & Outreach	US	UMD	KE	UMD KE	Education & Outreach	US In-Kind			0.10		0.10
2.1 Program Management	2.1.4 Education & Outreach	US	UW	AD	BRAVO GALLART, SILVIA	Communication plan manager, science writer. Masterclass and communication workshop coordinator	NSF M&O Core	0.25				0.25
2.1 Program Management	2.1.4 Education & Outreach	US	UW	AD	MADSEN, MEGAN	E&O events and collaboration meetings mgmt. Website & social networks mgmt	NSF M&O Core	0.75				0.75
2.1 Program Management	2.1.4 Education & Outreach	US	UW	AD	BECHTOL, ELLEN	Evaluation support: framework design and implementation for BI program	NSF M&O Core	0.35				0.35
2.1 Program Management	2.1.4 Education & Outreach	US	UWRF	KE	MADSEN, JIM	Undergraduate Research	US In-Kind			0.10		0.10
2.1 Program Management	2.1.4 Education & Outreach	US	UWRF	KE	MADSEN, JIM	Teachers program and UWRF Upward Bound	NSF M&O Core	0.05				0.05
2.1 Program Management	2.1.4 Education & Outreach	US		US Total				1.40	0.00	0.55		1.95
2.1 Program Management	2.1.4 Education & Outreach	Non-US	NBI	KE	KOSKINEN, JASON	Speaking engagements (high school classes, open houses, etc.)	Non-US In-kind				0.05	0.05
2.1 Program Management	2.1.4 Education & Outreach	Non-US	NBI	GR	MEDICI, MORTEN	Danish interviews, blog posting, media requests, and speaking engagements	Non-US In-kind				0.10	0.10
2.1 Program Management	2.1.4 Education & Outreach	Non-US	UU	KE	HALLGREN, ALLAN	Education & Outreach	Non-US In-kind			0.05		0.05
2.1 Program Management	2.1.4 Education & Outreach	Non-US	UU	KE	BOTNER, OLGA	Education & Outreach	Non-US In-kind			0.05		0.05
2.1 Program Management	2.1.4 Education & Outreach	Non-US	SKKU	KE	ROTT, CARSTEN	Education & Outreach	Non-US In-kind			0.05		0.05
2.1 Program Management	2.1.4 Education & Outreach	Non-US		Non-US Total							0.30	0.30
2.1 Program Management	2.1.4 Education & Outreach	WBS L3 Total										
								1.40	0.00	0.55	0.30	2.25
2.1 Program Management	WBS L2 Total	WBS L2 Total										
								5.28	1.05	3.83	5.35	15.51
2.2 Detector Operations & Maintenance	2.2 Detector Operations & Maintenance	US	UW	SC	KELLEY, JOHN	Detector Maintenance and Operations Manager	NSF M&O Core	0.65				0.65
2.2 Detector Operations & Maintenance	2.2 Detector Operations & Maintenance	US	UW	SC	DESIATI, PAOLO	IceCube Coordination Committee chair	NSF M&O Core	0.30				0.30
2.2 Detector Operations & Maintenance	2.2 Detector Operations & Maintenance	US	UW	MA	HAUGEN, JAMES	Logistics Manager	NSF M&O Core	0.15				0.15
2.2 Detector Operations & Maintenance	2.2 Detector Operations & Maintenance	US	UMD	SC	OLIVAS, ALEX	SW Coordinator – Detector M&O	NSF M&O Core	0.45				0.45
2.2 Detector Operations & Maintenance	2.2 Detector Operations & Maintenance	US		US Total				1.55	0.00	0.00		1.55
2.2 Detector Operations & Maintenance	2.2 Detector Operations & Maintenance	Non-US	UMH	GR	KOHNEN, GEORGES	Database Coordinator	Non-US In-kind				0.10	0.10
2.2 Detector Operations & Maintenance	2.2 Detector Operations & Maintenance	Non-US		Non-US Total							0.10	0.10
2.2 Detector Operations & Maintenance	2.2 Detector Operations & Maintenance	WBS L3 Total										
								1.55	0.00	0.00	0.10	1.65
2.2 Detector Operations & Maintenance	2.2.1 Run Coordination	US	UW	IT	AUER, RALF	Winterovers coordinator, hiring and training of winterovers	NSF M&O Core	0.20				0.20
2.2 Detector Operations & Maintenance	2.2.1 Run Coordination	US	UW	SC	KAUER, MATTHEW	Run Coordinator	NSF M&O Core	0.40				0.40
2.2 Detector Operations & Maintenance	2.2.1 Run Coordination	US	UW	WO	UW Winter Overs	Operate Detector (Winter-Overs)	NSF M&O Core	3.00				3.00
2.2 Detector Operations & Maintenance	2.2.1 Run Coordination	US		US Total				3.60	0.00	0.00	0.00	3.60
2.2 Detector Operations & Maintenance	2.2.1 Run Coordination	Non-US		Non-US Total							0.00	0.00
2.2 Detector Operations & Maintenance	2.2.1 Run Coordination	WBS L3 Total										
								3.60	0.00	0.00	0.00	3.60
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	LBNL	EN	STEZELBERGER, THORSTEN	Maintain DAQ Hardware (Hubs, DOR, Clocks, GPS,...)	NSF M&O Core	0.15				0.15
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	PSU	SC	ANDERSON, TYLER	DAQ Firmware Development	NSF M&O Core	0.23				0.23
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	PSU	GR	PANKOVA, DARIA	DAQ electronics hardware and firmware	US In-Kind			0.47		0.47
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	UD	KE	SECKEL, DAVID	DAQ Monitoring	US In-Kind			0.05		0.05
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	UW	EN	MEURES, THOMAS	Data Acquisition HW Maintenance: DOR, DOMHub and DOMCal	NSF M&O Core	0.10				0.10
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	UW	SC	KELLEY, JOHN	DOM software: DOR device driver, DOMHub scripts, DOMCal	NSF M&O Core	0.15				0.15
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	UW	SC	KELLEY, JOHN	Track DOM issues, generate detector run configurations	NSF M&O Core	0.10				0.10
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	UW	CS	GLOWACKI, DAVID	IceCube DAQ: trigger and event builder	NSF M&O Core	0.60				0.60

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2.2 Detector Operations & M	2.2.2 Data Acquisition	US	UW	CS	GLOWACKI, DAVID	IceCube DAQ: command-and-control server, testing infrastructure	NSF M&O Core	0.40				0.40
2.2 Detector Operations & M	2.2.2 Data Acquisition	US	UW	CS	BENDELT, TIMOTHY	IceCube DAQ: StringHub and domapp	NSF M&O Core	0.75				0.75
2.2 Detector Operations & M	2.2.2 Data Acquisition	US	UW	CS	BENDELT, TIMOTHY	IceCube DAQ: supernova interface, hitspooling	NSF M&O Core	0.25				0.25
2.2 Detector Operations & M	2.2.2 Data Acquisition	US	US Total					2.73	0.00	0.52		3.25
2.2 Detector Operations & M	2.2.2 Data Acquisition	Non-US	ULB	GR	PINAT, ELISA	Data Acquisition	Non-US In-kind				0.50	0.50
2.2 Detector Operations & M	2.2.2 Data Acquisition	Non-US	Non-US Total								0.50	0.50
2.2 Detector Operations & M	2.2.2 Data Acquisition	WBS L3 Total						2.73	0.00	0.52	0.50	3.75
2.2 Detector Operations & M	2.2.3 Online Filter (Pnf)	US	UMD	SC	BLAUFUSS, ERIK	Maintain PnF S/W and Online Filters	NSF M&O Core	0.20				0.20
2.2 Detector Operations & M	2.2.3 Online Filter (Pnf)	US	UMD	CS	Schmidt, Torsten	Maintain PnF Software and Online Filters	NSF M&O Core	0.00				0.00
2.2 Detector Operations & M	2.2.3 Online Filter (Pnf)	US	UMD	GR	MAUNU, RYAN	Online Filter Testing	Base Grants		0.13			0.13
2.2 Detector Operations & M	2.2.3 Online Filter (Pnf)	US	UMD	GR	CHEUNG, ELIM	Online Filter Testing	Base Grants		0.13			0.13
2.2 Detector Operations & M	2.2.3 Online Filter (Pnf)	US	US Total					0.20	0.25	0.00		0.45
2.2 Detector Operations & M	2.2.3 Online Filter (Pnf)	WBS L3 Total						0.20	0.25	0.00		0.45
2.2 Detector Operations & M	2.2.4 Sps Operations	US	UW	IT	AUER, RALF	Maintain South Pole Computing H/W Infrastructure and operating systems	NSF M&O Core	0.40				0.40
2.2 Detector Operations & M	2.2.4 Sps Operations	US	UW	EN	SANDSTROM, PERRY	Maintain South Pole System H/W Infrastructure	NSF M&O Core	0.20				0.20
2.2 Detector Operations & M	2.2.4 Sps Operations	US	US Total					0.60	0.00	0.00		0.60
2.2 Detector Operations & M	2.2.4 Sps Operations	WBS L3 Total						0.60	0.00	0.00		0.60
2.2 Detector Operations & M	2.2.5 Spts Operations	US	UW	IT	AUER, RALF	Maintain South Pole Test System computing H/W Infrastructure and operating systems	NSF M&O Core	0.20				0.20
2.2 Detector Operations & M	2.2.5 Spts Operations	US	UW	IT	AUER, RALF	South Pole System networking and security maintenance	NSF M&O Core	0.20				0.20
2.2 Detector Operations & M	2.2.5 Spts Operations	US	UW	EN	MEURES, THOMAS	Maintain South Pole Test System H/W Infrastructure	NSF M&O Core	0.25				0.25
2.2 Detector Operations & M	2.2.5 Spts Operations	US	US Total					0.65	0.00	0.00	0.00	0.65
2.2 Detector Operations & M	2.2.5 Spts Operations	WBS L3 Total						0.65	0.00	0.00		0.65
2.2 Detector Operations & M	2.2.6 Experiment Control	US	UW	CS	BRAUN, JAMES	IceCube LiveControl: experiment control software	NSF M&O Core	0.50				0.50
2.2 Detector Operations & M	2.2.6 Experiment Control	US	UW	CS	BURRESON, COLIN	IceCube LiveControl: experiment control software	NSF M&O Core	0.25				0.25
2.2 Detector Operations & M	2.2.6 Experiment Control	US	US Total					0.75	0.00	0.00		0.75
2.2 Detector Operations & M	2.2.6 Experiment Control	WBS L3 Total						0.75	0.00	0.00		0.75
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	CAU	KE	JAPARIDZE, GEORGE	Detector monitoring shifts	US In-Kind				0.02	0.02
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	DREXEL	PO	RICHMAN, MIKE	Detector monitoring shifts	US In-Kind				0.03	0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	DREXEL	GR	WILLS, ELIZABETH	Detector monitoring shifts	US In-Kind				0.03	0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	GTECH	GR	CASEY, JAMES	Detector monitoring shifts	Base Grants		0.03			0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	KU	KE	BESSON, DAVE	Detector monitoring shifts	US In-Kind				0.02	0.02
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	SBU	GR	YIQIAN XU	Detector Monitoring	Base Grants		0.05			0.05
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	LBNL	PO	TATAR, JOULIEN	Detector monitoring shifts	US In-Kind				0.09	0.09
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	MSU	GR	NEER, GARRETT	Detector monitoring shifts	US In-Kind				0.03	0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	MSU	GR	LENNARZ, DIRK	Detector monitoring shifts	US In-Kind				0.03	0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	PSU	PO	ELLER, PHILIPP	Detector monitoring shifts	Base Grants		0.03			0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	PSU	GR	HUANG, FEIFEI	Detector monitoring shifts	Base Grants		0.03			0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	PSU	GR	LANFRANCHI, JUSTIN	Detector monitoring shifts	US In-Kind				0.03	0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	PSU	GR	PANKOVA, DARIA	Detector monitoring shifts	US In-Kind				0.03	0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	SDSMT	GR	DVORAK, EMILY	Detector monitoring shifts	US In-Kind				0.05	0.05
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	SUBR	KE	TER-ANTONYAN, SAMVEL	Detector Monitoring	US In-Kind				0.02	0.02
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	UCB	SC	FILIMONOV, KIRILL	Coordinate Monitoring	Base Grants		0.25			0.25
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	UCB	SC	UCB SC	Detector monitoring shifts	Base Grants		0.02			0.02
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	UCI	KE	BARWICK, STEVE	Detector monitoring shifts	US In-Kind				0.01	0.01
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	UCI	GR	HANSON, JORDAN	Detector monitoring shifts	US In-Kind				0.01	0.01
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	UMD	GR	UMD GR	Detector monitoring shifts	Base Grants		0.06			0.06
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	UW	SC	KAUER, MATTHEW	Data Monitoring lead: coordinate test and feature development; design underlying analysis algorithms	NSF M&O Core	0.20				0.20
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	UW	SC	KAUER, MATTHEW	Training and coordinating monitoring shifters	NSF M&O Core	0.10				0.10

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WBS L2	WBS L3	US / Non-US	Institution	Lab or Cat.	Names	Tasks	Source of Funds (U.S. Only)	NSF M&O Core	NSF Base Grants	U.S. Institutional In-Kind	Europe & Asia Pacific In-Kind	Grand Total
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	UW	CS	FRERE, MICHAEL	IceCube Live monitoring system: data quality and monitoring, back-end databases	NSF M&O Core	0.80				0.80
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	UW	CS	FRERE, MICHAEL	IceCube Live: release management, supporting external developers (OFU, SNDAQ, etc.)	NSF M&O Core	0.20				0.20
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	UW	CS	BURRESON, COLIN	IceCube Live monitoring system: web interface	NSF M&O Core	0.75				0.75
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	UW	PO	UW PO	Detector monitoring shifts	Base Grants		0.08			0.08
2.2 Detector Operations & M	2.2.7 Detector Monitoring	US	UW	GR	UW GR	Detector monitoring shifts	Base Grants		0.12			0.12
		US	US Total					2.05	0.67	0.39		3.11
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	CHIBA	GR	HIROTO, IJIRI	Detector Monitoring	Non-US In-kind				0.03	0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	DESY	SC	DESY SC	Detector Monitoring	Non-US In-kind				0.05	0.05
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	DESY	GR	DESY GR	Detector Monitoring	Non-US In-kind				0.12	0.12
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	DTMND	GR	DTMD GR	Detector Monitoring	Non-US In-kind				0.03	0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	TUM	GR	MPI GR	Detector Monitoring	Non-US In-kind				0.05	0.05
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	RWTH	GR	RONGEN, MARTIN	Detector monitoring shifts	Non-US In-kind				0.05	0.05
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	RWTH	GR	RWTH GR	Detector monitoring shifts	Non-US In-kind				0.12	0.12
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	SKKU	GR	IN, SEONGJUN	Detector Monitoring	Non-US In-kind				0.03	0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	SKKU	GR	Dujmovic, Hrvoje	Detector Monitoring	Non-US In-kind				0.03	0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	SKKU	GR	Jeong, Minjin	Detector Monitoring	Non-US In-kind				0.03	0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	SKKU	GR	Kim, Myoungchul	Detector Monitoring	Non-US In-kind				0.03	0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	SU	GR	SU GR	Detector Monitoring	Non-US In-kind				0.06	0.06
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	UC	KE	ADAMS, JENNI	Detector Monitoring	Non-US In-kind				0.05	0.05
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	ULB	GR	ULB GR	Detector Monitoring	Non-US In-kind				0.12	0.12
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	UOX	KE	SARKAR, SUBIR	Detector Monitoring	Non-US In-kind				0.02	0.02
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	UU	GR	UNGER, LISA	Tools development	Non-US In-kind				0.10	0.10
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	UU	GR	BURGMAN, ALEXANDER	Detector monitoring shifts	Non-US In-kind				0.03	0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	VUB	PO	VUB PO	Detector monitoring shifts	Non-US In-kind				0.06	0.06
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	VUB	GR	VUB GR	Detector monitoring shifts	Non-US In-kind				0.06	0.06
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	WUPPERTAL	GR	WUPPERTAL GR	South Pole EMI Monitoring	Non-US In-kind				0.15	0.15
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	WUPPERTAL	GR	WUPPERTAL GR	SPATS	Non-US In-kind				0.35	0.35
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	MAINZ	GR	UM GR	Detector Monitoring	Non-US In-kind				0.05	0.05
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	GENT	GR	UGENT GR	Detector Monitoring	Non-US In-kind				0.03	0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	DPNC	GR	CARVER, TESSA	Detector Monitoring	Non-US In-kind				0.10	0.10
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	DPNC	GR	BRON, STEPHANIE	Detector Monitoring	Non-US In-kind				0.10	0.10
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	BOCHUM	GR	KROLL, MIKE	Detector Monitoring	Non-US In-kind				0.03	0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	NBI	GR	LARSON, MICHAEL	Detector monitoring shifts	Non-US In-kind				0.03	0.03
2.2 Detector Operations & M	2.2.7 Detector Monitoring	Non-US	NBI	GR	MEDICI, MORTEN	Detector monitoring shifts	Non-US In-kind				0.03	0.03
		Non-US	Non-US Total								1.94	1.94
		WBS L3 Total						2.05	0.67	0.39	1.94	5.05
2.2 Detector Operations & M	2.2.8 Detector Calibration	US	GTECH	GR	CASEY, JAMES	Cable shadowing	Base Grants		0.20			0.20
2.2 Detector Operations & M	2.2.8 Detector Calibration	US	UA	KE	WILLIAMS, DAWN	Managing flasher runs coordinating low level calibration effort	NSF M&O Core	0.20				0.20
2.2 Detector Operations & M	2.2.8 Detector Calibration	US	MIT	GR	COLLIN, GABRIEL	Flasher code development	US In-Kind			0.10		0.10
2.2 Detector Operations & M	2.2.8 Detector Calibration	US	MSU	GR	RYSEWYK, DEVYN	In-situ DOM sensitivity calibration/angular response from muon neutrinos	US In-Kind			0.42		0.42
2.2 Detector Operations & M	2.2.8 Detector Calibration	US	UW	SC	CHIRKIN, DMITRY	Direct photon tracking / iceproperties calibration; FE/pulse extractor; reco S/W	Base Grants		0.35			0.35
2.2 Detector Operations & M	2.2.8 Detector Calibration	US	UW	SC	WENDT, CHRISTOPHER	Flasher output, flasher calibration	NSF M&O Core	0.40				0.40
2.2 Detector Operations & M	2.2.8 Detector Calibration	US	UW	SC	WENDT, CHRISTOPHER	DOM charge response, linearity, DOM calibration support	NSF M&O Core	0.40				0.40
2.2 Detector Operations & M	2.2.8 Detector Calibration	US	UW	SC	TOSI, DELIA	Absolute DOM sensitivity calibration (laboratory measurements)	NSF M&O Core	0.30				0.30
2.2 Detector Operations & M	2.2.8 Detector Calibration	US	UW	PO	XU, DONGLIAN	Calibration, waveforms, cascade systematics	Base Grants		0.30			0.30
2.2 Detector Operations & M	2.2.8 Detector Calibration	US	UW	DS	OERTLIN JAN	Detector geometry, calibration, and status database maintenance and support	NSF M&O Core	0.10				0.10
2.2 Detector Operations & M	2.2.8 Detector Calibration	US	UW	GR	GHOEBANI, KEVIN	Muon time residuals/hole ice	Base Grants		0.25			0.25
2.2 Detector Operations & M	2.2.8 Detector Calibration	US	UW	GR	TY, BUNHENG	DOM glass noise	US In-Kind			0.20		0.20

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WBS L2	WBS L3	US / Non-US	Institution	Lab or Cat.	Names	Tasks	Source of Funds (U.S. Only)	NSF M&O Core	NSF Base Grants	U.S. Institutional In-Kind	Europe & Asia Pacific In-Kind	Grand Total
2.2 Detector Operations & M	2.2.8 Detector Calibration	US	UW	GR	MANCINA, SARAH	muon neutrinos, DOM sensitivity	US In-Kind			0.20		0.20
2.2 Detector Operations & M	2.2.8 Detector Calibration	US	US Total					1.40	1.10	0.92		3.42
2.2 Detector Operations & M	2.2.8 Detector Calibration	Non-US	CHIBA	KE	KEIICHI MASE	Calibration WG co-chair	Non-US In-kind				0.25	0.25
2.2 Detector Operations & M	2.2.8 Detector Calibration	Non-US	CHIBA	PO	RELICH, MATTHEW	Standard Candle data analysis for calibrating DOM and ice	Non-US In-kind				0.15	0.15
2.2 Detector Operations & M	2.2.8 Detector Calibration	Non-US	CHIBA	GR	HIROTO, IJIRI	Improve the Ice Model, Afterpulse Simulator, Standard Candle Analysis, Maintain reconstruction projects (Ophelia, ehe-star)	Non-US In-kind				0.20	0.20
2.2 Detector Operations & M	2.2.8 Detector Calibration	Non-US	SKKU	GR	Jeong, Minjin	DOM Sensitivity in Ice	Non-US In-kind				0.35	0.35
2.2 Detector Operations & M	2.2.8 Detector Calibration	Non-US	RWTH	PO	AUFFENBERG, JAN	IceAct	Non-US In-kind				0.20	0.20
2.2 Detector Operations & M	2.2.8 Detector Calibration	Non-US	RWTH	GR	LEIF, RADEL	IceAct commissioning	Non-US In-kind				0.20	0.20
2.2 Detector Operations & M	2.2.8 Detector Calibration	Non-US	RWTH	GR	RONGEN, MARTIN	Hole Ice calibration	Non-US In-kind				0.20	0.20
2.2 Detector Operations & M	2.2.8 Detector Calibration	Non-US	RWTH	GR	RONGEN, MARTIN	IceAct calibration	Non-US In-kind				0.10	0.10
2.2 Detector Operations & M	2.2.8 Detector Calibration	Non-US	RWTH	GR	RONGEN, MARTIN	DOM Calibration and R&D	Non-US In-kind				0.10	0.10
2.2 Detector Operations & M	2.2.8 Detector Calibration	Non-US	Non-US Total								1.75	1.75
2.2 Detector Operations & M	2.2.8 Detector Calibration	WBS L3 Total						1.40	1.10	0.92	1.75	5.17
2.2 Detector Operations & M	2.2.9 Surface Detector Operations	US	UD	SC	TILAV, SERAP	Coordinate IceTop Operations	NSF M&O Core	0.75				0.75
2.2 Detector Operations & M	2.2.9 Surface Detector Operations	US	MARQUETTE	KE	ANDEEN, KAREN	Lab renovation and acquisition for future surface detector R&D	US In-Kind			0.05		0.05
2.2 Detector Operations & M	2.2.9 Surface Detector Operations	US	MARQUETTE	PO	THARP, TIMOTHY	Lab renovation and acquisition for future surface detector R&D	US In-Kind			0.25		0.25
2.2 Detector Operations & M	2.2.9 Surface Detector Operations	US	UW	EN	SANDSTROM, PERRY	Design, build and test experimental apparatus for restoring IceTop detector efficiency	NSF M&O Core	0.20				0.20
2.2 Detector Operations & M	2.2.9 Surface Detector Operations	US	UW	SC	TOSI, DELIA	Test and commission experimental apparatus for restoring IceTop detector efficiency	NSF M&O Core	0.30				0.30
2.2 Detector Operations & M	2.2.9 Surface Detector Operations	US	UW	SC	KAUER, MATTHEW	Design and build experimental apparatus for restoring IceTop detector efficiency	NSF M&O Core	0.20				0.20
2.2 Detector Operations & M	2.2.9 Surface Detector Operations	US	US Total					1.45	0.00	0.30		1.75
2.2 Detector Operations & M	2.2.9 IceTop Operations	WBS L3 Total						1.45	0.00	0.30	0.00	1.75
2.2 Detector Operations & M	2.2.10 Supernova Operations	US	ROCHESTER	KE	BENZVI, SEGEV	Supernova DAQ	US In-Kind			0.15		0.15
2.2 Detector Operations & M	2.2.10 Supernova Operations	US	ROCHESTER	GR	CROSS, ROBERT	Supernova DAQ	US In-Kind			0.20		0.20
2.2 Detector Operations & M	2.2.10 Supernova Operations	US	Yale	KE	MARUYAMA, REINA	Supernova DAQ	US In-Kind			0.05		0.05
2.2 Detector Operations & M	2.2.10 Supernova Operations	US	US Total					0.00	0.00	0.40		0.40
2.2 Detector Operations & M	2.2.10 Supernova Operations	Non-US	MAINZ	GR	EBERHARD, BENJAMIN	SuperNova Operations	Non-US In-kind				0.25	0.25
2.2 Detector Operations & M	2.2.10 Supernova Operations	Non-US	MAINZ	GR	BAUM, VOLKER	SuperNova Operations	Non-US In-kind				0.25	0.25
2.2 Detector Operations & M	2.2.10 Supernova Operations	Non-US	MAINZ	GR	KRUECKL, GERALD	SuperNova Operations	Non-US In-kind				0.20	0.20
2.2 Detector Operations & M	2.2.10 Supernova Operations	Non-US	Non-US Total								0.70	0.70
2.2 Detector Operations & M	2.2.10 Supernova Operations	WBS L3 Total						0.00	0.00	0.40	0.70	1.10
2.2 Detector Operations & M	WBS L2 Total							14.98	2.02	2.53	4.99	24.52
2.3 Computing And Data Ma	2.3.0 Computing And Data Management	US	UW	MA	MERINO, GONZALO	Computing Infrastructure Manager	NSF M&O Core	0.90				0.90
2.3 Computing And Data Ma	2.3.0 Computing And Data Management	US	LBNL	KE	KLEIN,SPENCER	Oversee raw data storage at LBNL	US In-Kind			0.08		0.08
2.3 Computing And Data Ma	2.3.0 Computing And Data Management	US	US Total					0.90	0.00	0.08		0.98
2.3 Computing And Data Ma	2.3.0 Computing And Data Management	WBS L3 Total						0.90	0.00	0.08	0.00	0.98
2.3 Computing And Data Ma	2.3.1 Core Software	US	DREXEL	PO	RICHMAN, MIKE	Software strike team member	US In-Kind			0.30		0.30
2.3 Computing And Data Ma	2.3.1 Core Software	US	LBNL	PO	TATAR, JOULIEN	Computing Strike Team	Base Grants		0.25			0.25
2.3 Computing And Data Ma	2.3.1 Core Software	US	UMD	GR	FREIDMAN, LIZ	Core Software	Base Grants		0.13			0.13
2.3 Computing And Data Ma	2.3.1 Core Software	US	UMD	CS	Schmidt, Torsten	Maintain Core Analysis Framework (IceTray)	NSF M&O Core	0.50				0.50
2.3 Computing And Data Ma	2.3.1 Core Software	US	UMD	CS	Ladieu, Don	Maintain Core Analysis Framework (IceTray)	NSF M&O Core	0.75				0.75
2.3 Computing And Data Ma	2.3.1 Core Software	US	UMD	SC	OLIVAS, ALEX	SW Coordinator – Core Software	NSF M&O Core	0.20				0.20
2.3 Computing And Data Ma	2.3.1 Core Software	US	UMD	SC	OLIVAS, ALEX	Support Core Software	US In-Kind			0.10		0.10
2.3 Computing And Data Ma	2.3.1 Core Software	US	UMD	CS	UMD CS	Maintain Core Software Repository	NSF M&O Core	0.00				0.00

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WBS L2	WBS L3	US / Non-US	Institution	Lab or Cat.	Names	Tasks	Source of Funds (U.S. Only)	NSF M&O Core	NSF Base Grants	U.S. Institutional In-Kind	Europe & Asia Pacific In-Kind	Grand Total
2.3 Computing And Data Ma	2.3.1 Core Software	US	UW	DS	DIAZ-VELEZ, JUAN CARLOS	Data processing software framework (IceProd)	NSF M&O Core	0.25				0.25
2.3 Computing And Data Ma	2.3.1 Core Software	US	UW	DS	SCHULTZ, DAVID	Core Software maintenance	NSF M&O Core	0.50				0.50
2.3 Computing And Data Ma	2.3.1 Core Software	US	UW	CS	BRAUN, JAMES	Analysis Software support	NSF M&O Core	0.50				0.50
2.3 Computing And Data Ma	2.3.1 Core Software	US	UW	DS	OERTLIN JAN	Maintain Data Processing Software	NSF M&O Core	0.20				0.20
2.3 Computing And Data Ma	2.3.1 Core Software	US	US Total					2.90	0.38	0.40		3.68
2.3 Computing And Data Ma	2.3.1 Core Software	Non-US	ULB	PO	Meagher, Kevin	Software strike team	Non-US In-kind				0.25	0.25
2.3 Computing And Data Ma	2.3.1 Core Software	Non-US	VUB	GR	GIULIANO, MAGGI	Software strike team	Non-US In-kind				0.25	0.25
2.3 Computing And Data Ma	2.3.1 Core Software	Non-US	Non-US Total								0.50	0.50
2.3 Computing And Data Ma	2.3.1 Core Software	WBS L3 Total						2.90	0.38	0.40	0.50	4.18
2.3 Computing And Data Ma	2.3.2 Data Storage & Transfer	US	LBNL	PO	TATAR, JOULIEN	Maintain code and keep transfer running	Base Grants		0.10			0.10
2.3 Computing And Data Ma	2.3.2 Data Storage & Transfer	US	UW	IT	BARNET, STEVE	Maintain Core Computing Infrastructure Systems	NSF M&O Core	0.30				0.30
2.3 Computing And Data Ma	2.3.2 Data Storage & Transfer	US	UW	IT	BARNET, STEVE	Maintain and Operate Data Storage Infrastructure	NSF M&O Core	0.20				0.20
2.3 Computing And Data Ma	2.3.2 Data Storage & Transfer	US	UW	IT	SAUNDERS, IAN	Maintain and Operate Data Storage Infrastructure	NSF M&O Core	0.75				0.75
2.3 Computing And Data Ma	2.3.2 Data Storage & Transfer	US	UW	IT	SAUNDERS, IAN	Maintain Core Computing Infrastructure Systems	NSF M&O Core	0.25				0.25
2.3 Computing And Data Ma	2.3.2 Data Storage & Transfer	US	UW	IT	BELLINGER, JIM	Maintain and Operate Data Storage Infrastructure	NSF M&O Core	0.30				0.30
2.3 Computing And Data Ma	2.3.2 Data Storage & Transfer	US	UW	IT	BELLINGER, JIM	Long term preservation and archive services. Data curation.	NSF M&O Core	0.50				0.50
2.3 Computing And Data Ma	2.3.2 Data Storage & Transfer	US	UW	IT	BELLINGER, JIM	IceCube Open Data services and tools.	NSF M&O Core	0.20				0.20
2.3 Computing And Data Ma	2.3.2 Data Storage & Transfer	US	UW	IT	WISNIEWSKI, PAUL	Maintain Data Center Networking and Cyber Security	NSF M&O Core	0.70				0.70
2.3 Computing And Data Ma	2.3.2 Data Storage & Transfer	US	UW	PO	WANDKOWSKY, NANCY	Analysis disk Data storage review, data filters	Base Grants		0.10			0.10
2.3 Computing And Data Ma	2.3.2 Data Storage & Transfer	US	UW	CS	MEADE, PATRICK	Operate Data transfer from S. Pole to UW Data Warehouse and Archive services at S. Pole.	NSF M&O Core	0.40				0.40
2.3 Computing And Data Ma	2.3.2 Data Storage & Transfer	US	US Total					3.60	0.20	0.00		3.80
2.3 Computing And Data Ma	2.3.2 Data Storage & Transfer	Non-US	DESY	GR	STOESSL, ACHIM	Data Storage & Transfer	Non-US In-kind				0.10	0.10
2.3 Computing And Data Ma	2.3.2 Data Storage & Transfer	Non-US	Non-US Total								0.10	0.10
2.3 Computing And Data Ma	2.3.2 Data Storage & Transfer	WBS L3 Total						3.60	0.20	0.00	0.10	3.90
2.3 Computing And Data Ma	2.3.3 Computing Resources	US	PSU	PO	ELLER, PHILIPP	Coordination and Support Grid distributed computing	NSF M&O Core	0.25				0.25
2.3 Computing And Data Ma	2.3.3 Computing Resources	US	MARQUETTE	KE	ANDEEN, KAREN	Building cluster for future simulation production	US In-Kind			0.05		0.05
2.3 Computing And Data Ma	2.3.3 Computing Resources	US	MARQUETTE	PO	THARP, TIMOTHY	Building cluster for future simulation production	US In-Kind			0.25		0.25
2.3 Computing And Data Ma	2.3.3 Computing Resources	US	MSU	PO	HIGNIGHT, JOSHUA	Simulation production site manager at MSU	NSF M&O Core	0.25				0.25
2.3 Computing And Data Ma	2.3.3 Computing Resources	US	SUBR	KE	TER-ANTONYAN, SAMVEL	LONI Grid computing	US In-Kind			0.30		0.30
2.3 Computing And Data Ma	2.3.3 Computing Resources	US	UMD	IT	UMD IT	Coordination and Support for Grid and distributed computing	NSF M&O Core	0.00				0.00
2.3 Computing And Data Ma	2.3.3 Computing Resources	US	UW	IT	STOCK, BENJAMIN	Maintain Data Center monitoring infrastructure	NSF M&O Core	0.40				0.40
2.3 Computing And Data Ma	2.3.3 Computing Resources	US	UW	IT	STOCK, BENJAMIN	Maintain and operate Virtual Machines deployment infrastrucutre.	NSF M&O Core	0.40				0.40
2.3 Computing And Data Ma	2.3.3 Computing Resources	US	UW	IT	STOCK, BENJAMIN	Maintain Core Computing Infrastructure Systems	NSF M&O Core	0.20				0.20
2.3 Computing And Data Ma	2.3.3 Computing Resources	US	UW	IT	BARNET, STEVE	Maintain High Performance Computing services.	NSF M&O Core	0.20				0.20
2.3 Computing And Data Ma	2.3.3 Computing Resources	US	UW	IT	BARNET, STEVE	Networking and security maintenance	NSF M&O Core	0.10				0.10
2.3 Computing And Data Ma	2.3.3 Computing Resources	US	UW	IT	BARNET, STEVE	Coordination with Operations and Cybersecurity manager	NSF M&O Core	0.10				0.10
2.3 Computing And Data Ma	2.3.3 Computing Resources	US	UW	IT	BRIK, VLADIMIR	Maintain High Performance Computing services	NSF M&O Core	0.50				0.50
2.3 Computing And Data Ma	2.3.3 Computing Resources	US	UW	IT	WISNIEWSKI, PAUL	Data Center Facilities manager (power and cooling)	NSF M&O Core	0.10				0.10

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WBS L2	WBS L3	US / Non-US	Institution	Lab or Cat.	Names	Tasks	Source of Funds (U.S. Only)	NSF M&O Core	NSF Base Grants	U.S. Institutional In-Kind	Europe & Asia Pacific In-Kind	Grand Total
2.3 Computing And Data Ma	2.3.3 Computing Resources	US	UW	IT	WISNIEWSKI, PAUL	Maintain Data Center Infrastructure	NSF M&O Core	0.15				0.15
2.3 Computing And Data Ma	2.3.3 Computing Resources	US	UW	IT	BRIK, VLADIMIR	Maintain Core Computing Infrastructure Systems	NSF M&O Core	0.50				0.50
2.3 Computing And Data Ma	2.3.3 Computing Resources	US	UW	IT	SEBRANEK, CHAD	IceCube Web Development	NSF M&O Core	0.25				0.25
2.3 Computing And Data Ma	2.3.3 Computing Resources	US	US Total					3.40	0.00	0.60		4.00
2.3 Computing And Data Ma	2.3.3 Computing Resources	Non-US	DESY	IT	DESY IT	European Data Center -Distributed Computing and Labor	Non-US In-kind				1.00	1.00
2.3 Computing And Data Ma	2.3.3 Computing Resources	Non-US	DESY	KE	ACKERMANN, MARKUS	DESY TIER-1 coordination	Non-US In-kind				0.20	0.20
2.3 Computing And Data Ma	2.3.3 Computing Resources	Non-US	DTMND	SC	PIELOTH, DAMIAN	Coordinate GRID computing in Germany	Non-US In-kind				0.25	0.25
2.3 Computing And Data Ma	2.3.3 Computing Resources	Non-US	UMH	GR	KOHNNEN, GEORGES	IC database management	Non-US In-kind				0.30	0.30
2.3 Computing And Data Ma	2.3.3 Computing Resources	Non-US	Non-US Total								1.75	1.75
2.3 Computing And Data Ma	2.3.3 Computing Resources	WBS L3 Total						3.40	0.00	0.60	1.75	5.75
2.3 Computing And Data Ma	2.3.4 Data Production Processing	US	DREXEL	GR	WILLS, ELIZABETH	HESE Online system	US In-Kind			0.25		0.25
2.3 Computing And Data Ma	2.3.4 Data Production Processing	US	UMD	PO	FELDE, JOHN	Implement near real time GRB analysis	Base Grants		0.30			0.30
2.3 Computing And Data Ma	2.3.4 Data Production Processing	US	UW	CS	MEADE, PATRICK	Maintain Data handling software (JADE): Archive at the S. Pole, transfer and ingest to the UW Data Warehouse.	NSF M&O Core	0.50				0.50
2.3 Computing And Data Ma	2.3.4 Data Production Processing	US	UW	CS	MEADE, PATRICK	Maintain Data Warehouse Standards, Web Interface to the Data Warehouse and Data Access services (ftp/http).	NSF M&O Core	0.10				0.10
2.3 Computing And Data Ma	2.3.4 Data Production Processing	US	UW	DS	OERTLIN JAN	Transformation of Data for Long-Term Persistence and Archival. Run Common Reconstructions (Level2)	NSF M&O Core	0.20				0.20
2.3 Computing And Data Ma	2.3.4 Data Production Processing	US	US Total					0.80	0.30	0.25		1.35
2.3 Computing And Data Ma	2.3.4 Data Production Processing	Non-US	Non-US Total								0.00	0.00
2.3 Computing And Data Ma	2.3.4 Data Production Processing	WBS L3 Total						0.80	0.30	0.25	0.00	1.35
2.3 Computing And Data Ma	2.3.5 Simulation Production	US	LBNL	PO	TATAR, JOULIEN	Simulation production site manager	Base Grants		0.10			0.10
2.3 Computing And Data Ma	2.3.5 Simulation Production	US	MSU	PO	HIGNIGHT, JOSHUA	Simulation Production	US In-Kind			0.08		0.08
2.3 Computing And Data Ma	2.3.5 Simulation Production	US	MSU	PO	JOAO PEDRO DE ANDRÉ	Simulation Production, IceSim vetting for LowEn	US In-Kind			0.08		0.08
2.3 Computing And Data Ma	2.3.5 Simulation Production	US	PSU	PO	ELLER, PHILIPP	Simulation Production	Base Grants		0.08			0.08
2.3 Computing And Data Ma	2.3.5 Simulation Production	US	OSU	PO	SUTHERLAND, MICHAEL	Simulation Production	US In-Kind			0.10		0.10
2.3 Computing And Data Ma	2.3.5 Simulation Production	US	UMD	GR	MAUNU, RYAN	Simulation production site manager	Base Grants		0.20			0.20
2.3 Computing And Data Ma	2.3.5 Simulation Production	US	UW	SC	DESIATI, PAOLO	Coordination of Simulation Production, identifying resources, streamlining programs for the cloud, GPU	NSF M&O Core	0.30				0.30
2.3 Computing And Data Ma	2.3.5 Simulation Production	US	UW	SC	DESIATI, PAOLO	Simulation Production Manager	NSF M&O Core	0.30				0.30
2.3 Computing And Data Ma	2.3.5 Simulation Production	US	UW	SC	DESIATI, PAOLO	Simulation Production panel chair	US In-Kind			0.10		0.10
2.3 Computing And Data Ma	2.3.5 Simulation Production	US	UW	PO	DAY, MELANIE	Low energy simulation production	Base Grants		0.30			0.30
2.3 Computing And Data Ma	2.3.5 Simulation Production	US	UW	DS	DIAZ-VELEZ, JUAN CARLOS	Maintain Simulation Production Software, maintain, test and update physics aspects of the atmospheric muon and neutrino simulation	NSF M&O Core	0.40				0.40
2.3 Computing And Data Ma	2.3.5 Simulation Production	US	UW	DS	OERTLIN JAN	Simulation Production Coordination; production configurations, test production and web portal.	NSF M&O Core	0.50				0.50
2.3 Computing And Data Ma	2.3.5 Simulation Production	US	UW	DS	SCHULTZ, DAVID	Simulation Production	NSF M&O Core	0.50				0.50
2.3 Computing And Data Ma	2.3.5 Simulation Production	US	UW	DS	DELVENTHAL, DAVID	Simulation Production software development	NSF M&O Core	1.00				1.00
2.3 Computing And Data Ma	2.3.5 Simulation Production	US	US Total					3.00	0.68	0.36		4.04
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	DESY	GR	DESY GR	Simulation Production Cluster	Non-US In-kind				0.15	0.15
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	DESY	SC	Santen, Jakob	Simulation production site manager in DESY	Non-US In-kind				0.20	0.20

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2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	DTMND	GR	BÖRNER, MATHIS	Simulation production site manager at Dortmund	Non-US In-kind				0.30	0.30
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	MAINZ	GR	EHRHARD, THOMAS	SimProd maintenance	Non-US In-kind				0.30	0.30
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	RWTH	GR	REIMAN, RENE	AC-RZ GPU/CPU cluster maint. iceprod and mass production	Non-US In-kind				0.30	0.30
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	RWTH	GR	HAACK, CHRISTIAN	Simulation Production on cluster/GRID	Non-US In-kind				0.30	0.30
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	RWTH	GR	VEHRING, MARKUS	Low energy Simulation Production	Non-US In-kind				0.10	0.10
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	ULB	KE	AGUILAR SANCHEZ JUAN ANTONIO	Simulation coordination board member	Non-US In-kind				0.10	0.10
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	ULB	CS	AMARY, SAMIR	Simulation Production Site Manager at ULB	Non-US In-kind				0.10	0.10
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	ALBERTA	KE	KOPPER, CLAUDIO	Simulation coordination board member	Non-US In-kind				0.10	0.10
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	ALBERTA	KE	KOPPER, CLAUDIO	GPU computing resources	Non-US In-kind				0.10	0.10
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	ALBERTA	PO	WEAVER, CHRIS	High energy event generator (leptoninjector), PMT simulation, atmospheric flux library	Non-US In-kind				0.40	0.40
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	ALBERTA	PO	WEAVER, CHRIS	Simulation production site manager at Compute Canada Resource Allocation	Non-US In-kind				0.20	0.20
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	ALBERTA	GR	NOWICKI, SARAH	Clsim photon table production	Non-US In-kind				0.25	0.25
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	ALBERTA	GR	NOWICKI, SARAH	Compute Canada Resource Allocation	Non-US In-kind				0.20	0.20
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	WUPPERTAL	GR	WUPPERTAL GR	Simulation Production	Non-US In-kind				0.20	0.20
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	NBI	GR	LARSON, MICHAEL	IC86 MuonGun	Non-US In-kind				0.10	0.10
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	Toronto	KE	CLARK, KENNETH	SciNet computing	Non-US In-kind				0.25	0.25
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	Toronto	KE	CLARK, KENNETH	GENIE maintenance	Non-US In-kind				0.10	0.10
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	UMH	GR	KOHENEN, GEORGES	Simulation Production	Non-US In-kind				0.25	0.25
2.3 Computing And Data Ma	2.3.5 Simulation Production	Non-US	Non-US Total								4.00	4.00
2.3 Computing And Data Ma	2.3.5 Simulation Production	WBS L3 Total						3.00	0.68	0.36	4.00	8.04
2.3 Computing And Data M	WBS L2 Total							14.60	1.56	1.69	6.35	24.20
2.4 Triggering And Filtering	2.4.1 TFT Coordination	US	UA	KE	WILLIAMS, DAWN	TFT Board member	US In-Kind			0.10		0.10
2.4 Triggering And Filtering	2.4.1 TFT Coordination	US	UD	KE	SECKEL, DAVID	TFT Board member	US In-Kind			0.10		0.10
2.4 Triggering And Filtering	2.4.1 TFT Coordination	US	UD	GR	KOIRALA, RAMESH	Two station trigger	Base Grants		0.10			0.10
2.4 Triggering And Filtering	2.4.1 TFT Coordination	US	UW	SC	KAUER, MATTHEW	TFT Board member	US In-Kind			0.10		0.10
2.4 Triggering And Filtering	2.4.1 TFT Coordination	US	UMD	SC	BLAUFUSS, ERIK	Filter requests, bandwidth, TFT Board Member	NSF M&O Core	0.30				0.30
2.4 Triggering And Filtering	2.4.1 TFT Coordination	US	UMD	GR	FREIDMAN, LIZ	Prepare datasets for filter testing and common MC datasets for testing	Base Grants		0.10			0.10
2.4 Triggering And Filtering	2.4.1 TFT Coordination	US	US Total					0.30	0.20	0.30		0.80
2.4 Triggering And Filtering	2.4.1 TFT Coordination	Non-US	ALBERTA	KE	KOPPER, CLAUDIO	L2 manager	Non-US In-kind				0.10	0.10
2.4 Triggering And Filtering	2.4.1 TFT Coordination	Non-US	DESY	KE	KARG, TIMO	TFT Board member	Non-US In-kind				0.10	0.10
2.4 Triggering And Filtering	2.4.1 TFT Coordination	Non-US	UU	KE	HALLGREN, ALLAN	TFT Board Chair	Non-US In-kind				0.25	0.25
2.4 Triggering And Filtering	2.4.1 TFT Coordination	Non-US	UU	KE	DE LOS HEROS, CARLOS	TFT Board member	Non-US In-kind				0.10	0.10
2.4 Triggering And Filtering	2.4.1 TFT Coordination	Non-US	Non-US Total								0.55	0.55
2.4 Triggering And Filtering	2.4.1 TFT Coordination	WBS L3 Total						0.30	0.20	0.30	0.55	1.35
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	UA	KE	WILLIAMS, DAWN	Tau WG Chair	US In-Kind			0.25		0.25
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	UAA	KE	RAWLINS, KATHERINE	Cosmic Ray WG co-convener	US In-Kind			0.20		0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	DREXEL	KE	NEILSON, NAOKO	Point Source WG Lead	US In-Kind			0.25		0.25
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	DREXEL	KE	NEILSON, NAOKO	Splitting – Q/P frame and coincidence	US In-Kind			0.05		0.05
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	DREXEL	GR	RELETFORD, BEN	Astrophysical diffuse component in the Point Source data	US In-Kind			0.20		0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	SBU	KE	KIRYLUK, JOANNA	Cascade WG Co-Chair	US In-Kind			0.25		0.25
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	UCB	SC	WOSCHNAGG, KURT	Low-energy / Oscillation WG Co-Chair	Base Grants		0.25			0.25
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	GTECH	KE	TABOADA, IGNACIO	GRB WG Chair	Base Grants		0.25			0.25
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	UMD	PO	FELDE, JOHN	GRB filters	Base Grants		0.20			0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	SBU	GR	NIEDERHAUSEN, HANS	Low Energy	Base Grants		0.10			0.10

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2.4 Triggering And Filtering	2.4.2 Physics Filters	US	SBU	GR	YIQIAN XU	Cascade filters	Base Grants		0.15			0.15
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	UW	GR	FAHEY, SAM	Trigger simulations	Base Grants		0.20			0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	UWRF	KE	SEUNARINE, SURUJ	Calibration-Flasher Studies	US In-Kind			0.20		0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	US Total					0.00	1.15	1.40	0.00	2.55
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	BOCHUM	GR	BOS, FABIAN	Moon filter	Non-US In-kind				0.10	0.10
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	ALBERTA	KE	KOPPER, CLAUDIO	Co-convener Diffuse WG	Non-US In-kind				0.25	0.25
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	CHIBA	SC	ISHIHARA, AYA	EHE Filters	Non-US In-kind				0.15	0.15
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	DESY	KE	KARG, TIMO	CR WG co-chair	Non-US In-kind				0.25	0.25
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	HUMBOLDT	GR	VOGE, MARKUS	Online L2 Filter, single event stream	Non-US In-kind				0.20	0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	MAINZ	GR	SANDROOS, JOAKIM	Low-Energy filter /HiveSplitter	Non-US In-kind				0.20	0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	MAINZ	GR	STEUER, ANNA	HESE filter / Hitspooling	Non-US In-kind				0.30	0.30
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	UC	GR	MUNAWARA, KIRAN	Cascade filters	Non-US In-kind				0.20	0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	UC	GR	BAGHERPOUR, HADIS	Cascade filters	Non-US In-kind				0.20	0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	SKKU	KE	ROTT, CARSTEN	BSM WG Co-Chair	Non-US In-kind				0.25	0.25
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	SKKU	PO	BOSE, DEBANJAN	WIMP-L2	Non-US In-kind				0.20	0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	SKKU	GR	IN, SEONGJUN	Online filter development & testing (Low up filter)	Non-US In-kind				0.20	0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	SKKU	GR	Dujmovic, Hrvoje	Online filter development & testing (Full Sky Starting Filter)	Non-US In-kind				0.20	0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	SU	KE	FINLEY, CHAD	Point Source WG Chair	Non-US In-kind				0.25	0.25
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	SU	KE	HULTQVIST, KLAS	Diffuse WG Co-chair	Non-US In-kind				0.25	0.25
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	SU	PO	DUMM, JONATHAN	Online filter	Non-US In-kind				0.15	0.15
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	SU	PO	DUMM, JONATHAN	WG Lead - Muon channel	Non-US In-kind				0.25	0.25
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	SU	GR	AHRENS, MARYON	PhD-related work	Non-US In-kind				0.10	0.10
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	VUB	GR	DeWasseige, Gwenhael	Optimization of hitspooling for SN and solar flares	Non-US In-kind				0.50	0.50
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	DTMND	SC	RUHE, TIM	Physics filters	Non-US In-kind				0.20	0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	DTMND	GR	MENNE, THORBEN	Physics filters	Non-US In-kind				0.20	0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	DTMND	GR	SCHLUNDER, PHILLIPP	Physics filters	Non-US In-kind				0.20	0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	DTMND	GR	MEIER, MAXIMILIAN	Physics filters	Non-US In-kind				0.20	0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	WUPPERTAL	GR	WUPPERTAL GR	New SUSY Filter	Non-US In-kind				0.20	0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	RWTH	GR	LEIF, RADEL	L3 IC86-x muon data stream, Skripts & Monitoring	Non-US In-kind				0.20	0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	ULB	KE	AGUILAR SANCHEZ JUAN ANTONIO	Muon working group co-Chair	Non-US In-kind				0.25	0.25
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	ULB	GR	Ansseau, Isabelle	Vertical event filter, IceSim 3 vs 4 comparisons	Non-US In-kind				0.20	0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	DPNC	GR	ASEN, CHRISTOV	L3 Filter for point sources	Non-US In-kind				0.30	0.30
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	DPNC	GR	CARVER, TESSA	Muon filter	Non-US In-kind				0.20	0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	DPNC	GR	BRON, STEPHANIE	MESE filtering	Non-US In-kind				0.20	0.20
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	NBI	KE	KOSKINEN, JASON	Low-energy / Oscillation WG Co-Chair	Non-US In-kind				0.25	0.25
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	Non-US Total								6.80	6.80
2.4 Triggering And Filtering	2.4.2 Physics Filters	WBS L3 Total						0.00	1.15	1.40	6.80	9.35
2.4 Triggering And Filtering	WBS L2 Total							0.30	1.35	1.70	7.35	10.70
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	MIT	GR	COLLIN, GABRIEL	NuSQUIDS model update	US In-Kind			0.50		0.50
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	MIT	GR	AXANI, SPENCER	Earth & Atmos simulations for systematic error studies	US In-Kind			0.10		0.10
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	MIT	PO	ARGUELLES, CARLOS	NuSQUIDS, NuSFGen, and MC reweighting development	US In-Kind			0.30		0.30
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	MSU	KE	MAHN, KENDALL	Integration of GENIE for low energy systematics	US In-Kind			0.10		0.10
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	MSU	PO	HIGNIGHT, JOSHUA	Integration of GENIE for low energy systematics	US In-Kind			0.20		0.20
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	ROCHESTER	KE	BENZVI, SEGEV	Supernova and transient simulations	US In-Kind			0.15		0.15
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	ROCHESTER	GR	CROSS, ROBERT	Supernova and transient simulations	US In-Kind			0.20		0.20
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	SDSMT	KE	XINHUA, BAI	Muon yield in PeV-EeV showers & systematics	US In-Kind			0.15		0.15
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	SDSMT	GR	DVORAK, EMILY	Atmospheric muon & neutrino simulation for cosmic ray & neutrino studies	US In-Kind			0.40		0.40
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	SUBR	KE	FAZELY, ALI	GEANT Simulation	US In-Kind			0.15		0.15
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	SUBR	SC	XIANWU, XU	Simulation Programs	US In-Kind			0.15		0.15

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WBS L2	WBS L3	US / Non-US	Institution	Lab or Cat.	Names	Tasks	Source of Funds (U.S. Only)	NSF M&O Core	NSF Base Grants	U.S. Institutional In-Kind	Europe & Asia Pacific In-Kind	Grand Total
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	OSU	PO	STAMATIKOS, MICHAEL	GRB Analysis Tools	US In-Kind			0.05		0.05
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	UA	GR	PEPPER, JAMES	Dark Matter signal simulation	Base Grants		0.15			0.15
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	UCB	SC	WOSCHNAGG, KURT	Maintain and Verify Simulation of Photon Propagation and update Ice Properties	NSF M&O Core	0.375				0.38
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	UD	PO	GONZALEZ, JAVIER	Simulation Production Site Manager for UD	Base Grants		0.25			0.25
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	UD	GR	PANDYA, HERSHAL	sim-services	Base Grants		0.10			0.10
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	UW	SC	CHIRKIN, DMITRY	Maintain and Verify Simulation of Photon Propagation and update Ice Properties	NSF M&O Core	0.40				0.40
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	UW	SC	HOSHINA, KOTOYO	nugen maintenance	NSF M&O Core	0.25				0.25
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	UW	GR	JERO, KYLE	Veto simulation	Base Grants		0.20			0.20
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	UW	DS	DIAZ-VELEZ, JUAN CARLOS	Simulation programs (detector response)	NSF M&O Core	0.25				0.25
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	US	US Total					1.28	0.70	2.45		4.43
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	Non-US	DTMND	GR	FUCHS, THOMAS	PROPOSAL-IceProd integration and maintenance/support	Non-US In-kind				0.50	0.50
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	Non-US	DTMND	GR	SANDROCK, ALEXANDER	PROPOSAL-IceProd Integration and optimization	Non-US In-kind				0.50	0.50
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	Non-US	DPNC	PO	HELLER, MATTHIEU	Update of NeutrinoFlux	Non-US In-kind				0.20	0.20
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	Non-US	SU	GR	FLIS, SAMUEL	DOM simulation	Non-US In-kind				0.15	0.15
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	Non-US	GENT	GR	UGENT GR	Support IceTop Simulations, IceTop Calibrations, IceTop Reconstruction	Non-US In-kind				0.40	0.40
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	Non-US	BOCHUM	KE	TJUS, JULIA	Development PROPOSAL simulation software	Non-US In-kind				0.10	0.10
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	Non-US	BOCHUM	GR	SCHÖNEBERG, SEBASTIAN	Developing / maintaining ANFlux	Non-US In-kind				0.10	0.10
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	Non-US	NBI	GR	LARSON, MICHAEL	Correlated noise and long-frame CORSIKA	Non-US In-kind				0.15	0.15
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	Non-US	NBI	GR	LARSON, MICHAEL	PINGU CORSIKA	Non-US In-kind				0.10	0.10
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	Non-US	NBI	GR	MEDICI, MORTEN	DOM noise and quantum efficiency	Non-US In-kind				0.15	0.15
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	Non-US	ERLANGEN	GR	CLASSEN, LEW	multi-PMT DOM development and simulations	Non-US In-kind				0.05	0.05
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	Non-US	ERLANGEN	GR	TSELENGEDOU, MARIA	Simulation verification	Non-US In-kind				0.20	0.20
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	Non-US	ERLANGEN	GR	KITTLER, THOMAS	Simulation verification, reconstruction development	Non-US In-kind				0.40	0.40
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	Non-US	HUMBOLDT	KE	KOWALSKI, MAREK	Simulation tools	Non-US In-kind				0.05	0.05
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	Non-US	RWTH	GR	VEHRING, MARKUS	CLSIM Hyrid maintenance	Non-US In-kind				0.05	0.05
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	Non-US	RWTH	GR	HAACK, CHRISTIAN	Maintenance / Addition of seasons weights to nflux module	Non-US In-kind				0.05	0.05
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	Non-US	RWTH	GR	SCHOENEN, SEBASTIAN	KDE Tools KDE and multi-llh	Non-US In-kind				0.10	0.10
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	Non-US	Non-US Total					1.28	0.70	2.45	3.25	3.25
2.5 Data Quality, Reconstru	2.5.1 Simulation Programs	WBS L3 Total						1.28	0.70	2.45	3.25	7.68
2.5 Data Quality, Reconstru	2.5.2 Reconstruction/ Analysis Tools	US	LBNL	GR	MIARECKI, SANDRA	Algorithm for measuring muon energy	Base Grants		0.10			0.10
2.5 Data Quality, Reconstru	2.5.2 Reconstruction/ Analysis Tools	US	LBNL	GR	BINDER, GARY	PMT saturation corrections for analysis	Base Grants		0.05			0.05
2.5 Data Quality, Reconstru	2.5.2 Reconstruction/ Analysis Tools	US	MARQUETTE	KE	ANDEEN, KAREN	3-year Cosmic Ray Composition Analysis	US In-Kind			0.10		0.10
2.5 Data Quality, Reconstru	2.5.2 Reconstruction/ Analysis Tools	US	MIT	PO	SAFDI, BEN	NonPoisson Template Fitting Code	US In-Kind			0.30		0.30
2.5 Data Quality, Reconstru	2.5.2 Reconstruction/ Analysis Tools	US	MIT	GR	RODD, NICK	NonPoissonian Template Fitting code	US In-Kind			0.25		0.25
2.5 Data Quality, Reconstru	2.5.2 Reconstruction/ Analysis Tools	US	MSU	PO	JOAO PEDRO DE ANDRÉ	Low energy reconstruction techniques for DeepCore	US In-Kind			0.20		0.20
2.5 Data Quality, Reconstru	2.5.2 Reconstruction/ Analysis Tools	US	MSU	GR	NEER, GARRETT	Development of noise cleaning for vuvzela noise	US In-Kind			0.50		0.50

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2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	MSU	GR	RYSEWYK, DEVYN	Work on improved modeling of hadronic showers in reconstruction	US In-Kind			0.08		0.08
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	PSU	PO	ELLER, PHILIPP	Develop analysis tools for systematics study; PISA development	Base Grants		0.20			0.20
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	PSU	GR	KEIVANI, AZADEH	Integrate IceCube into AMON	US In-Kind			0.25		0.25
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	ROCHESTER	KE	BENZVI, SEGEV	Supernova light curve and transient monitoring tools	US In-Kind			0.15		0.15
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	SUBR	KE	FAZELY, ALI	Reconstruction/ Analysis tools	US In-Kind			0.15		0.15
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	SUBR	SC	XIANWU, XU	Reconstruction/ Analysis tools	US In-Kind			0.15		0.15
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	UA	KE	TOALE, PATRICK	Tau reconstruction tools	US In-Kind			0.05		0.05
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	DREXEL	KE	NEILSON, NAKO	Optimization of veto techniques for PS	US In-Kind			0.10		0.10
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	DREXEL	GR	WILLS, ELIZABETH	Shadow of Moon study of IceCube performance	US In-Kind			0.20		0.20
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	UD	PO	GONZALEZ, JAVIER	Software maintenance : Event reco and corsika reader	Base Grants		0.20			0.20
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	UD	PO	DEMBINSKI, HANS	Code review strike team; IceTop simulations	Base Grants		0.30			0.30
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	UAA	KE	RAWLINS, KATHERINE	Snow correction for IceTop	US In-Kind			0.20		0.20
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	UMD	PO	FELDE, JOHN	Develop & test reconstruction	Base Grants		0.10			0.10
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	UMD	GR	MAUNU, RYAN	Reconstruction/ Analysis tools	Base Grants		0.13			0.13
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	UMD	SC	OLIVAS, ALEX	SW Coordinator – Data Quality, Reconstruction and Sim. Programs	NSF M&O Core	0.25				0.25
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	UMD	GR	CHEUNG, ELIM	Low energy Reco./Analysis tools	Base Grants		0.25			0.25
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	PSU	GR	HUANG, FEIFEI	Develop analysis tools for systematics study; PISA development	US In-Kind			0.20		0.20
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	PSU	GR	LANFRANCHI, JUSTIN	Low energy event reconstruction quality; PISA development	US In-Kind			0.47		0.47
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	SBU	GR	NIEDERHAUSEN, HANS	Cascade reconstruction	Base Grants		0.05			0.05
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	SBU	GR	NIEDERHAUSEN, HANS	Simulations low energy (cascades)	Base Grants		0.15			0.15
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	SBU	GR	YIQIAN XU	Flashers/Standard Candle	Base Grants		0.10			0.10
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	SDSMT	GR	DVORAK, EMILY	Prompt signals in high energy air showers	US In-Kind			0.55		0.55
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	UW	SC	CHIRKIN, DMITRY	Reconstruction software	NSF M&O Core	0.25				0.25
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	UW	GR	JERO, KYLE	Event reconstruction, angular resolution	Base Grants		0.20			0.20
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	UW	GR	TOBIN, MORIAH	Low energy event reconstruction (BiPed), spline service	Base Grants		0.30			0.30
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	UWRF	KE	SEUNARINE, SURUJ	Low-Energy Extensions of IceTop	US In-Kind			0.10		0.10
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	Yale	KE	MARUYAMA, REINA	Coincident events between IceCube and DM-Ice, low energy reconstruction	US In-Kind			0.05		0.05
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	US	Yale	GR	HUBBARD, ANTONIA	Coincident events between IceCube and DM-Ice, characterization of untriggered IceCube events, low energy reconstruction	US In-Kind			0.05		0.05
		US	US Total					0.50	2.13	4.10		6.73
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	ADELAIDE	KE	HILL, GARY	Event energy and direction reconstruction, millipede	Non-US In-kind				0.40	0.40
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	ADELAIDE	PO	WHELAN, BEN	Event energy and direction reconstruction, millipede	Non-US In-kind				1.00	1.00
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	ADELAIDE	GR	AARTSEN, MARK	Event energy and direction reconstruction, millipede	Non-US In-kind				0.50	0.50
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	ALBERTA	GR	WOOD, TANIA	Calibrations with LED and minimum ionizing muons	Non-US In-kind				0.35	0.35
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	UC	GR	MUNAWARA, KIRAN	Flasher	Non-US In-kind				0.10	0.10

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2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	CHIBA	KE	YOSHIDA, SHIGERU	Maintain Romeo, EHE Simulations, Calibration using Standard Candles	Non-US In-kind				0.20	0.20	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	CHIBA	KE	KEIICHI MASE	Maintain Romeo, EHE Simulations, Maintain reconstruction projects (Portia), MC/Data comparison for EHE-filtered and IceTop events, Standard Candle Analysis	Non-US In-kind				0.20	0.20	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	CHIBA	SC	ISHIHARA, AYA	Maintain Portia and the SC data filtering	Non-US In-kind				0.15	0.15	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	CHIBA	PO	RELICH, MATTHEW	EHE online pipeline for gamma-ray follow-up	Non-US In-kind				0.15	0.15	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	DESY	SC	YANEZ, JUAN-PABLO	Low-energy reconstruction	Non-US In-kind				0.10	0.10	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	DESY	SC	Santen, Jakob	Spline fits	Non-US In-kind				0.15	0.15	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	DESY	GR	MOHRMANN, LARS	Likelihood fit package	Non-US In-kind				0.10	0.10	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	DESY	GR	KINTSCHER, THOMAS	Gamma-ray follow up program maintenance	Non-US In-kind				0.10	0.10	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	DESY	GR	TERLIUK, ANDRII	Reconstruction Release Manager, Maintain Reconstruction Framework, DeepCore reconstruction	Non-US In-kind				0.30	0.30	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	DESY	GR	USNER, MARCEL	Spline fits with anisotropy	Non-US In-kind				0.30	0.30	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	DESY	GR	STASIK, ALEXANDER	Online singlet stream	Non-US In-kind				0.20	0.20	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	ULB	KE	AGUILAR SANCHEZ JUAN ANTONIO	GRB, point-sources	Non-US In-kind				0.05	0.05	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	ULB	GR	Raab, Christoph	Muon reconstructions for IceCube-Gen2	Non-US In-kind				0.25	0.25	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	RWTH	GR	WALLRAFF, MARIUS	nuCraft	Non-US In-kind				0.05	0.05	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	RWTH	GR	HAACK, CHRISTIAN	Diffuse fit tool	Non-US In-kind				0.20	0.20	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	RWTH	GR	LEUERMANN, MARTIN	PegLeg Reconstruction	Non-US In-kind				0.30	0.30	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	RWTH	GR	LEUERMANN, MARTIN	OscFit extension	Non-US In-kind				0.10	0.10	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	RWTH	GR	REIMAN, RENE	Point-source search methods	Non-US In-kind				0.10	0.10	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	RWTH	GR	SCHOENEN, SEBASTIAN	Diffuse fit tool	Non-US In-kind				0.10	0.10	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	SKKU	PO	BOSE, DEBANJAN	Photon tracking / ice-properties calibration	Non-US In-kind				0.20	0.20	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	VUB	KE	VAN EIJNDHOVEN, NICK	development of reconstruction tools (IcePack framework)	Non-US In-kind				0.25	0.25	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	VUB	PO	DE VRIES, KRIJN	muon track reconstruction in IceCube and DeepCore	Non-US In-kind				0.25	0.25	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	VUB	PO	Lünemann, Jan	Low energy muon reconstruction	Non-US In-kind				0.25	0.25	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	VUB	PO	Toscano, Simona	optimization of the geometry and the track reconstruction	Non-US In-kind				0.50	0.50	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	VUB	GR	GIULIANO, MAGGI	muon track reconstruction in IceCube and DeepCore	Non-US In-kind				0.25	0.25	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	ALBERTA	KE	KOPPER, CLAUDIO	IceTray framework maintenance	Non-US In-kind				0.05	0.05	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	ALBERTA	KE	KOPPER, CLAUDIO	Maintenance of clsim direct photon propagation tool	Non-US In-kind				0.10	0.10	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	WUPPERTAL	GR	WUPPERTAL GR	New SUSY Reconstruction, Simulation, Propagation, Monopole, Photonics, muon detection with IceTop	Non-US In-kind				0.60	0.60	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	ERLANGEN	GR	ALTMANN, DAVID	Track reconstruction	Non-US In-kind				0.10	0.10	
2.5 Data Quality, Reconstruction Tools	2.5.2 Reconstruction/ Analysis Tools	Non-US	Toronto	KE	CLARK, KENNETH	Development of low-energy reconstruction techniques	Non-US In-kind				0.10	0.10	
		Non-US	Non-US Total								8.10	8.10	
		WBS L3 Total							0.50	2.13	4.10	8.10	14.83
2.5 Data Quality, Reconstruction Tools	2.5.3 Data Quality	US	UD	SC	TILAV, SERAP	Data monitoring	US In-Kind				0.10	0.10	
		US	US Total						0.00	0.00	0.10	0.10	

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2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	MAINZ	GR	WIEBE, KLAUS	Low energy systematics	Non-US In-kind				0.20	0.20
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	TUM	PO	MPI PO	Data Quality & DeepCore	Non-US In-kind				0.60	0.60
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	DPNC	GR	ASEN, CHRISTOV	Data and Simulation Quality	Non-US In-kind				0.10	0.10
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	DPNC	GR	CARVER, TESSA	Data and Simulation Quality	Non-US In-kind				0.30	0.30
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	DPNC	GR	BRON, STEPHANIE	Data and Simulation Quality	Non-US In-kind				0.30	0.30
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	DPNC	PO	HELLER, MATTHIEU	Data and Simulation Quality	Non-US In-kind				0.05	0.05
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	VUB	KE	VAN EIJDHOVEN, NICK	data quality verification	Non-US In-kind				0.25	0.25
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	VUB	GR	GIULIANO, MAGGI	AGN analysis	Non-US In-kind				0.25	0.25
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	VUB	PO	DE VRIES, KRIJN	GRB/AGN analysis	Non-US In-kind				0.25	0.25
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	Non-US Total								2.30	2.30
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	WBS L3 Total						0.00	0.00	0.10	2.30	2.40
2.5 Data Quality, Reconstruction	2.5.4 Offline Data Processing	US	UW	PO	WANDKOWSKY, NANCY	Level 2 offline processing – co-coordinator	Base Grants		0.20			0.20
2.5 Data Quality, Reconstruction	2.5.4 Offline Data Processing	US	MSU	PO	HIGNIGHT, JOSHUA	Low energy L3 maintainer	US In-Kind				0.08	0.08
2.5 Data Quality, Reconstruction	2.5.4 Offline Data Processing	US Total						0.00	0.20	0.08		0.28
2.5 Data Quality, Reconstruction	2.5.4 Offline Data Processing	Non-US	Non-US Total								0.00	0.00
2.5 Data Quality, Reconstruction	2.5.4 Offline Data Processing	WBS L3 Total						0.00	0.20	0.08	0.00	0.28
2.5 Data Quality, Reconstruction	WBS L2 Total							1.78	3.03	6.73	13.65	25.18
Grand Total								36.94	9.00	16.48	37.69	100.10

Changes since last official version are colored red