

IceCube M&O Staffing Matrix sort by WBS v28.0 2020.06

WBS L2	WBS L3	Institution	Lab or Cat.	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. Institutional In-Kind	Non-U.S. Institutional In-Kind	Grand Total	
2.1 Program Management	2.1.1 Administration	LBNL	KE	KLEIN,SPENCER	Supervise LBNL effort	0.05				0.05	
2.1 Program Management	2.1.1 Administration	LBNL	KE	KLEIN,SPENCER	Gen2 HEA/Surface working group			0.05		0.05	
2.1 Program Management	2.1.1 Administration	UW	MA	MADSEN, JIM	Associate Director for Education & Outreach	0.50				0.50	
2.1 Program Management	2.1.1 Administration	DREXEL	KE	NEILSON, NAOKO	ICB member			0.05		0.05	
2.1 Program Management	2.1.1 Administration	GTECH	KE	TABOADA, IGNACIO	Member of the IceCube Impact Award committee		0.05			0.05	
2.1 Program Management	2.1.1 Administration	GTECH	KE	TABOADA, IGNACIO	ICB member			0.05		0.05	
2.1 Program Management	2.1.1 Administration	MARQUETTE	KE	ANDEEN, KAREN	Program Administration			0.20		0.20	
2.1 Program Management	2.1.1 Administration	MERCER	KE	MCNALLY, FRANK	Program administration			0.10		0.10	
2.1 Program Management	2.1.1 Administration	HARVARD	KE	ARGUELLES, CARLOS	Beyond Standard Model working group technical leader and ICB member			0.20		0.20	
2.1 Program Management	2.1.1 Administration	MIT	KE	CONRAD, JANET	ICB member			0.05		0.05	
2.1 Program Management	2.1.1 Administration	MSU	KE	GRANT, DARREN	Collaboration Spokesperson			0.50		0.50	
2.1 Program Management	2.1.1 Administration	MSU	KE	GRANT, DARREN	ExecCom member			0.20		0.20	
2.1 Program Management	2.1.1 Administration	MSU	KE	DEYOUNG, TYCE	ExecCom member			0.05		0.05	
2.1 Program Management	2.1.1 Administration	PSU	PO	ELLER, PHILIPP	ICC member		0.05			0.05	
2.1 Program Management	2.1.1 Administration	UD	KE	SECKEL, DAVID	Institutional Lead			0.10		0.10	
2.1 Program Management	2.1.1 Administration	UD	KE	SCHROEDER, FRANK	TFT Board			0.05		0.05	
2.1 Program Management	2.1.1 Administration	UD	SC	TILAV, SERAP	ICC member	0.05				0.05	
2.1 Program Management	2.1.1 Administration	UD	SC	TILAV, SERAP	M&O management	0.05				0.05	
2.1 Program Management	2.1.1 Administration	UD	PO	SOLDIN, DENNIS	ICC member		0.05			0.05	
2.1 Program Management	2.1.1 Administration	UD	PO	SOLDIN, DENNIS	CR-WG co-lead		0.20			0.20	
2.1 Program Management	2.1.1 Administration	UMD	KE	SULLIVAN, GREG	ExecCom member			0.20		0.20	
2.1 Program Management	2.1.1 Administration	UMD	KE	SULLIVAN, GREG	M&O planning			0.30		0.30	
2.1 Program Management	2.1.1 Administration	UMD	SC	BLAUFUSS, ERIK	ICC member		0.05			0.05	
2.1 Program Management	2.1.1 Administration	UMD	PO	OLIVAS, ALEX	ICC member		0.05			0.05	
2.1 Program Management	2.1.1 Administration	UA	KE	WILLIAMS, DAWN	Alabama Institutional Lead			0.05		0.05	
2.1 Program Management	2.1.1 Administration	UA	KE	SANTANDER, MARCOS	Realtime Oversight Committee member			0.10		0.10	
2.1 Program Management	2.1.1 Administration	UA	KE	SANTANDER, MARCOS	Publications Committee member			0.10		0.10	
2.1 Program Management	2.1.1 Administration	ROCHESTER	KE	BENZVI, SEGEV	Supernova Working Group Co-convener			0.05		0.05	
2.1 Program Management	2.1.1 Administration	ROCHESTER	KE	BENZVI, SEGEV	ICB member			0.05		0.05	
2.1 Program Management	2.1.1 Administration	ROCHESTER	KE	BENZVI, SEGEV	PubComm Chair			0.10		0.10	
2.1 Program Management	2.1.1 Administration	SBU	KE	KIRYLUK, JOANNA	Member of ICB Speakers committee chair			0.10		0.10	
2.1 Program Management	2.1.1 Administration	SDSMT	KE	XINHUA, BAI	SDSMT Institutional Lead			0.30		0.30	
2.1 Program Management	2.1.1 Administration	UW	KE	HALZEN, FRANCIS	Principle Investigator	0.38				0.38	
2.1 Program Management	2.1.1 Administration	UW	KE	HALZEN, FRANCIS	Principle Investigator			0.12		0.12	
2.1 Program Management	2.1.1 Administration	UW	KE	KARLE, ALBRECHT	Associate Director for Science	0.38				0.38	
2.1 Program Management	2.1.1 Administration	UW	KE	KARLE, ALBRECHT	ExecCom member			0.20		0.20	
2.1 Program Management	2.1.1 Administration	UW	KE	HANSON, KAEL	Director of IceCube Maintenance and Operations	0.47				0.47	
2.1 Program Management	2.1.1 Administration	UW	KE	HANSON, KAEL	Director of IceCube Maintenance and Operations			0.08		0.08	
2.1 Program Management	2.1.1 Administration	UW	KE	VANDENBROUCKE, JUSTIN	Pubcom member, TFT member			0.10		0.10	
2.1 Program Management	2.1.1 Administration	UW	AD	VAKHNINA, CATHERINE	IceCube Resource Coordinator	0.75				0.75	
2.1 Program Management	2.1.1 Administration	<b>US Total</b>					<b>2.63</b>	<b>0.45</b>	<b>3.45</b>		<b>6.53</b>
2.1 Program Management	2.1.1 Administration	BOCHUM	KE	TJUS, JULIA	Speakers Comm member				0.10	0.10	
2.1 Program Management	2.1.1 Administration	CHIBA	KE	ISHIHARA, AYA	Member of Speaker Comm				0.10	0.10	
2.1 Program Management	2.1.1 Administration	CHIBA	PO	LU, LU	Realtime Oversight Comm				0.10	0.10	
2.1 Program Management	2.1.1 Administration	DESY	KE	KOWALSKI, MAREK	ExecCom member				0.10	0.10	

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2.1 Program Management	2.1.1 Administration	DESY	KE	KOWALSKI, MAREK	IceCube extensions coordination				0.10	0.10
2.1 Program Management	2.1.1 Administration	DESY	KE	FRANCKOWIAK, ANNA	ExecCom member				0.10	0.10
2.1 Program Management	2.1.1 Administration	DESY	KE	FRANCKOWIAK, ANNA	ICC member				0.10	0.10
2.1 Program Management	2.1.1 Administration	DESY	KE	FRANCKOWIAK, ANNA	Analysis coordinator				0.25	0.25
2.1 Program Management	2.1.1 Administration	DESY	KE	ACKERMANN, MARKUS	ExecCom member				0.10	0.10
2.1 Program Management	2.1.1 Administration	DESY	KE	VAN SANTEN, JAKOB	ICC Member				0.10	0.10
2.1 Program Management	2.1.1 Administration	DPNC	KE	MONTARULI, TERESA	ICB Member, UHECR-neutrino coordinator				0.15	0.15
2.1 Program Management	2.1.1 Administration	ERLANGEN	KE	ANTON, GISELA	Institutional lead				0.20	0.20
2.1 Program Management	2.1.1 Administration	KIT	KE	HAUNGS, ANDREAS	Coordination				0.10	0.10
2.1 Program Management	2.1.1 Administration	KIT	KE	ENGEL, RALPH	Coordination				0.10	0.10
2.1 Program Management	2.1.1 Administration	MÜNSTER	KE	KAPPES, ALEXANDER	Institutional lead				0.20	0.20
2.1 Program Management	2.1.1 Administration	MÜNSTER	KE	KAPPES, ALEXANDER	Chair IceCube Impact Award committee				0.10	0.10
2.1 Program Management	2.1.1 Administration	NBI	KE	KOSKINEN, JASON	Pubcom member				0.10	0.10
2.1 Program Management	2.1.1 Administration	SKKU	KE	ROTT, CARSTEN	PubComm member				0.10	0.10
2.1 Program Management	2.1.1 Administration	SU	KE	FINLEY, CHAD	ICB Member				0.05	0.05
2.1 Program Management	2.1.1 Administration	SU	KE	HULTQVIST, KLAS	ICB Member				0.05	0.05
2.1 Program Management	2.1.1 Administration	SU	KE	FINLEY, CHAD	Pubcomm member				0.10	0.10
2.1 Program Management	2.1.1 Administration	SU	KE	FINLEY, CHAD	Coordination with LIGO and ANTARES				0.05	0.05
2.1 Program Management	2.1.1 Administration	SU	KE	WALCK, CHRISTIAN	Publications Bookkeeping				0.05	0.05
2.1 Program Management	2.1.1 Administration	UC	KE	ADAMS, JENNI	ICB Member				0.05	0.05
2.1 Program Management	2.1.1 Administration	UC	KE	ADAMS, JENNI	Pubcom member				0.10	0.10
2.1 Program Management	2.1.1 Administration	UC	PO	AARTSEN, MARK	Analysis Reviewer (PS on Diff, 1+3 sterile)				0.05	0.05
2.1 Program Management	2.1.1 Administration	UOX	KE	SARKAR, SUBIR	Pubcom member				0.10	0.10
2.1 Program Management	2.1.1 Administration	UOX	KE	SARKAR, SUBIR	ICB Member				0.05	0.05
2.1 Program Management	2.1.1 Administration	ULB	KE	AGUILAR SANCHEZ, JUAN ANTONIO	Institutional Lead				0.20	0.20
2.1 Program Management	2.1.1 Administration	ULB	KE	AGUILAR SANCHEZ, JUAN ANTONIO	Member of PubCom				0.20	0.20
2.1 Program Management	2.1.1 Administration	ULB	KE	AGUILAR SANCHEZ, JUAN ANTONIO	Beyond Standard Model WG co-Chair				0.25	0.25
2.1 Program Management	2.1.1 Administration	ULB	KE	TOSCANO, SIMONA	Member of PubCom				0.20	0.20
2.1 Program Management	2.1.1 Administration	VUB	KE	VAN EIJDHOVEN, NICK	Institutional Lead				0.20	0.20
2.1 Program Management	2.1.1 Administration	VUB	KE	DE VRIES, KRIJN	Institutional Co-Lead				0.10	0.10
2.1 Program Management	2.1.1 Administration	MAINZ	KE	BOSSER, SEBASTIAN	LE/osc WG co-chair				0.25	0.25
2.1 Program Management	2.1.1 Administration	<b>Non-US Total</b>							<b>4.25</b>	<b>4.25</b>
2.1 Program Management	<b>2.1.1 Administration</b>					<b>2.63</b>	<b>0.45</b>	<b>3.45</b>	<b>4.25</b>	<b>10.78</b>
2.1 Program Management	2.1.2 Engineering and R&D Support	PSU	KE	COWEN, DOUG	Upgrade Co-PI; Publication Committee			0.35		0.35
2.1 Program Management	2.1.2 Engineering and R&D Support	UMD	KE	HOFFMAN, KARA	Detector R&D			0.20		0.20
2.1 Program Management	2.1.2 Engineering and R&D Support	UMD	GR	FREIDMAN, LIZ	Detector R&D		0.25			0.25
2.1 Program Management	2.1.2 Engineering and R&D Support	UW	SC	DUVERNOIS, MICHAEL	Specialized calibrations, SPICE core project coordination, extracting specialized information	0.25				0.25
2.1 Program Management	2.1.2 Engineering and R&D Support	UW	SC	DUVERNOIS, MICHAEL	Ongoing EMI studies & mitigation, South Pole & Northern test site instrumentation, Summer South Pole field work	0.25				0.25
2.1 Program Management	2.1.2 Engineering and R&D Support	UW	EN	MEURES, THOMAS	Engineering Support: IceCube Lab Summer operations, cabling, & instrumentation testing	0.25				0.25
2.1 Program Management	2.1.2 Engineering and R&D Support	UW	EN	SANDSTROM, PERRY	Engineering support: IceCube Lab Summer operations, fieldwork management, GPS & timing maintenance	0.20				0.20
2.1 Program Management	2.1.2 Engineering and R&D Support	UW	MA	HAUGEN, JAMES	Engineering Support: logistics, northern hemisphere testing, & vendor management, contractor POC	0.15				0.15
2.1 Program Management	2.1.2 Engineering and R&D Support	<b>US Total</b>				<b>1.10</b>	<b>0.25</b>	<b>0.55</b>		<b>1.90</b>
2.1 Program Management	2.1.2 Engineering and R&D Support	GENT	SC	UGENT SC	Acoustic R&D Support				0.05	0.05
2.1 Program Management	2.1.2 Engineering and R&D Support	RWTH	GR	SCHAUFEL, MERLIN	IceAct Hardware R&D				0.20	0.20
2.1 Program Management	2.1.2 Engineering and R&D Support	ULB	KE	MARIS, IOANA	SiPM characterization				0.10	0.10
2.1 Program Management	2.1.2 Engineering and R&D Support	ULB	KE	TOSCANO, SIMONA	Hybrid detection Radio/In-Ice				0.10	0.10
2.1 Program Management	2.1.2 Engineering and R&D Support	<b>Non-US Total</b>							<b>0.45</b>	<b>0.45</b>
2.1 Program Management	<b>2.1.2 Engineering and R&amp;D Support</b>					<b>1.10</b>	<b>0.25</b>	<b>0.55</b>	<b>0.45</b>	<b>2.35</b>

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2.1 Program Management	2.1.3 Usap Support & Safety	UW	MA	HAUGEN, JAMES	USAP Support: yearly sip, coordination with contractor (ASC)	0.20				0.20
2.1 Program Management	2.1.3 Usap Support & Safety	UW	MA	ZERNICK, MICHAEL	Safety manager	0.25				0.25
2.1 Program Management	2.1.3 Usap Support & Safety	DREXEL	KE	NEILSON, NAOKO	South Pole Population planning committee			0.05		0.05
2.1 Program Management	2.1.3 Usap Support & Safety	<b>US Total</b>				<b>0.45</b>	<b>0.00</b>	<b>0.05</b>		<b>0.50</b>
2.1 Program Management	<b>2.1.3 Usap Support &amp; Safety</b>					<b>0.45</b>	<b>0.00</b>	<b>0.05</b>		<b>0.50</b>
2.1 Program Management	2.1.4 Education & Outreach	DREXEL	KE	NEILSON, NAOKO	Diversity Group member			0.05		0.05
2.1 Program Management	2.1.4 Education & Outreach	DREXEL	KE	NEILSON, NAOKO	Being the collaboration Ombudsperson			0.10		0.10
2.1 Program Management	2.1.4 Education & Outreach	HARVARD	KE	ARGUELLES, CARLOS	Outreach activities in the Boston area			0.05		0.05
2.1 Program Management	2.1.4 Education & Outreach	PSU	KE	COWEN, DOUG	Education & Outreach			0.05		0.05
2.1 Program Management	2.1.4 Education & Outreach	PSU	KE	FOX, DEREK	Education & Outreach			0.05		0.05
2.1 Program Management	2.1.4 Education & Outreach	MERCER	KE	MCNALLY, FRANK	IceCube MasterClass			0.05		0.05
2.1 Program Management	2.1.4 Education & Outreach	MIT	KE	CONRAD, JANET	CosmicWatch			0.05		0.05
2.1 Program Management	2.1.4 Education & Outreach	MSU	KE	GRANT, DARREN	Education & Outreach			0.05		0.05
2.1 Program Management	2.1.4 Education & Outreach	MSU	KE	KOPPER, CLAUDIO	IceCube MasterClass			0.10		0.10
2.1 Program Management	2.1.4 Education & Outreach	MSU	GR	RYSEWYK CANTU, DEVYN	IceCube MasterClass			0.02		0.02
2.1 Program Management	2.1.4 Education & Outreach	MSU	GR	SANCHEZ HERRERA, SEBASTIAN	IceCube Masterclass			0.02		0.02
2.1 Program Management	2.1.4 Education & Outreach	MSU	GR	MICALLEF, JESSIE	IceCube MasterClass		0.02			0.02
2.1 Program Management	2.1.4 Education & Outreach	MSU	GR	PEISKER, ALISON	IceCube MasterClass		0.02			0.02
2.1 Program Management	2.1.4 Education & Outreach	MSU	GR	HARNISCH, ALEXANDER	IceCube MasterClass			0.02		0.02
2.1 Program Management	2.1.4 Education & Outreach	MSU	GR	TWAGIRAYEZU, JEAN PIERRE	IceCube MasterClass			0.02		0.02
2.1 Program Management	2.1.4 Education & Outreach	ROCHESTER	KE	BENZVI, SEGEV	IceCube MasterClass			0.05		0.05
2.1 Program Management	2.1.4 Education & Outreach	SDSMT	KE	XINHUA, BAI	Education & Outreach for neutrino astronomy and IceCube			0.10		0.10
2.1 Program Management	2.1.4 Education & Outreach	SDSMT	GR	LEON SILVERIO, DIANA	Education & Outreach for neutrino astronomy and IceCube			0.05		0.05
2.1 Program Management	2.1.4 Education & Outreach	SBU	KE	KIRYLUK, JOANNA	Masterclasses, IceCube outreach activities in NY area			0.05		0.05
2.1 Program Management	2.1.4 Education & Outreach	UA	KE	WILLIAMS, DAWN	IceCube Outreach			0.05		0.05
2.1 Program Management	2.1.4 Education & Outreach	UA	KE	SANTANDER, MARCOS	IceCube Outreach			0.05		0.05
2.1 Program Management	2.1.4 Education & Outreach	UCB	KE	PRICE, BUFORD	Institutional lead			0.10		0.10
2.1 Program Management	2.1.4 Education & Outreach	UMD	KE	UMD KE	Education & Outreach			0.10		0.10
2.1 Program Management	2.1.4 Education & Outreach	UTA	KE	JONES, BENJAMIN	UTA astroparticle physics summer school for high school students			0.05		0.05
2.1 Program Management	2.1.4 Education & Outreach	UW	AD	STEFFES, LINDSEY	E&O events and collaboration meetings mgmt. Website & social networks mgmt	0.75				0.75
2.1 Program Management	2.1.4 Education & Outreach	UW	AD	DEMERIT, JEAN	Editor / science writer, E&O support	0.25				0.25
2.1 Program Management	2.1.4 Education & Outreach	UW	AD	CHILDRESS-BECHTOL, ELLEN	Evaluation support: framework design and implementation for Broader Impacts program	0.50				0.50
2.1 Program Management	2.1.4 Education & Outreach	<b>US Total</b>				<b>1.50</b>	<b>0.04</b>	<b>1.23</b>		<b>2.77</b>
2.1 Program Management	2.1.4 Education & Outreach	DESY	GR	BROSTEAN-KAISER, JANNES	Organization of IceCube master classes at DESY				0.10	0.10
2.1 Program Management	2.1.4 Education & Outreach	DPNC	KE	MONTARULI, TERESA	Responsible of Analysis Output of the group. Advising of students, Masterclass				0.10	0.10
2.1 Program Management	2.1.4 Education & Outreach	DPNC	GR	LUCARELLI FRANCESCO	MasterClass IceCube and Nuit de la Science 2018				0.05	0.05
2.1 Program Management	2.1.4 Education & Outreach	DPNC	GR	ALISPACH, CYRIL	Masterclass IceCube et Nuit de La Science 2018				0.05	0.05
2.1 Program Management	2.1.4 Education & Outreach	MAINZ	GR	UM GR	I3 virtual reality				0.25	0.25
2.1 Program Management	2.1.4 Education & Outreach	MÜNSTER	PO	CLASSEN, LEW	Public outreach				0.10	0.10
2.1 Program Management	2.1.4 Education & Outreach	MÜNSTER	GR	BUSSE, RAFFAELA	Public outreach				0.10	0.10
2.1 Program Management	2.1.4 Education & Outreach	NBI	KE	KOSKINEN, JASON	Speaking engagements (high school classes, open houses, etc.)				0.10	0.10
2.1 Program Management	2.1.4 Education & Outreach	NBI	GR	BOURBEAU, ETIENNE	Speaking Engagements				0.05	0.05
2.1 Program Management	2.1.4 Education & Outreach	RWTH	KE	WIEBUSCH, CHRISTOPHER	AIS3				0.10	0.10

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2.1 Program Management	2.1.4 Education & Outreach	RWTH	GR	HALVE, LASSE	Netzwerk Teilchenwelt				0.05	0.05
2.1 Program Management	2.1.4 Education & Outreach	SU	KE	HULTQVIST, KLAS	Masterclasses, model, etc				0.05	0.05
2.1 Program Management	2.1.4 Education & Outreach	SU	KE	FINLEY, CHAD	Masterclasses, model, etc				0.05	0.05
2.1 Program Management	2.1.4 Education & Outreach	ULB	KE	AGUILAR SANCHEZ, JUAN ANTONIO	Masterclass				0.05	0.05
2.1 Program Management	2.1.4 Education & Outreach	ULB	KE	TOSCANO, SIMONA	Masterclass				0.05	0.05
2.1 Program Management	2.1.4 Education & Outreach	ULB	PO	BAUR, SEBASTIAN	Masterclass				0.10	0.10
2.1 Program Management	2.1.4 Education & Outreach	UOX	KE	SARKAR, SUBIR	Education & Outreach				0.05	0.05
2.1 Program Management	2.1.4 Education & Outreach	UU	KE	HALLGREN, ALLAN	Outreach				0.05	0.05
2.1 Program Management	2.1.4 Education & Outreach	UU	KE	BOTNER, OLGA	Education & Outreach				0.05	0.05
2.1 Program Management	2.1.4 Education & Outreach	UU	KE	DE LOS HEROS, CARLOS	Outreach				0.05	0.05
2.1 Program Management	2.1.4 Education & Outreach	UU	KE	O'SULLIVAN, ERIN	Outreach				0.05	0.05
2.1 Program Management	2.1.4 Education & Outreach	VUB	KE	DE CLERCQ, CATHERINE	Education and Outreach				0.20	0.20
2.1 Program Management	2.1.4 Education & Outreach	VUB	KE	DE VRIES, KRIJN	Education & Outreach				0.10	0.10
2.1 Program Management	2.1.4 Education & Outreach	VUB	GR	CORREA, PABLO	Education & Outreach				0.15	0.15
2.1 Program Management	2.1.4 Education & Outreach	VUB	GR	DE KOCKERE, SIMON	Education & Outreach				0.10	0.10
2.1 Program Management	2.1.4 Education & Outreach	SKKU	KE	ROTT, CARSTEN	Education & Outreach				0.05	0.05
2.1 Program Management	2.1.4 Education & Outreach	<b>Non-US Total</b>							<b>2.20</b>	<b>2.20</b>
2.1 Program Management	<b>2.1.4 Education &amp; Outreach</b>					<b>1.50</b>	<b>0.04</b>	<b>1.23</b>	<b>2.20</b>	<b>4.97</b>
2.1 Program Management	2.1.5 Communications	UW	AD	O'KEEFE, MADELEINE	Communication plan manager, science writer. Masterclass and communication workshop coordinator	0.75				0.75
2.1 Program Management	2.1.5 Communications	<b>US Total</b>				<b>0.75</b>	<b>0.00</b>	<b>0.00</b>		<b>0.75</b>
2.1 Program Management	<b>2.1.5 Communications</b>					<b>0.75</b>	<b>0.00</b>	<b>0.00</b>		<b>0.75</b>
<b>2.1 Program Management</b>	<b>WBS L2 Total</b>					<b>6.43</b>	<b>0.74</b>	<b>5.28</b>	<b>6.90</b>	<b>19.35</b>
2.2 Detector Operations & Maintenance	2.2 Detector Operations & Maintenance	UW	SC	KELLEY, JOHN	Detector Maintenance and Operations Manager	0.65				0.65
2.2 Detector Operations & Maintenance	2.2 Detector Operations & Maintenance	UW	SC	DESIATI, PAOLO	IceCube Coordination Committee chair	0.30				0.30
2.2 Detector Operations & Maintenance	2.2 Detector Operations & Maintenance	UW	MA	HAUGEN, JAMES	Logistics Manager	0.15				0.15
2.2 Detector Operations & Maintenance	2.2 Detector Operations & Maintenance	UMD	PO	OLIVAS, ALEX	SW Coordinator – Detector M&O	0.35				0.35
2.2 Detector Operations & Maintenance	2.2 Detector Operations & Maintenance	<b>US Total</b>				<b>1.45</b>	<b>0.00</b>	<b>0.00</b>		<b>1.45</b>
2.2 Detector Operations & Maintenance	2.2 Detector Operations & Maintenance	<b>Non-US Total</b>							<b>0.00</b>	<b>0.00</b>
2.2 Detector Operations & Maintenance	<b>2.2 Detector Operations &amp; Maintenance</b>					<b>1.45</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1.45</b>
2.2 Detector Operations & Maintenance	2.2.1 Run Coordination	UW	IT	AUER, RALF	Winterovers coordinator, hiring and training of winterovers	0.20				0.20
2.2 Detector Operations & Maintenance	2.2.1 Run Coordination	UW	SC	KAUER, MATTHEW	Run Coordinator	0.40				0.40
2.2 Detector Operations & Maintenance	2.2.1 Run Coordination	UW	WO	UW WINTER OVERS	Operate Detector (Winter-Overs)	3.00				3.00
2.2 Detector Operations & Maintenance	2.2.1 Run Coordination	<b>US Total</b>				<b>3.60</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>3.60</b>
2.2 Detector Operations & Maintenance	<b>2.2.1 Run Coordination</b>					<b>3.60</b>	<b>0.00</b>	<b>0.00</b>		<b>3.60</b>
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	LBNL	EN	STEZELBERGER, THORSTEN	Maintain DAQ Hardware	0.15				0.15
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	PSU	SC	ANDERSON, TYLER	DAQ Firmware Development	0.23				0.23
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	PSU	GR	PANKOVA, DARIA	DAQ electronics hardware and firmware			0.15		0.15
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	UW	EN	MEURES, THOMAS	Data Acquisition HW Maintenance: DOR, DOMHub and DOMCal	0.10				0.10
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	UW	SC	KELLEY, JOHN	DOM software: DOR device driver, DOMHub scripts, DOMCal	0.15				0.15
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	UW	SC	KELLEY, JOHN	Track DOM issues, generate detector run configurations	0.10				0.10
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	UW	CS	GLOWACKI, DAVID	IceCube DAQ: trigger and event builder	0.50				0.50
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	UW	CS	GLOWACKI, DAVID	IceCube DAQ: command-and-control server, testing infrastructure	0.50				0.50
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	UW	CS	BENDFELT, TIMOTHY	IceCube DAQ: StringHub and domapp; Upgrade integration	0.75				0.75
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	UW	GR	TY, BUNHENG	DOR Firmware	0.25				0.25
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	<b>US Total</b>				<b>2.73</b>	<b>0.00</b>	<b>0.15</b>		<b>2.88</b>
2.2 Detector Operations & Maintenance	<b>2.2.2 Data Acquisition</b>					<b>2.73</b>	<b>0.00</b>	<b>0.15</b>		<b>2.88</b>
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	MSU	KE	KOPPER, CLAUDIO	Diffuse WG co-chair			0.25		0.25
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	MSU	KE	WHITEHORN, NATHAN	Diffuse WG co-chair			0.25		0.25
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	PSU	PO	ELLER, PHILIPP	Oscillation Tech. Lead		0.20			0.20

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2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	UMD	SC	BLAUFUSS, ERIK	Maintain PnF S/W and Online Filters	0.20				0.20	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	UMD	CS	SCHMIDT, TORSTEN	Maintain and develop PnF software, support operations to respond to and debug unexpected errors	0.50				0.50	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	UMD	PO	LARSON, MICHAEL	Near Real time alerts/GRB		0.10			0.10	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	UMD	GR	EVANS, JOHN	Near Real time alerts/GRB		0.10			0.10	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	UD	PO	SOLDIN, DENNIS	IceTop Filter		0.05			0.05	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	UD	GR	BINTA AMIN, MOUREEN	Including IceTop in ROC consideration		0.10			0.10	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	UW	SC	KAUER, MATTHEW	TFT Board member			0.10		0.10	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	UMD	SC	BLAUFUSS, ERIK	Filter requests, bandwidth, TFT Board Member. IceTray	0.10				0.10	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	UMD	GR	FREIDMAN, LIZ	Real-time & near real time alerts		0.35			0.35	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	UAA	KE	RAWLINS, KATHERINE	Cosmic Ray WG co-convenor			0.25		0.25	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	DREXEL	KE	NEILSON, NAOKO	TFT Board Co-Chair			0.25		0.25	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	DREXEL	KE	NEILSON, NAOKO	Splitting – Q/P frame and coincidence			0.05		0.05	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	SBU	GR	ZHANG, ZELONG	Cascade filter / L3		0.05			0.05	
<b>US Total</b>						<b>0.80</b>	<b>0.95</b>	<b>1.15</b>		<b>2.90</b>	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	ALBERTA	KE	YANEZ, JUAN PABLO	Oscillations WG co-chair				0.25	0.25	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	ALBERTA	PO	HIGNIGHT, JOSHUA	Reconstruction & Systematics WG co-chair				0.25	0.25	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	DESY	KE	VAN SANTEN, JAKOB	Reco/Syst WG co-chair				0.25	0.25	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	UU	KE	DE LOS HEROS, CARLOS	TFT Board member				0.10	0.10	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	ALBERTA	KE	MOORE, ROGER	TFT Board Member				0.10	0.10	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	CHIBA	KE	ISHIHARA, AYA	EHE Filters				0.15	0.15	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	MAINZ	GR	SANDROOS, JOAKIM	PISA				0.20	0.20	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	NBI	KE	AHLERS, MARKUS	Neutrino source WG co-convenor				0.25	0.25	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	NBI	PO	STUTTARD, TOM	Oscillation WG co-convenor				0.25	0.25	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	UC	PO	AARTSEN, MARK	Cascade filter				0.05	0.05	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	DTMND	SC	RUHE, TIM	Physics filters				0.20	0.20	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	DTMND	GR	HÜNNEFELD, MIRKO	Reconstruction				0.30	0.30	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	DTMND	GR	MEIER, MAXIMILIAN	Physics filters				0.20	0.20	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	RWTH	GR	BOETTCHER, JAKOB	SLOP Filter + Trigger				0.10	0.10	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	RWTH	GR	BOETTCHER, JAKOB	Final level diffuse tests				0.05	0.05	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	RWTH	GR	GANSTER, ERIK	Final level diffuse tests				0.05	0.05	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	WUPPERTAL	KE	HELBING, KLAUS	BSM WG chair				0.25	0.25	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	WUPPERTAL	KE	HELBING, KLAUS	BSM WG chair				0.25	0.25	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	WUPPERTAL	PO	POLLMANN, ANNA	SLOP filter, Monopole filter				0.25	0.25	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	WUPPERTAL	GR	LAUBER, FREDERIK	Detection of Magnetic Monopoles through radio luminescence				0.20	0.20	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	ULB	GR	RENZI, GIOVANNI	Vertical event filter, WIMP L2				0.20	0.20	
<b>Non-US Total</b>									<b>3.90</b>	<b>3.90</b>	
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)						<b>0.80</b>	<b>0.95</b>	<b>1.15</b>	<b>3.90</b>	<b>6.80</b>
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	CAU	KE	JAPARIDZE, GEORGE	Detector monitoring shifts			0.02		0.02	
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	DREXEL	GR	SCLAFANI, STEVE	Detector monitoring shifts			0.05		0.05	
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	GTECH	GR	PRANAV, DAVE	Detector monitoring shifts			0.05		0.05	
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	SBU	GR	ZHANG, ZELONG	Detector Monitoring		0.05			0.05	
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	LBNL	PO	ROBERTSON, SALLY	Detector monitoring shifts		0.09			0.09	
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	MSU	PO	NISA, MEHR	Detector monitoring shifts			0.03		0.03	
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	PSU	PO	ELLER, PHILIPP	Detector monitoring shifts		0.03			0.03	
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	PSU	GR	LANFRANCHI, JUSTIN	Detector monitoring shifts			0.03		0.03	
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	PSU	GR	PANKOVA, DARIA	Detector monitoring shifts			0.03		0.03	
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	ROCHESTER	GR	CROSS, ROBERT	Detector monitoring shifts			0.05		0.05	
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	ROCHESTER	GR	GRISWOLD, SPENCER	Detector monitoring shifts			0.05		0.05	
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	SDSMT	KE	XINHUA, BAI	IceCube operation monitoring			0.02		0.02	
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	SDSMT	GR	LEON SILVERIO, DIANA	IceCube operation monitoring			0.05		0.05	
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UA	KE	SANTANDER, MARCOS	Online Moon shadow analysis (monitoring)			0.10		0.10	

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2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UA	GR	GOSWAMI, SREETAMA	Online Moon shadow analysis (monitoring)			0.10		0.10
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UA	GR	GOSWAMI, SREETAMA	Monitoring shifts			0.05		0.05
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UA	GR	GHADIMI, AVA	Monitoring shifts			0.05		0.05
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UA	GR	BRNICH, REBECCA	Monitoring shifts			0.05		0.05
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UCI	KE	BARWICK, STEVE	Detector monitoring shifts			0.01		0.01
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UCI	GR	HANSON, JORDAN	Detector monitoring shifts			0.01		0.01
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UD	SC	TILAV, SERAP	Data monitoring	0.20				0.20
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UD	GR	PAUDEL, EK NARAYAN	Data monitoring			0.10		0.10
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UD	GR	PUNSUEBSAY, NOPPODAL	Data monitoring			0.10		0.10
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UMD	GR	UMD GR	Detector monitoring shifts		0.06			0.06
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UW	SC	KAUER, MATTHEW	Data Monitoring lead: coordinate test and feature development; design underlying analysis algorithms	0.20				0.20
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UW	SC	KAUER, MATTHEW	Training and coordinating monitoring shifters	0.10				0.10
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UW	CS	BRAUN, JAMES	I3MS Iridium messaging system software	0.50				0.50
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UW	CS	FRERE, MICHAEL	IceCube Live lead developer	0.75				0.75
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UW	CS	BURRESON, COLIN	IceCube Live monitoring system: web interface, databases	0.90				0.90
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UW	CS	BURRESON, COLIN	Supernova alert interface, DAQ monitoring, and visualization in IceCube	0.10				0.10
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UW	PO	KHEIRANDISH, ALI	Detector monitoring shifts, fast Response monitoring shifts		0.20			0.20
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UW	PO	UW PO	Detector monitoring shifts		0.08			0.08
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UW	GR	SAFA, IBRAHIM	Detector monitoring shifts			0.10		0.10
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UW	GR	UW GR	Detector monitoring shifts			0.12		0.12
<b>US Total</b>						<b>2.75</b>	<b>0.63</b>	<b>1.05</b>		<b>4.43</b>
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	DESY	SC	DESY SC	Detector Monitoring				0.05	0.05
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	DESY	GR	DESY GR	Detector Monitoring				0.12	0.12
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	DTMND	GR	DTMD GR	Detector Monitoring				0.03	0.03
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	MAINZ	GR	FRITZ, ALEXANDER	SuperNova Operations				0.40	0.40
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	NBI	GR	RIBERS, DAVID	Detector monitoring shifts				0.05	0.05
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	TUM	GR	MPI GR	Detector Monitoring				0.05	0.05
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	RWTH	GR	HALVE, LASSE	Detector monitoring shifts contact from Aachen				0.05	0.05
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	RWTH	GR	RWTH GR	Detector monitoring shifts				0.12	0.12
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	SKKU	GR	KANG, WOOSIK	Detector Monitoring				0.03	0.03
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	SU	GR	DEOSKAR, KUNAL	Detector Monitoring				0.06	0.06
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UC	KE	ADAMS, JENNI	Detector Monitoring				0.05	0.05
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UC	PO	AARTSEN, MARK	Detector Monitoring				0.02	0.02
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UC	GR	RAISSI, AMIR	Detector Monitoring				0.03	0.03
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	ULB	KE	MARIS, IOANA	Detector Monitoring				0.05	0.05
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	ULB	GR	ULB GR	Detector Monitoring				0.12	0.12
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	ULB	GR	IOVINE, NADÉGE	IceTop Snow Monitor				0.20	0.20
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UU	GR	BURGMAN, ALEXANDER	Detector monitoring shifts				0.03	0.03
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	UU	GR	VALTONEN-MATTILA, NORA	Detector monitoring shifts				0.03	0.03
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	VUB	GR	VUB GR	Detector monitoring shifts				0.06	0.06
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	WUPPERTAL	GR	WUPPERTAL GR	Monitoring shifts				0.03	0.03
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	MAINZ	GR	UM GR	Detector Monitoring				0.05	0.05
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	GENT	GR	VERPOEST, STEF	Detector Monitoring				0.03	0.03
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	DPNC	GR	LUCARELLI FRANCESCO	Detector Monitoring				0.05	0.05
2.2 Detector Operations & Maintenance	2.2.4 Detector Monitoring	DPNC	GR	ALISPACH, CYRIL	Detector Monitoring				0.05	0.05
<b>Non-US Total</b>									<b>1.76</b>	<b>1.76</b>
2.2 Detector Operations & Maintenance	<b>2.2.4 Detector Monitoring</b>					<b>2.75</b>	<b>0.63</b>	<b>1.05</b>		<b>6.18</b>
2.2 Detector Operations & Maintenance	2.2.5 Experiment Control	UW	CS	BRAUN, JAMES	IceCube LiveControl experiment control software: alerts and component	0.50				0.50
2.2 Detector Operations & Maintenance	2.2.5 Experiment Control	UW	CS	FRERE, MICHAEL	IceCube LiveControl experiment control software: operator interface	0.25				0.25
2.2 Detector Operations & Maintenance	2.2.5 Experiment Control	<b>US Total</b>				<b>0.75</b>	<b>0.00</b>	<b>0.00</b>		<b>0.75</b>
2.2 Detector Operations & Maintenance	<b>2.2.5 Experiment Control</b>					<b>0.75</b>	<b>0.00</b>	<b>0.00</b>		<b>0.75</b>

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WBS L2	WBS L3	Institution	Lab or Cat.	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. Institutional In-Kind	Non-U.S. Institutional In-Kind	Grand Total
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	UD	SC	TILAV, SERAP	Coordinate IceTop Operations	0.30				0.30
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	UD	KE	SCHROEDER, FRANK	Surface detector enhancements			0.15		0.15
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	UD	GR	BINTA AMIN, MOUREEN	IceTop simulation		0.20			0.20
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	UD	GR	PAN, YUE	Radio operations, data management			0.25		0.25
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	UD	GR	PAN, YUE	Radio monitoring			0.10		0.10
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	UD	GR	PAN, YUE	Radio simulations			0.05		0.05
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	MARQUETTE	KE	ANDEEN, KAREN	Surface detector R&D			0.05		0.05
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	MARQUETTE	PO	PLUM, MATTHIAS	Surface detector R&D			0.50		0.50
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	UW	EN	SANDSTROM, PERRY	Design, build and test experimental apparatus for restoring IceTop detector efficiency	0.20				0.20
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	UW	SC	TOSI, DELIA	Test and commission experimental apparatus for restoring IceTop detector efficiency	0.50				0.50
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	UW	SC	KAUER, MATTHEW	Design and build experimental apparatus for restoring IceTop detector efficiency	0.20				0.20
<b>US Total</b>						<b>1.20</b>	<b>0.20</b>	<b>1.10</b>		<b>2.50</b>
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	KIT	KE	HAUNGS, ANDREAS	Co-task leader scintillators				0.10	0.10
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	KIT	SC	SCHIELER, HARALD	Construction (scintillator)				0.10	0.10
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	KIT	SC	WEINDL, ANDREAS	DAQ surface				0.30	0.30
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	KIT	PO	DUJMOVIC, HRVOJE	Radio operation				0.30	0.30
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	KIT	PO	HUBER, THOMAS	Scintillator operation				0.30	0.30
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	KIT	GR	KOUNDAL, PARAS	Scintillator operation				0.20	0.20
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	KIT	GR	OEHLER, MARIE	Scintillator operation				0.20	0.20
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	KIT	GR	TURCOTTE, ROXANNE	Radio operation				0.20	0.20
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	RWTH	GR	SCHAUFEL, MERLIN	IceAct Monitoring				0.10	0.10
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	ULB	PO	MOCKLER, DANIELA	Validation between SLC signals and MC				0.10	0.10
2.2 Detector Operations & Maintenance	2.2.6 Surface Detector Operations	WUPPERTAL	GR	BINDIG, DANIEL	Laterally separated muons in IceTop				0.20	0.20
<b>Non-US Total</b>									<b>2.10</b>	<b>2.10</b>
<b>2.2.6 Surface Detector Operations</b>						<b>1.20</b>	<b>0.20</b>	<b>1.10</b>	<b>2.10</b>	<b>4.60</b>
2.2 Detector Operations & Maintenance	2.2.7 Supernova System	ROCHESTER	KE	BENZVI, SEGEV	Supernova DAQ			0.05		0.05
2.2 Detector Operations & Maintenance	2.2.7 Supernova System	ROCHESTER	GR	CROSS, ROBERT	Supernova DAQ			0.15		0.15
2.2 Detector Operations & Maintenance	2.2.7 Supernova System	ROCHESTER	GR	GRISWOLD, SPENCER	Supernova DAQ			0.10		0.10
2.2 Detector Operations & Maintenance	2.2.7 Supernova System	SUBR	KE	TER-ANTONYAN, SAMVEL	Supernova Data Analysis			0.02		0.02
2.2 Detector Operations & Maintenance	2.2.7 Supernova System	UW	CS	BENDFELT, TIMOTHY	IceCube DAQ: supernova interface, hitpooling	0.25				0.25
2.2 Detector Operations & Maintenance	2.2.7 Supernova System	Yale	KE	MARUYAMA, REINA	Supernova DAQ			0.05		0.05
<b>US Total</b>						<b>0.25</b>	<b>0.00</b>	<b>0.37</b>		<b>0.62</b>
2.2 Detector Operations & Maintenance	2.2.7 Supernova System	UU	KE	O'SULLIVAN, ERIN	Supernova WG co-chair				0.15	0.15
2.2 Detector Operations & Maintenance	2.2.7 Supernova System	UU	GR	VALTONEN-MATTILA, NORA	Responsibility for the hitpool data				0.10	0.10
<b>Non-US Total</b>									<b>0.25</b>	<b>0.25</b>
<b>2.2.7 Supernova System</b>						<b>0.25</b>	<b>0.00</b>	<b>0.37</b>	<b>0.25</b>	<b>0.87</b>
2.2 Detector Operations & Maintenance	2.2.8 Real-Time Alerts	GTECH	KE	TABOADA, IGNACIO	Member of the Real-time Oversight Committee (ROC)		0.10			0.10
2.2 Detector Operations & Maintenance	2.2.8 Real-Time Alerts	GTECH	GR	CHEN, CHUJIE	Design of Alert DB and webpage		0.20			0.20
2.2 Detector Operations & Maintenance	2.2.8 Real-Time Alerts	GTECH	GR	PRANAV, DAVE	Real-time shifter (under auspices of the ROC)		0.10			0.10
2.2 Detector Operations & Maintenance	2.2.8 Real-Time Alerts	PSU	PO	AYALA, HUGO	Maintain IceCube integration with AMON; HESE cascades			0.15		0.15
2.2 Detector Operations & Maintenance	2.2.8 Real-Time Alerts	UW	GR	MANCINA, SARAH	Filter development (ESTES), DOM sensitivity		0.20			0.20
<b>US Total</b>						<b>0.00</b>	<b>0.60</b>	<b>0.15</b>		<b>0.75</b>
2.2 Detector Operations & Maintenance	2.2.8 Real-Time Alerts	CHIBA	PO	LU, LU	Maintenance of IceCube realtime analysis system				0.20	0.20
2.2 Detector Operations & Maintenance	2.2.8 Real-Time Alerts	DESY	KE	FRANCKOWIAK, ANNA	Realtime oversight committee member				0.10	0.10
2.2 Detector Operations & Maintenance	2.2.8 Real-Time Alerts	DESY	GR	LAGUNAS GUALDA, CHRISTINA	Online data stream maintenance				0.20	0.20
2.2 Detector Operations & Maintenance	2.2.8 Real-Time Alerts	DESY	GR	STEIN, ROBERT	Online data stream maintenance				0.10	0.10
2.2 Detector Operations & Maintenance	2.2.8 Real-Time Alerts	SU	KE	FINLEY, CHAD	Realtime Oversight Committee				0.05	0.05

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WBS L2	WBS L3	Institution	Lab or Cat.	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. Institutional In-Kind	Non-U.S. Institutional In-Kind	Grand Total
2.2 Detector Operations & Maintenance	2.2.8 Real-Time Alerts	UU	PO	SHARMA, ANKUR	Development and automatization of alternative angular uncertainty measures for alert events				0.20	0.20
2.2 Detector Operations & Maintenance	2.2.8 Real-Time Alerts	<b>Non-US Total</b>							<b>0.85</b>	<b>0.85</b>
2.2 Detector Operations & Maintenance	<b>2.2.8 Real-Time Alerts</b>					<b>0.00</b>	<b>0.60</b>	<b>0.15</b>	<b>0.85</b>	<b>1.60</b>
2.2 Detector Operations & Maintenance	2.2.9 SPS/SPTS	UW	IT	AUER, RALF	Maintain South Pole computing H/W infrastructure and operating systems	0.23				0.23
2.2 Detector Operations & Maintenance	2.2.9 SPS/SPTS	UW	IT	AUER, RALF	Maintain South Pole Test System computing H/W Infrastructure and	0.10				0.10
2.2 Detector Operations & Maintenance	2.2.9 SPS/SPTS	UW	EN	SANDSTROM, PERRY	Maintain South Pole System H/W Infrastructure	0.20				0.20
2.2 Detector Operations & Maintenance	2.2.9 SPS/SPTS	UW	EN	MEURES, THOMAS	Maintain South Pole Test System H/W Infrastructure	0.25				0.25
2.2 Detector Operations & Maintenance	2.2.9 SPS/SPTS	<b>US Total</b>				<b>0.78</b>	<b>0.00</b>	<b>0.00</b>		<b>0.78</b>
2.2 Detector Operations & Maintenance	<b>2.2.9 SPS/SPTS</b>					<b>0.78</b>	<b>0.00</b>	<b>0.00</b>		<b>0.78</b>
<b>2.2 Detector Operations &amp; Maintenance</b>	<b>WBS L2 Total</b>					<b>14.31</b>	<b>2.38</b>	<b>3.96</b>	<b>8.86</b>	<b>29.51</b>
2.3 Computing and Data Management	2.3.0 Computing And Data Management	UW	MA	RIEDEL, BENEDIKT	Computing Infrastructure Manager	0.90				0.90
2.3 Computing and Data Management	2.3.0 Computing And Data Management	LBNL	KE	KLEIN,SPENCER	Oversee raw data storage at LBNL			0.08		0.08
2.3 Computing and Data Management	2.3.0 Computing And Data Management	<b>US Total</b>				<b>0.90</b>	<b>0.00</b>	<b>0.08</b>		<b>0.98</b>
2.3 Computing and Data Management	2.3.0 Computing And Data Management	KIT	SC	KANG, DONGHWA	Middleware Setup				0.15	0.15
2.3 Computing and Data Management	2.3.0 Computing And Data Management	<b>Non-US Total</b>							<b>0.15</b>	<b>0.15</b>
2.3 Computing and Data Management	<b>2.3.0 Computing And Data Management</b>					<b>0.90</b>	<b>0.00</b>	<b>0.08</b>	<b>0.15</b>	<b>1.13</b>
2.3 Computing and Data Management	2.3.1 Data Storage & Transfer	UW	IT	BARNET, STEVE	Maintain and Operate Data Storage Infrastructure	0.30				0.30
2.3 Computing and Data Management	2.3.1 Data Storage & Transfer	UW	IT	BELLINGER, JIM	Long term preservation and archive services, data curation	1.00				1.00
2.3 Computing and Data Management	2.3.1 Data Storage & Transfer	UW	IT	BRIK, VLADIMIR	Maintain storage system needed for simulation production	0.20				0.20
2.3 Computing and Data Management	2.3.1 Data Storage & Transfer	UW	CS	MEADE, PATRICK	Operate data handling services	0.25				0.25
2.3 Computing and Data Management	2.3.1 Data Storage & Transfer	UW	CS	MEADE, PATRICK	Maintain data handling software (JADE): Archive at the S. Pole, transfer, ingest to the Data Warehouse and long-term	0.25				0.25
2.3 Computing and Data Management	2.3.1 Data Storage & Transfer	UW	CS	MEADE, PATRICK	Operate Data transfer from S. Pole to UW Data Warehouse and archive services at S. Pole	0.50				0.50
2.3 Computing and Data Management	2.3.1 Data Storage & Transfer	<b>US Total</b>				<b>2.50</b>	<b>0.00</b>	<b>0.00</b>		<b>2.50</b>
2.3 Computing and Data Management	2.3.1 Data Storage & Transfer	<b>Non-US Total</b>								<b>0.00</b>
2.3 Computing and Data Management	<b>2.3.1 Data Storage &amp; Transfer</b>					<b>2.50</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>2.50</b>
2.3 Computing and Data Management	2.3.2 Core Data Center Infrastructure	UW	IT	BARNET, STEVE	Operations and cybersecurity manager	0.70				0.70
2.3 Computing and Data Management	2.3.2 Core Data Center Infrastructure	UW	IT	BRIK, VLADIMIR	Maintain Core Data Center Infrastructure Systems	0.10				0.10
2.3 Computing and Data Management	2.3.2 Core Data Center Infrastructure	UW	IT	MAYER, DAVID	IceCube Web Development	0.50				0.50
2.3 Computing and Data Management	2.3.2 Core Data Center Infrastructure	UW	IT	SHEPERD, ALEC	Maintain and operate Virtual Machines deployment infrastructure	0.50				0.50
2.3 Computing and Data Management	2.3.2 Core Data Center Infrastructure	UW	IT	SHEPERD, ALEC	Maintain Core Data Center Infrastructure Systems	0.25				0.25
2.3 Computing and Data Management	2.3.2 Core Data Center Infrastructure	<b>US Total</b>				<b>2.05</b>	<b>0.00</b>	<b>0.00</b>		<b>2.05</b>
2.3 Computing and Data Management	2.3.2 Core Data Center Infrastructure	<b>Non-US Total</b>								<b>0.00</b>
2.3 Computing and Data Management	<b>2.3.2 Core Data Center Infrastructure</b>					<b>2.05</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>2.05</b>
2.3 Computing and Data Management	2.3.3 Central Computing Resources	LBNL	IT	LBNL IT	NERSC Data Archiving, Distributed Computing and Labor			1.00		1.00
2.3 Computing and Data Management	2.3.3 Central Computing Resources	SUBR	KE	TER-ANTONYAN, SAMVEL	Cloud Computing			0.30		0.30
2.3 Computing and Data Management	2.3.3 Central Computing Resources	UMD	IT	UMD IT	Coordination and Support for Grid and distributed computing	0.00				0.00
2.3 Computing and Data Management	2.3.3 Central Computing Resources	UW	IT	BRIK, VLADIMIR	Maintain High Performance Computing services	0.10				0.10
2.3 Computing and Data Management	2.3.3 Central Computing Resources	UW	IT	SHEPERD, ALEC	Maintain Central Computing Infrastructure Systems	0.25				0.25
2.3 Computing and Data Management	2.3.3 Central Computing Resources	UW	IT	COMERFORD, DENNIS	End-user support for common collaboration services	0.60				0.60
2.3 Computing and Data Management	2.3.3 Central Computing Resources	<b>US Total</b>				<b>0.95</b>	<b>0.00</b>	<b>1.30</b>		<b>2.25</b>



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WBS L2	WBS L3	Institution	Lab or Cat.	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. Institutional In-Kind	Non-U.S. Institutional In-Kind	Grand Total
2.3 Computing and Data Manage	2.3.3 Central Computing Resources	DESY	IT	DESY IT	European Data Center - Distributed Computing and Labor				1.00	1.00
2.3 Computing and Data Manage	2.3.3 Central Computing Resources	DESY	KE	ACKERMANN, MARKUS	DESY TIER-1 coordination				0.10	0.10
2.3 Computing and Data Manage	2.3.3 Central Computing Resources	DESY	KE	VAN SANTEN, JAKOB	TIER-1 coordination / Simulation Production				0.25	0.25
2.3 Computing and Data Manage	2.3.3 Central Computing Resources	<b>Non-US Total</b>							<b>1.35</b>	<b>1.35</b>
2.3 Computing and Data Manage	<b>2.3.3 Central Computing Resources</b>					<b>0.95</b>	<b>0.00</b>	<b>1.30</b>	<b>1.35</b>	<b>3.60</b>
2.3 Computing and Data Manage	2.3.4 Distributed Computing Resources	MSU	KE	KOPPER, CLAUDIO	GPU computing resources			0.05		0.05
2.3 Computing and Data Manage	2.3.4 Distributed Computing Resources	MSU	PO	CLARK, BRIAN	IceProd site manager at MSU HPCC		0.10			0.10
2.3 Computing and Data Manage	2.3.4 Distributed Computing Resources	MSU	PO	HALLIDAY, ROBERT	IceProd site manager at MSU HPCC	0.25				0.25
2.3 Computing and Data Manage	2.3.4 Distributed Computing Resources	UW	IT	SCHULTZ, DAVID	Core distributed software maintenance	0.50				0.50
2.3 Computing and Data Manage	2.3.4 Distributed Computing Resources	UW	IT	SCHULTZ, DAVID	Maintain workflow management system	0.40				0.40
2.3 Computing and Data Manage	2.3.4 Distributed Computing Resources	UW	IT	SCHULTZ, DAVID	Manage Production Software Team	0.10				0.10
2.3 Computing and Data Manage	2.3.4 Distributed Computing Resources	UW	IT	BRIK, VLADIMIR	Maintain distributed high-throughput cluster	0.60				0.60
2.3 Computing and Data Manage	2.3.4 Distributed Computing Resources	UW	CS	EVANS, ERIC	Core software maintenance	0.50				0.50
2.3 Computing and Data Manage	2.3.4 Distributed Computing Resources	<b>US Total</b>				<b>2.35</b>	<b>0.10</b>	<b>0.05</b>	<b>0.00</b>	<b>2.50</b>
2.3 Computing and Data Manage	2.3.4 Distributed Computing Resources	ALBERTA	CS	RAJEWSKI, JAMIE	Management of ComputeCanada allocation				0.40	0.40
2.3 Computing and Data Manage	2.3.4 Distributed Computing Resources	CHIBA	PO	LU, LU	Grid Operations Team				0.20	0.20
2.3 Computing and Data Manage	2.3.4 Distributed Computing Resources	RWTH	GR	STETTNER, JÖRAN	OSG Site RWTH				0.05	0.05
2.3 Computing and Data Manage	2.3.4 Distributed Computing Resources	<b>Non-US Total</b>							<b>0.65</b>	<b>0.65</b>
2.3 Computing and Data Manage	<b>2.3.4 Distributed Computing</b>					<b>2.35</b>	<b>0.10</b>	<b>0.05</b>	<b>0.65</b>	<b>3.15</b>
<b>2.3 Computing and Data Manage</b>	<b>WBS L2 Total</b>					<b>8.75</b>	<b>0.10</b>	<b>1.43</b>	<b>2.15</b>	<b>12.43</b>
2.4 Data Processing & Simulation	2.4.0 Data Processing and Simulation Services	UW	DS	DIAZ-VELEZ, JUAN CARLOS	Coordination of Offline Processing and Simulation Production efforts with analysis working groups	0.25				0.25
2.4 Data Processing & Simulation	2.4.0 Data Processing and Simulation	<b>US Total</b>				<b>0.25</b>	<b>0.00</b>	<b>0.00</b>		<b>0.25</b>
2.4 Data Processing & Simulation	2.4.0 Data Processing and Simulation					<b>0.25</b>	<b>0.00</b>	<b>0.00</b>		<b>0.25</b>
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	DREXEL	GR	SCLAFANI, STEVE	Neutrino Sources Data Curator			0.20		0.20
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	MSU	KE	KOPPER, CLAUDIO	Cloud-based event reconstruction infrastructure development			0.10		0.10
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	MSU	PO	NISA, MEHR	Cloud-based event reconstruction infrastructure development			0.10		0.10
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	OSU	GR	MEDINA, ANDRES	Pass2 Verification		0.05			0.05
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	SBU	GR	ZHANG, ZELONG	Pass2/3 verification		0.10			0.10
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	UW	DS	SNIHUR, ROBERT	Experimental data processing and reduction. Interface with collaboration working groups to deliver analysis-ready data	1.00				1.00
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	UW	GR	LEONARD, KAYLA	Developing for MuonGun for low energies			0.50		0.50
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	UW	CS	EVANS, ERIC	Data validation tool development	0.10				0.10
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	<b>US Total</b>				<b>1.10</b>	<b>0.15</b>	<b>0.90</b>		<b>2.15</b>
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	NBI	PO	STUTTARD, TOM	OscNext Event Selection				0.20	0.20
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	NBI	GR	BOURBEAU, ETIENNE	OscNext Event Selection				0.65	0.65
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	RWTH	GR	SCHUMACHER, LISA	HE muondata for IC/Auger/TA coinc. Analyses				0.10	0.10
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	RWTH	GR	STETTNER, JÖRAN	Diffuse sample production				0.05	0.05
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	RWTH	GR	STETTNER, JÖRAN	Diffuse-sample for PS analyses				0.05	0.05
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	RWTH	GR	PHILLIPPEN, SASKIA	Moon Sample Processing and Verification				0.10	0.10
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	GENT	GR	VERPOEST, STEF	Cosmic Ray L3 scripts				0.50	0.50
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	GENT	GR	VERPOEST, STEF	Pass2 verification				0.05	0.05
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	TUM	GR	TURCATI, ANDREA	Muon L3 Scripts				0.20	0.20
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	TUM	GR	NIEDERHAUSEN, HANS	Muon L3 Scripts				0.10	0.10

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2.4 Data Processing & Simulation	2.4.1 Offline Data Production	TUM	GR	HUBER, MATTHIAS	Muon L3 Scripts				0.20	0.20
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	TUM	GR	GLAUCH, THEO	Pass-2				0.20	0.20
2.4 Data Processing & Simulation	2.4.1 Offline Data Production	<b>Non-US Total</b>							<b>2.40</b>	<b>2.40</b>
2.4 Data Processing & Simulation	2.4.1 Offline Data Production					<b>1.10</b>	<b>0.15</b>	<b>0.90</b>	<b>2.40</b>	<b>4.55</b>
2.4 Data Processing & Simulation	2.4.2 Simulation Production	UD	PO	SOLDIN, DENNIS	IceCube/IceTop simulation production	0.15				0.15
2.4 Data Processing & Simulation	2.4.2 Simulation Production	UD	GR	REHMAN, ABDUL	Surface radio		0.15			0.15
2.4 Data Processing & Simulation	2.4.2 Simulation Production	UMD	SC	BLAUFUSS, ERIK	Simulation production site manager		0.10			0.10
2.4 Data Processing & Simulation	2.4.2 Simulation Production	UMD	PO	LARSON, MICHAEL	Low Energy tools		0.05			0.05
2.4 Data Processing & Simulation	2.4.2 Simulation Production	UW	SC	DESIATI, PAOLO	Simulation Production streamlining programs for the cloud, GPU	0.30				0.30
2.4 Data Processing & Simulation	2.4.2 Simulation Production	UW	SC	DESIATI, PAOLO	Simulation Production Manager	0.30				0.30
2.4 Data Processing & Simulation	2.4.2 Simulation Production	UW	SC	DESIATI, PAOLO	Simulation Production panel chair			0.10		0.10
2.4 Data Processing & Simulation	2.4.2 Simulation Production	UW	GR	GRIFFITH, ZACHARY	Gamma simulation production		0.30			0.30
2.4 Data Processing & Simulation	2.4.2 Simulation Production	UW	GR	WILLE, LOGAN	Simulation production for muon decay Glashow resonance events			0.30		0.30
2.4 Data Processing & Simulation	2.4.2 Simulation Production	UW	DS	DIAZ-VELEZ, JUAN CARLOS	Manage Centralized Simulation Production. Maintain, test and update physics aspects of the atmospheric muon and neutrino simulation	0.40				0.40
2.4 Data Processing & Simulation	2.4.2 Simulation Production	UW	CS	EVANS, ERIC	Simulation production monitoring and validation	0.40				0.40
2.4 Data Processing & Simulation	2.4.2 Simulation Production	<b>US Total</b>				<b>1.55</b>	<b>0.60</b>	<b>0.40</b>		<b>2.55</b>
2.4 Data Processing & Simulation	2.4.2 Simulation Production	ALBERTA	PO	HIGNIGHT, JOSHUA	Production of GENIE signal simulation for low-energy analyses				0.25	0.25
2.4 Data Processing & Simulation	2.4.2 Simulation Production	ALBERTA	PO	HIGNIGHT, JOSHUA	GENIE-icetray maintainer				0.05	0.05
2.4 Data Processing & Simulation	2.4.2 Simulation Production	ALBERTA	GR	SARKAR, SOURAV	PYTHIA event generator implementation and maintenance				0.15	0.15
2.4 Data Processing & Simulation	2.4.2 Simulation Production	CHIBA	PO	LU, LU	special background simulation production (Corsika)				0.20	0.20
2.4 Data Processing & Simulation	2.4.2 Simulation Production	CHIBA	PO	MEIER, MAXIMILIAN	High energy Corsika simulation production with Sibyll 3.2 and EPOS				0.20	0.20
2.4 Data Processing & Simulation	2.4.2 Simulation Production	DTMND	GR	WERTHEBACH, JOHANNES	Simulation production site manager at Dortmund				0.50	0.50
2.4 Data Processing & Simulation	2.4.2 Simulation Production	KIT	SC	KANG, DONGHWA	Surface simulations				0.15	0.15
2.4 Data Processing & Simulation	2.4.2 Simulation Production	KIT	PO	LESZCZYNSKA, AGNIESZKA	Validation and Monitoring data sets				0.20	0.20
2.4 Data Processing & Simulation	2.4.2 Simulation Production	RWTH	GR	STETTNER, JÖRAN	Simulation production for consistent MC spanning IC-79-IC-86-5 (relevant after				0.20	0.20
2.4 Data Processing & Simulation	2.4.2 Simulation Production	RWTH	GR	GANSTER, ERIK	MC Production for global diffuse fit				0.20	0.20
2.4 Data Processing & Simulation	2.4.2 Simulation Production	TUM	GR	MEIGHEN-BERGER, STEPHAN	Development of MCEq				0.30	0.30
2.4 Data Processing & Simulation	2.4.2 Simulation Production	<b>Non-US Total</b>							<b>2.40</b>	<b>2.40</b>
2.4 Data Processing & Simulation	2.4.2 Simulation Production					<b>1.55</b>	<b>0.60</b>	<b>0.40</b>	<b>2.40</b>	<b>4.95</b>
2.4 Data Processing & Simulation	2.4.3 Public Data Products	UA	KE	WILLIAMS, DAWN	Convener of Data release task force	0.05				0.05
2.4 Data Processing & Simulation	2.4.3 Public Data Products	MIT	GR	DIAZ, ALEJANDRO	Organize and maintain BSM public data release page			0.10		0.10
2.4 Data Processing & Simulation	2.4.3 Public Data Products	PSU	PO	ELLER, PHILIPP	DRAGON/GRECO data release		0.05			0.05
2.4 Data Processing & Simulation	2.4.3 Public Data Products	<b>US Total</b>				<b>0.05</b>	<b>0.05</b>	<b>0.10</b>		<b>0.20</b>
2.4 Data Processing & Simulation	2.4.3 Public Data Products	RWTH	GR	STETTNER, JÖRAN	Millipede scans for HE muondata for IC/Auger/TA coinc. Analyses				0.05	0.05
2.4 Data Processing & Simulation	2.4.3 Public Data Products	ULB	PO	BAUR, SEBASTIAN	Validation of data release Upgrade				0.25	0.25
2.4 Data Processing & Simulation	2.4.3 Public Data Products	VUB	KE	VAN EIJDHOVEN, NICK	Public data release				0.10	0.10
2.4 Data Processing & Simulation	2.4.3 Public Data Products	<b>Non-US Total</b>							<b>0.40</b>	<b>0.40</b>
2.4 Data Processing & Simulation	2.4.3 Public Data Products					<b>0.05</b>	<b>0.05</b>	<b>0.10</b>	<b>0.40</b>	<b>0.60</b>
2.4 Data Processing & Simulation	<b>WBS L2 Total</b>					<b>2.95</b>	<b>0.80</b>	<b>1.40</b>	<b>5.20</b>	<b>10.35</b>
2.5 Software	2.5.0 Software									0.00
2.5 Software	<b>2.5.0 Software</b>					<b>0.00</b>	<b>0.00</b>	<b>0.00</b>		<b>0.00</b>
2.5 Software	2.5.1 Core Software	MIT	GR	MOULAI, MARJON	Atmospheric fluxes library from MCEq with uncertainties			0.20		0.20

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2.5 Software	2.5.1 Core Software	MSU	KE	KOPPER, CLAUDIO	IceTray framework maintenance			0.05		0.05	
2.5 Software	2.5.1 Core Software	MSU	KE	WHITEHORN, NATHAN	IceTray framework maintenance			0.05		0.05	
2.5 Software	2.5.1 Core Software	MSU	GR	MICALLEF, JESSIE	Software strike team / CLSim development and maintenance		0.20			0.20	
2.5 Software	2.5.1 Core Software	OSU	GR	MEDINA, ANDRES	Software strike team			0.25		0.25	
2.5 Software	2.5.1 Core Software	UD	PO	COLEMAN, ALAN	Software strike team			0.10		0.10	
2.5 Software	2.5.1 Core Software	UD	GR	REHMAN, ABDUL	Visualization software (Steamshovel)		0.15			0.15	
2.5 Software	2.5.1 Core Software	UMD	SC	BLAUFUSS, ERIK	Support Core Software	0.10				0.10	
2.5 Software	2.5.1 Core Software	UMD	PO	OLIVAS, ALEX	Support Core Software			0.05		0.05	
2.5 Software	2.5.1 Core Software	UMD	PO	OLIVAS, ALEX	SW Coordinator – Core Software	0.20				0.20	
2.5 Software	2.5.1 Core Software	UMD	CS	UMD CS	Maintain Core Software Repository	0.00				0.00	
2.5 Software	2.5.1 Core Software	<b>US Total</b>					<b>0.30</b>	<b>0.35</b>	<b>0.70</b>		<b>1.35</b>
2.5 Software	2.5.1 Core Software	ALBERTA	CS	RAJEWSKI, JAMIE	Updating and maintaining compatibility of tools				0.10	0.10	
2.5 Software	2.5.1 Core Software	MAINZ	GR	EHRHARD, THOMAS	SimProd setup and PISA				0.25	0.25	
2.5 Software	2.5.1 Core Software	SU	GR	JANSSON, MATTI	Software strike team				0.20	0.20	
2.5 Software	2.5.1 Core Software	TUM	PO	KRINGS, KAI	Software strike team				0.20	0.20	
2.5 Software	2.5.1 Core Software	TUM	PO	WOLF, MARTIN	Neutrino Source Technical Coordinator				0.20	0.20	
2.5 Software	2.5.1 Core Software	MAINZ	GR	WELDERT, JAN	PISA				0.20	0.20	
2.5 Software	2.5.1 Core Software	TUM	GR	KARL, MARTINA	Software strike team				0.20	0.20	
2.5 Software	2.5.1 Core Software	<b>Non-US Total</b>								<b>1.35</b>	<b>1.35</b>
2.5 Software	<b>2.5.1 Core Software</b>						<b>0.30</b>	<b>0.35</b>	<b>0.70</b>	<b>1.35</b>	<b>2.70</b>
2.5 Software	2.5.2 Simulation Software	UD	PO	COLEMAN, ALAN	Simulation of surface enhancements			0.20		0.20	
2.5 Software	2.5.2 Simulation Software	UD	GR	PAUDEL, EK NARAYAN	Surface radio			0.10		0.10	
2.5 Software	2.5.2 Simulation Software	MIT	PO	VANNEROM, DAVID	Development of GolemFit			0.10		0.10	
2.5 Software	2.5.2 Simulation Software	MIT	PO	VANNEROM, DAVID	Extension of LeptonInjector to include Beyond Standard Model particles			0.30		0.30	
2.5 Software	2.5.2 Simulation Software	MIT	GR	WEIGEL, PHILIP	Development of GolemFit			0.10		0.10	
2.5 Software	2.5.2 Simulation Software	MIT	GR	DIAZ, ALEJANDRO	Development of GolemFit			0.10		0.10	
2.5 Software	2.5.2 Simulation Software	MSU	KE	KOPPER, CLAUDIO	Maintenance of clsim direct photon propagation tool			0.10		0.10	
2.5 Software	2.5.2 Simulation Software	MSU	KE	MAHN, KENDALL	Integration/development of GENIE for low energy systematics			0.05		0.05	
2.5 Software	2.5.2 Simulation Software	MSU	GR	HARNISCH, ALEXANDER	Implementation of BFRv1 ice model in clsim			0.20		0.20	
2.5 Software	2.5.2 Simulation Software	ROCHESTER	GR	GRISWOLD, SPENCER	Supernova and transient simulations			0.10		0.10	
2.5 Software	2.5.2 Simulation Software	SUBR	KE	FAZELY, ALI	GEANT Simulation, Supernova Data			0.15		0.15	
2.5 Software	2.5.2 Simulation Software	SUBR	SC	XIANWU, XU	Simulation Programs			0.15		0.15	
2.5 Software	2.5.2 Simulation Software	UTA	KE	JONES, BENJAMIN	GolemFit and nuSQuIDS contributions			0.05		0.05	
2.5 Software	2.5.2 Simulation Software	UTA	GR	PARKER, GRANT	Development, testing and maintenance of GolemFit code			0.10		0.10	
2.5 Software	2.5.2 Simulation Software	UTA	GR	SMITHERS, BENJAMIN	SnowSuite systematics framework for IceCube analyses, including implementation in official production			0.50		0.50	
2.5 Software	2.5.2 Simulation Software	UW	SC	CHIRKIN, DMITRY	Maintain and Verify Simulation of Photon Propagation and update Ice Properties	0.30				0.30	
2.5 Software	2.5.2 Simulation Software	UW	SC	HOSHINA, KOTOYO	nugen maintenance	0.25				0.25	
2.5 Software	2.5.2 Simulation Software	UW	GR	SILVA, MANUEL	Muongun maintenance, upgrade	0.25				0.25	
2.5 Software	2.5.2 Simulation Software	UW	DS	DIAZ-VELEZ, JUAN CARLOS	Simulation software programs coordinator	0.25				0.25	
2.5 Software	2.5.2 Simulation Software	UW	DS	MEAGHER, KEVIN	Triggered CORSIKA maintenance and development	0.75				0.75	
2.5 Software	2.5.2 Simulation Software	<b>US Total</b>					<b>1.80</b>	<b>0.00</b>	<b>2.30</b>		<b>4.10</b>

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WBS L2	WBS L3	Institution	Lab or Cat.	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. Institutional In-Kind	Non-U.S. Institutional In-Kind	Grand Total
2.5 Software	2.5.2 Simulation Software	BOCHUM	KE	TJUS, JULIA	Development PROPOSAL simulation software				0.10	0.10
2.5 Software	2.5.2 Simulation Software	DESY	KE	VAN SANTEN, JAKOB	Software package maintenance				0.10	0.10
2.5 Software	2.5.2 Simulation Software	DTMND	GR	ALAMEDDINE, JEAN-MARCO	PROPOSAL-IceProd Integration and optimization				0.30	0.30
2.5 Software	2.5.2 Simulation Software	DTMND	GR	SOEDINGREKSO, JAN	PROPOSAL-IceProd Integration and optimization				0.50	0.50
2.5 Software	2.5.2 Simulation Software	GENT	GR	VERPOEST, STEF	Investigations of thinning in simulation				0.05	0.05
2.5 Software	2.5.2 Simulation Software	ERLANGEN	PO	GLÜSENKAMP, THORSTEN	Track/Cascade reconstruction and simulation				0.20	0.20
2.5 Software	2.5.2 Simulation Software	ERLANGEN	GR	KITTLER, THOMAS	Simulation verification, reconstruction development				0.20	0.20
2.5 Software	2.5.2 Simulation Software	ERLANGEN	GR	WREDE, GERRIT	Novel reconstruction algorithms				0.20	0.20
2.5 Software	2.5.2 Simulation Software	KIT	SC	WEINDL	Software surface				0.15	0.15
2.5 Software	2.5.2 Simulation Software	RWTH	GR	BOETTCHER, JAKOB	Monopole Noise Simulation Tool				0.20	0.20
2.5 Software	2.5.2 Simulation Software	RWTH	GR	SCHAUFEL, MERLIN	IceAct/IceCube/IceTop MonteCarlo				0.10	0.10
2.5 Software	2.5.2 Simulation Software	RWTH	GR	GANSTER, ERIK	Snowstorm MC				0.20	0.20
2.5 Software	2.5.2 Simulation Software	QUEEN'S	KE	CLARK, KENNETH	Low Energy Simulation Software updates				0.10	0.10
2.5 Software	2.5.2 Simulation Software	<b>Non-US Total</b>							<b>2.40</b>	<b>2.40</b>
2.5 Software	<b>2.5.2 Simulation Software</b>					<b>1.80</b>	<b>0.00</b>	<b>2.30</b>	<b>2.40</b>	<b>6.50</b>
2.5 Software	2.5.3 Reconstruction	UA	KE	SANTANDER, MARCOS	Reconstruction validation - PSF studies			0.05		0.05
2.5 Software	2.5.3 Reconstruction	UAA	KE	RAWLINS, KATHERINE	Snow correction for IceTop			0.20		0.20
2.5 Software	2.5.3 Reconstruction	GTECH	GR	CHEN, CHUJIE	Maintainer of Cramer-Rao		0.10			0.10
2.5 Software	2.5.3 Reconstruction	LBNL	GR	LYU, YANG	Starting event energy, muon bundles			0.10		0.10
2.5 Software	2.5.3 Reconstruction	MERCER	KE	MCNALLY, FRANK	IceTop energy reconstruction with CNNs			0.10		0.10
2.5 Software	2.5.3 Reconstruction	MSU	PO	LUDWIG, ANDREW	Likelihood-based muon reconstruction development			0.50		0.50
2.5 Software	2.5.3 Reconstruction	MSU	GR	NOWICKI, SARAH	DirectReco software support			0.10		0.10
2.5 Software	2.5.3 Reconstruction	PSU	PO	ELLER, PHILIPP	PISA Maintenance		0.10			0.10
2.5 Software	2.5.3 Reconstruction	SBU	GR	ZHANG, ZELONG	Reconstruction tau, cascades		0.10			0.10
2.5 Software	2.5.3 Reconstruction	SUBR	KE	FAZELY, ALI	Reconstruction/ Analysis tools, data analysis, Cloud Computation; High Energy Neutrino Nucleon Cross Section Measurement and Simulation			0.15		0.15
2.5 Software	2.5.3 Reconstruction	SUBR	SC	XIANWU, XU	Reconstruction/ Analysis tools			0.15		0.15
2.5 Software	2.5.3 Reconstruction	UD	PO	SOLDIN, DENNIS	IceTop reco, Corsika reader		0.15			0.15
2.5 Software	2.5.3 Reconstruction	UMD	PO	LARSON, MICHAEL	Neutrinos source WG technical lead software/likelihood		0.20			0.20
2.5 Software	2.5.3 Reconstruction	UMD	PO	OLIVAS, ALEX	SW Coordinator – Data Quality, Reconstruction and Sim. Programs	0.25				0.25
2.5 Software	2.5.3 Reconstruction	PSU	GR	LANFRANCHI, JUSTIN	Low energy event reconstruction quality; PISA maintenance			0.15		0.15
2.5 Software	2.5.3 Reconstruction	PSU	GR	DELAUNAY, JIMMY	Low energy neutrino pointing resolution			0.20		0.20
2.5 Software	2.5.3 Reconstruction	SDSMT	KE	XINHUA, BAI	Study of high energy cosmic rays, fluctuations			0.58		0.58
2.5 Software	2.5.3 Reconstruction	SDSMT	GR	LEON SILVERIO, DIANA	Update and improve the IceTop-InIce combined reconstruction, study of fluctuations			0.90		0.90
2.5 Software	2.5.3 Reconstruction	UW	SC	CHIRKIN, DMITRY	Reconstruction software	0.15				0.15
2.5 Software	2.5.3 Reconstruction	UW	GR	GRIFFITH, ZACHARY	Photon/hadron separation		0.20			0.20
2.5 Software	2.5.3 Reconstruction	UW	GR	SCHNEIDER, AUSTIN	Event reconstruction, software development		0.15			0.15

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WBS L2	WBS L3	Institution	Lab or Cat.	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. Institutional In-Kind	Non-U.S. Institutional In-Kind	Grand Total	
2.5 Software	2.5.3 Reconstruction	UW	GR	PIZZUTO, ALEX	Fast response analysis maintenance, SkyLab transients			0.20		0.20	
2.5 Software	2.5.3 Reconstruction	UW	PO	YUAN, TIANLU	Impact of DOM response on reconstruction, cascade reconstruction at high energies		0.40			0.40	
2.5 Software	2.5.3 Reconstruction	UW	DS	MEAGHER, KEVIN	Reconstruction software programs	0.25				0.25	
2.5 Software	2.5.3 Reconstruction	UWRF	KE	SEUNARINE, SURUJ	Low-Energy Extensions of IceTop			0.10		0.10	
2.5 Software	2.5.3 Reconstruction	Yale	KE	MARUYAMA, REINA	Coincident events between IceCube and DM-Ice, low energy reconstruction			0.05		0.05	
2.5 Software	2.5.3 Reconstruction	<b>US Total</b>					<b>0.65</b>	<b>1.40</b>	<b>3.53</b>		<b>5.58</b>
2.5 Software	2.5.3 Reconstruction	ADELAIDE	KE	HILL, GARY	Event energy and direction reconstruction, millipede				0.40	0.40	
2.5 Software	2.5.3 Reconstruction	ALBERTA	PO	HIGNIGHT, JOSHUA	Level-3 processing maintainer for the LE group				0.05	0.05	
2.5 Software	2.5.3 Reconstruction	CHIBA	KE	YOSHIDA, SHIGERU	Maintain Romeo, EHE Simulations, Calibration using Standard Candles				0.20	0.20	
2.5 Software	2.5.3 Reconstruction	CHIBA	KE	YOSHIDA, SHIGERU	EHE online pipeline for follow-up observations				0.15	0.15	
2.5 Software	2.5.3 Reconstruction	CHIBA	KE	ISHIHARA, AYA	Maintain Portia and the SC data filtering				0.15	0.15	
2.5 Software	2.5.3 Reconstruction	DESY	GR	LAGUNAS GUALDA, CHRISTINA	Millipede systematic uncertainties				0.10	0.10	
2.5 Software	2.5.3 Reconstruction	DPNC	GR	BRON, STEPHANIE	Paper on flare search				0.10	0.10	
2.5 Software	2.5.3 Reconstruction	DPNC	GR	LUCARELLI FRANCESCO	Time dependent flare search online filter quality and monthly data				0.70	0.70	
2.5 Software	2.5.3 Reconstruction	DPNC	GR	ALISPACH, CYRIL	Verification on 10 yr PS sample and analysis on UHECRs				0.30	0.30	
2.5 Software	2.5.3 Reconstruction	MAINZ	GR	LOHFINK, ELISA	Low energy reconstruction				0.40	0.40	
2.5 Software	2.5.3 Reconstruction	UC	PO	AARTSEN, MARK	Code maintenance (CLast)				0.05	0.05	
2.5 Software	2.5.3 Reconstruction	UC	PO	AARTSEN, MARK	Cascade Spline Table tests (ongoing)				0.10	0.10	
2.5 Software	2.5.3 Reconstruction	SU	GR	DEOSKAR, KUNAL	Event reconstruction, angular resolution				0.20	0.20	
2.5 Software	2.5.3 Reconstruction	TUM	PO	KRINGS, KAI	Maintenance Gulliver tool				0.10	0.10	
2.5 Software	2.5.3 Reconstruction	VUB	KE	VAN EIJDHOVEN, NICK	IcePack analysis software tools				0.25	0.25	
2.5 Software	2.5.3 Reconstruction	VUB	GR	COPPIN, PAUL	Maintenance of GRBWEB				0.10	0.10	
2.5 Software	2.5.3 Reconstruction	<b>Non-US Total</b>							<b>3.35</b>	<b>3.35</b>	
2.5 Software	<b>2.5.3 Reconstruction</b>						<b>0.65</b>	<b>1.40</b>	<b>3.53</b>	<b>3.35</b>	<b>8.93</b>
2.5 Software	2.5.4 Science Support Tools	HARVARD	KE	ARGUELLES, CARLOS	GolemFit framework development coordination			0.10		0.10	
2.5 Software	2.5.4 Science Support Tools	HARVARD	GR	SKRZYPEK, BARBARA	Maintenance and development of LeptonInjector			0.10		0.10	
2.5 Software	2.5.4 Science Support Tools	HARVARD	GR	SKRZYPEK, BARBARA	GolemFit framework development			0.10		0.10	
2.5 Software	2.5.4 Science Support Tools	UA	KE	SANTANDER, MARCOS	Public alerts summary web page			0.05		0.05	
2.5 Software	2.5.4 Science Support Tools	<b>US Total</b>					<b>0.00</b>	<b>0.00</b>	<b>0.35</b>		<b>0.35</b>
2.5 Software	2.5.4 Science Support Tools	RWTH	GR	SCHUMACHER, LISA	Skylab maintenance				0.05	0.05	
2.5 Software	2.5.4 Science Support Tools	RWTH	GR	STETTNER, JÖRAN	NNMFIT tool for diffuse profile likelihood fits				0.05	0.05	
2.5 Software	2.5.4 Science Support Tools	RWTH	GR	GANSTER, ERIK	NNMFIT tool for diffuse profile likelihood fits				0.05	0.05	
2.5 Software	2.5.4 Science Support Tools	Münster	GR	BUSSE, RAFFAELA	Extension of NuFlux tool				0.50	0.50	
2.5 Software	2.5.4 Science Support Tools	TUM	PO	WOLF, MARTIN	Maintenance SkyLab, Development SkyLLH				0.20	0.20	
2.5 Software	2.5.4 Science Support Tools	TUM	GR	NIEDERHAUSEN, HANS	Maintenance SkyLab, Development SkyLLH				0.20	0.20	
2.5 Software	2.5.4 Science Support Tools	<b>Non-US Total</b>							<b>1.05</b>	<b>1.05</b>	
2.5 Software	<b>2.5.4 Science Support Tools</b>						<b>0.00</b>	<b>0.00</b>	<b>0.35</b>	<b>1.05</b>	<b>1.40</b>
2.5 Software	2.5.5 Software Development Infrastructure	UMD	CS	LADIEU, DON	Maintenance of DevOps systems, e.g. build, test coverage, CI/CD, VCS, and workflow policy	0.75				0.75	
2.5 Software	2.5.5 Software Development Infrastructure	<b>US Total</b>					<b>0.75</b>	<b>0.00</b>	<b>0.00</b>		<b>0.75</b>

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WBS L2	WBS L3	Institution	Lab or Cat.	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. Institutional In-Kind	Non-U.S. Institutional In-Kind	Grand Total
2.5 Software	2.5.5 Software Development Infrastructure									0.00
2.5 Software	2.5.5 Software Development Infrastructure	<b>Non-US Total</b>							<b>0.00</b>	<b>0.00</b>
2.5 Software	<b>2.5.5 Software Development Infrastructure</b>					<b>0.75</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.75</b>
<b>2.5 Software</b>	<b>WBS L2 Total</b>					<b>3.50</b>	<b>1.75</b>	<b>6.88</b>	<b>8.15</b>	<b>20.28</b>
2.6 Calibration	2.6.1 Detector Calibration	UA	KE	WILLIAMS, DAWN	Baseline and charge harvesting and DOMCal	0.10				0.10
2.6 Calibration	2.6.1 Detector Calibration	KU	KE	BESSON, DAVE	Development of four radio-frequency pulsers for IceCube upgrade			0.30		0.30
2.6 Calibration	2.6.1 Detector Calibration	KU	GR	MADISON, BRENDON	Development of four radio-frequency pulsers for IceCube upgrade			0.15		0.15
2.6 Calibration	2.6.1 Detector Calibration	KU	GR	MAGNUSON, MITCH	Development of four radio-frequency pulsers for IceCube upgrade			0.15		0.15
2.6 Calibration	2.6.1 Detector Calibration	MSU	PO	NISA, MEHR	In-situ DOM sensitivity / angular response calibration from muon neutrinos			0.10		0.10
2.6 Calibration	2.6.1 Detector Calibration	MSU	GR	LE, HIEU	In-situ DOM sensitivity / angular response calibration from muon neutrinos			0.10		0.10
2.6 Calibration	2.6.1 Detector Calibration	UW	SC	WENDT, CHRISTOPHER	Flasher output, flasher calibration	0.40				0.40
2.6 Calibration	2.6.1 Detector Calibration	UW	SC	WENDT, CHRISTOPHER	DOM charge response, linearity, DOM calibration support	0.40				0.40
2.6 Calibration	2.6.1 Detector Calibration	UW	SC	TOSI, DELIA	Absolute DOM sensitivity calibration (laboratory measurements)	0.15				0.15
2.6 Calibration	2.6.1 Detector Calibration	UW	GR	TY, BUNHENG	PMT negative HV studies			0.05		0.05
2.6 Calibration	2.6.1 Detector Calibration	UW	GR	LUSZCZAK, WILLIAM	Calibration, 2D-DOM response, anisotropy with muons		0.30			0.30
2.6 Calibration	2.6.1 Detector Calibration	UW	GR	SAFA, IBRAHIM	IceTop maintenance, Scintillator project			0.20		0.20
2.6 Calibration	2.6.1 Detector Calibration	UWRF	KE	SEUNARINE, SURUJ	Calibration-Flasher Studies			0.10		0.10
2.6 Calibration	2.6.1 Detector Calibration	<b>US Total</b>				<b>1.05</b>	<b>0.30</b>	<b>1.15</b>		<b>2.50</b>
2.6 Calibration	2.6.1 Detector Calibration	ALBERTA	KE	MOORE, ROGER	DOM efficiency with cosmic muons				0.10	0.10
2.6 Calibration	2.6.1 Detector Calibration	ALBERTA	GR	GILLCRIST, DAVID	DOM efficiency with cosmic muons				0.50	0.50
2.6 Calibration	2.6.1 Detector Calibration	UC	GR	RAISSI, AMIR	Flasher Data Testing (learning)				0.15	0.15
2.6 Calibration	2.6.1 Detector Calibration	HUMBOLDT	GR	HEBECKER, DUSTIN	Optical detector calibration				0.20	0.20
2.6 Calibration	2.6.1 Detector Calibration	SKKU	GR	JEONG, MINJIN	Online filter development & testing (Full Sky Starting Filter)				0.20	0.20
2.6 Calibration	2.6.1 Detector Calibration	SKKU	GR	JEONG, MINJIN	Dark Matter Flux Module - Add and maintain Dark Matter Decay				0.10	0.10
2.6 Calibration	2.6.1 Detector Calibration	SU	GR	JANSSON, MATTI	Geometry studies				0.20	0.20
2.6 Calibration	2.6.1 Detector Calibration	RWTH	GR	SCHAUFEL, MERLIN	IceTop & IceCube Calibration with IceAct				0.10	0.10
2.6 Calibration	2.6.1 Detector Calibration	RWTH	GR	PHILLIPPEN, SASKIA	Geometry Calibration				0.10	0.10
2.6 Calibration	2.6.1 Detector Calibration	UU	KE	HALLGREN, ALLAN	Calibration WG co-chair				0.15	0.15
2.6 Calibration	2.6.1 Detector Calibration	<b>Non-US Total</b>							<b>1.80</b>	<b>1.80</b>
2.6 Calibration	<b>2.6.1 Detector Calibration</b>					<b>1.05</b>	<b>0.30</b>	<b>1.15</b>	<b>1.80</b>	<b>4.30</b>
2.6 Calibration	2.6.2 Ice Properties	UA	KE	WILLIAMS, DAWN	Supporting flasher runs and flasher analysis			0.10		0.10
2.6 Calibration	2.6.2 Ice Properties	UD	KE	SECKEL, DAVID	Ice model, DOM noise			0.05		0.05
2.6 Calibration	2.6.2 Ice Properties	UTA	KE	JONES, BENJAMIN	Ice model uncertainty estimation using multisim MC method			0.10		0.10
2.6 Calibration	2.6.2 Ice Properties	UTA	GR	PARKER, GRANT	Negative modes in SnowStorm systematics framework			0.50		0.50
2.6 Calibration	2.6.2 Ice Properties	UTA	GR	SMITHERS, BENJAMIN	SnowStorm extension to systematics including hole ice, anisotropy, etc.			0.50		0.50
2.6 Calibration	2.6.2 Ice Properties	UW	SC	CHIRKIN, DMITRY	Direct photon tracking / ice- properties calibration , Individual DOM hole ice calibration		0.55			0.55
2.6 Calibration	2.6.2 Ice Properties	UW	EN	NUCKLES, JACK	Pencil beam, LED flasher support	1.00				1.00
2.6 Calibration	2.6.2 Ice Properties	UWRF	KE	SEUNARINE, SURUJ	Calibration-Flasher Studies			0.10		0.10
2.6 Calibration	2.6.2 Ice Properties	<b>US Total</b>				<b>1.00</b>	<b>0.55</b>	<b>1.35</b>		<b>2.90</b>

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WBS L2	WBS L3	Institution	Lab or Cat.	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. Institutional In-Kind	Non-U.S. Institutional In-Kind	Grand Total
2.6 Calibration	2.6.2 Ice Properties	SKKU	PO	TOENNIS, CHRISTOPH	Anisotropy Measurement with Spice hole camera				0.20	0.20
2.6 Calibration	2.6.2 Ice Properties	SKKU	PO	TOENNIS, CHRISTOPH	Dark Matter Flux Module - Add and maintain secluded DM				0.10	0.10
2.6 Calibration	2.6.2 Ice Properties	SKKU	GR	KANG, WOOSIK	Photon tracking / ice-properties calibration				0.20	0.20
2.6 Calibration	2.6.2 Ice Properties	TUM	GR	HENNINGSEN, FELIX	Simulation / Calibration				0.10	0.10
2.6 Calibration	2.6.2 Ice Properties	TUM	GR	HOLZAPFEL, KILIAN	Simulation / Calibration/ IceCube Upgrade				0.10	0.10
2.6 Calibration	2.6.2 Ice Properties	WUPPERTAL	GR	HOFFMANN, RUTH	Acoustic and radio ice properties				0.20	0.20
2.6 Calibration	2.6.2 Ice Properties	<b>Non-US Total</b>							<b>0.90</b>	<b>0.90</b>
2.6 Calibration	<b>2.6.2 Ice Properties</b>					<b>1.00</b>	<b>0.55</b>	<b>1.35</b>	<b>0.90</b>	<b>3.80</b>
<b>2.6 Calibration</b>	<b>WBS L2 Total</b>					<b>2.05</b>	<b>0.85</b>	<b>2.50</b>	<b>2.70</b>	<b>8.10</b>
<b>Grand Total</b>						<b>37.99</b>	<b>6.62</b>	<b>21.45</b>	<b>33.96</b>	<b>100.02</b>

Changes since last official version are colored red