

IceCube M&O Staffing Matrix sort by WBS v13.0 2012.1001

WBS L2	WBS L3	US /	Institution	Labor	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. IN- KIND	Non U.S. In- Kind	Grand Total			
		Cat.	Description	Cat.	Description	Cat.						Description	Cat.	Description
		AD	Administration	GR	Graduate Student	PO						Postdoctoral Scientist	TE	Technician
		CS	Computer Science Eng.	KE	Key Personnel/Faculty	SC						Scientist	WO	Winterover
EN	Engineer	MA	Management	SE	Senior Engineer									
2.1 Program Management	2.1.1 Administration	US		KE	KLEIN,SPENCER	Supervise LBNL effort	0.05				0.05			
2.1 Program Management	2.1.1 Administration	US	LBNL	KE	KLEIN,SPENCER	Pubcom member			0.10		0.10			
2.1 Program Management	2.1.1 Administration	US	UWRF	KE	MADSEN, JIM	Speakers Comm Chair			0.25		0.25			
2.1 Program Management	2.1.1 Administration	US	PSU	KE	COWEN, DOUG	ExecCom member			0.20		0.20			
2.1 Program Management	2.1.1 Administration	US	PSU	KE	COWEN, DOUG	PINGU Co-Lead			0.25		0.25			
2.1 Program Management	2.1.1 Administration	US	UCB	SC	FILIMONOV, KIRILL	Pubcom member		0.10			0.10			
2.1 Program Management	2.1.1 Administration	US	UCB	KE	PRICE, BUFORD	Education & Outreach			0.10		0.10			
2.1 Program Management	2.1.1 Administration	US	UCB	SC	WOSCHNAGG, KURT	Speakers Comm member		0.10			0.10			
2.1 Program Management	2.1.1 Administration	US	UD	KE	GAISSER, TOM	ExecCom member			0.20		0.20			
2.1 Program Management	2.1.1 Administration	US	UD	KE	STANEV, TODOR	Pubcom member			0.10		0.10			
2.1 Program Management	2.1.1 Administration	US	UMD	KE	SULLIVAN, GREG	Spokesperson	0.30				0.30			
2.1 Program Management	2.1.1 Administration	US	UMD	KE	SULLIVAN, GREG	ExecCom member			0.20		0.20			
2.1 Program Management	2.1.1 Administration	US	UMD	PO	WISSING, HENRIKE	Pubcom member		0.10			0.10			
2.1 Program Management	2.1.1 Administration	US	StonyBrook	KE	KIRYLUK,JOANNA	Simulation Prod. Comm member			0.05		0.05			
2.1 Program Management	2.1.1 Administration	US	UW	KE	HALZEN, FRANCIS	Principle Investigator	0.35				0.35			
2.1 Program Management	2.1.1 Administration	US	UW	KE	HALZEN, FRANCIS	Principle Investigator			0.15		0.15			
2.1 Program Management	2.1.1 Administration	US	UW	KE	KARLE, ALBRECHT	Associate Director for Science	0.25				0.25			
2.1 Program Management	2.1.1 Administration	US	UW	KE	KARLE, ALBRECHT	Coordination Committee chair	0.10				0.10			
2.1 Program Management	2.1.1 Administration	US	UW	KE	KARLE, ALBRECHT	ExecCom member			0.20		0.20			
2.1 Program Management	2.1.1 Administration	US	UW	KE	YECK, JAMES	Director of Operations	0.38				0.38			
2.1 Program Management	2.1.1 Administration	US	UW	MA	UW Manager	Computing Infrastructure Management	1.00				1.00			
2.1 Program Management	2.1.1 Administration	US	UW	MA	PELES, ADI	Resource Coordinator	0.75				0.75			
2.1 Program Management	2.1.1 Administration	US	UW	AD	Vakhnina, Catherine	Deputy Resource Coordinator	0.50				0.50			
2.1 Program Management	2.1.1 Administration	US	US Total				3.68	0.30	1.80		5.78			
2.1 Program Management	2.1.1 Administration	Non-US	ALBERTA	KE	GRANT, DARREN	Pubcom adjoint member				0.10	0.10			
2.1 Program Management	2.1.1 Administration	Non-US	DESY	KE	SPIERING, CHRISTIAN	ExecCom member				0.20	0.20			
2.1 Program Management	2.1.1 Administration	Non-US	DESY	SC	ACKERMANN, MARKUS	Analysis Coordinator				0.35	0.35			
2.1 Program Management	2.1.1 Administration	Non-US	DPNC	KE	MONTARULI, TERESA	ICB Member				0.10	0.10			
2.1 Program Management	2.1.1 Administration	Non-US	HUMBOLDT	KE	KAPPES, ALEXANDER	Pubcom member				0.10	0.10			
2.1 Program Management	2.1.1 Administration	Non-US	SU	KE	HULTH, PER OLOF	ExecCom member				0.20	0.20			
2.1 Program Management	2.1.1 Administration	Non-US	SU	KE	HULTH, PER OLOF	ICB Member				0.05	0.05			
2.1 Program Management	2.1.1 Administration	Non-US	SU	KE	HULTQVIST, KLAS	ICB Member				0.05	0.05			
2.1 Program Management	2.1.1 Administration	Non-US	SU	KE	FINLEY, CHAD SU	Coordination with LIGO				0.10	0.10			
2.1 Program Management	2.1.1 Administration	Non-US	SU	KE	WALCK, CHRISTIAN	Publications Bookkeeping				0.10	0.10			
2.1 Program Management	2.1.1 Administration	Non-US	ULB	KE	HANSON, Kael	ExecCom member				0.20	0.20			
2.1 Program Management	2.1.1 Administration	Non-US	UU	KE	BOTNER, OLGA	Outreach				0.05	0.05			
2.1 Program Management	2.1.1 Administration	Non-US	UU	KE	BOTNER, OLGA	Pubcom Chair				0.40	0.40			
2.1 Program Management	2.1.1 Administration	Non-US	UU	KE	HALLGREN, ALLAN	Outreach				0.05	0.05			
2.1 Program Management	2.1.1 Administration	Non-US	UU	KE	HALLGREN, ALLAN	Speakers Comm member				0.10	0.10			
2.1 Program Management	2.1.1 Administration	Non-US	VUB	KE	DE CLERCQ, CATHERINE	ExecCom member				0.20	0.20			
2.1 Program Management	2.1.1 Administration	Non-US	WUPPERTAL	KE	HELBING, KLAUS	Speakers Comm member				0.10	0.10			
2.1 Program Management	2.1.1 Administration	Non-US	RWTH	KE	WIEBUSCH, CHRISTOPH	ExecCom member				0.20	0.20			
2.1 Program Management	2.1.1 Administration	Non-US	MAINZ	KE	KOPKE, LUTZ	Supernova group Co-Chair				0.25	0.25			
2.1 Program Management	2.1.1 Administration	Non-US	BOCHUM	KE	TJUS, JULIA	Pubcom member				0.10	0.10			
2.1 Program Management	2.1.1 Administration	Non-US	Non-US Total							3.00	3.00			
2.1 Program Management	2.1.1 Administration	WBS L3					3.68	0.30	1.80	3.00	8.78			

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WBS L2	WBS L3	US /	Institution	Labor	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. IN-KIND	Non U.S. In-Kind	Grand Total			
		Cat.	Description	Cat.	Description	Cat.						Description	Cat.	Description
		AD	Administration	GR	Graduate Student	PO						Postdoctoral Scientist	TE	Technician
		CS	Computer Science Eng.	KE	Key Personnel/Faculty	SC						Scientist	WO	Winterover
EN	Engineer	MA	Management	SE	Senior Engineer									
2.1 Program Management	2.1.2 Engineering And R&D Support	US	KU	KE	BESSON, DAVE	EMI - Radio R&D			0.10		0.10			
2.1 Program Management	2.1.2 Engineering And R&D Support	US	UMD	KE	HOFFMAN, KARA	Detector R&D			0.20		0.20			
2.1 Program Management	2.1.2 Engineering And R&D Support	US	UW	PO	DAY, MELANIE	PINGU R&D		0.25			0.25			
2.1 Program Management	2.1.2 Engineering And R&D Support	US	UW	SC	DUVERNOIS, MICHAEL	Science Support	0.25				0.25			
2.1 Program Management	2.1.2 Engineering And R&D Support	US	UW	SC	DUVERNOIS, MICHAEL	EMI, Instrumentation, I/F	0.15				0.15			
2.1 Program Management	2.1.2 Engineering And R&D Support	US	UW	SE	LAUNDRIE, ANDREW	EMI, Instrumentation, I/F	0.10				0.10			
2.1 Program Management	2.1.2 Engineering And R&D Support	US	UW	SE	LAUNDRIE, ANDREW	Engineering Support	0.50				0.50			
2.1 Program Management	2.1.2 Engineering And R&D Support	US	UW	SE	SANDSTROM, PERRY	EMI, Instrumentation, I/F	0.15				0.15			
2.1 Program Management	2.1.2 Engineering And R&D Support	US	UW	SE	SANDSTROM, PERRY	Engineering Support	0.15				0.15			
2.1 Program Management	2.1.2 Engineering And R&D Support	US	UW	MA	HAUGEN, JAMES	Engineering Support	0.45				0.45			
2.1 Program Management	2.1.2 Engineering And R&D Support	US	US Total				1.75	0.25	0.30		2.30			
2.1 Program Management	2.1.2 Engineering And R&D Support	Non-US	DESY	KE	NAHNHAUER, ROLF	Acoustic R&D Support				0.10	0.10			
2.1 Program Management	2.1.2 Engineering And R&D Support	Non-US	DESY	PO	KARG, TIMO	Acoustic				0.10	0.10			
2.1 Program Management	2.1.2 Engineering And R&D Support	Non-US	ALBERTA	KE	GRANT, DARREN	PINGU Co-Lead				0.10	0.10			
2.1 Program Management	2.1.2 Engineering And R&D Support	Non-US	RWTH	PO	LAIHEM, KARIM	Acoustic R&D Support				0.10	0.10			
2.1 Program Management	2.1.2 Engineering And R&D Support	Non-US	RWTH	PO	LAIHEM, KARIM	Acoustic monitoring				0.10	0.10			
2.1 Program Management	2.1.2 Engineering And R&D Support	Non-US	RWTH	GR	PAUL, LARRISA	RASTA Antenna Construction				0.10	0.10			
2.1 Program Management	2.1.2 Engineering And R&D Support	Non-US	RWTH	GR	PAUL, LARRISA	SPATS SD Maintenance				0.20	0.20			
2.1 Program Management	2.1.2 Engineering And R&D Support	Non-US	RWTH	GR	HEINEN, DIRK	Acoustic R&D Support				0.10	0.10			
2.1 Program Management	2.1.2 Engineering And R&D Support	Non-US	ULB	KE	HANSON, KAEL	EMI/R&D				0.10	0.10			
2.1 Program Management	2.1.2 Engineering And R&D Support	Non-US	ULB	PO	O'MURCHADHA, AONG	EMI Measurements				0.10	0.10			
2.1 Program Management	2.1.2 Engineering And R&D Support	Non-US	ULB	GR	MEURES, THOMAS	EMI Measurements				0.25	0.25			
2.1 Program Management	2.1.2 Engineering And R&D Support	Non-US	WUPPERTAL	KE	HELBING, KLAUS	R&D Lead				0.10	0.10			
2.1 Program Management	2.1.2 Engineering And R&D Support	Non-US	GENT	SC	UGENT SC	Acoustic R&D Support				0.05	0.05			
2.1 Program Management	2.1.2 Engineering And R&D Support	Non-US	GENT	GR	UGENT GR	Acoustic R&D Support				0.05	0.05			
2.1 Program Management	2.1.2 Engineering And R&D Support	Non-US	Non-US Total							1.55	1.55			
2.1 Program Management	2.1.2 Engineering And R&D Support	WBS L3	Support				1.75	0.25	0.30	1.55	3.85			
2.1 Program Management	2.1.3 Usap Support	US	UW	AD	Hoefs, Edwin	Pole Planning and coordination	0.25				0.25			
2.1 Program Management	2.1.3 Usap Support	US	UW	MA	HAUGEN, JAMES	USAP Support	0.25				0.25			
2.1 Program Management	2.1.3 Usap Support	US	US Total				0.50				0.50			
2.1 Program Management	2.1.3 Usap Support	WBS L3	Support				0.50				0.50			
2.1 Program Management	2.1.4 Education & Outreach	US	OSU	PO	OSU PO	Outreach			0.05		0.05			
2.1 Program Management	2.1.4 Education & Outreach	US	PSU	KE	COWEN, DOUG	Education & Outreach			0.05		0.05			
2.1 Program Management	2.1.4 Education & Outreach	US	PSU	KE	DEYOUNG, TYCE	Education & Outreach			0.05		0.05			
2.1 Program Management	2.1.4 Education & Outreach	US	UMD	KE	UMD KE	E&O			0.10		0.10			
2.1 Program Management	2.1.4 Education & Outreach	US	UW	AD	Bacque, Laurel	Education & Outreach Coordination	0.25				0.25			
2.1 Program Management	2.1.4 Education & Outreach	US	UW	AD	Madsen, Megan	Education & Outreach Coordination	0.75				0.75			
2.1 Program Management	2.1.4 Education & Outreach	US	UWRF	KE	MADSEN, JIM	Teachers' program and UWRF Upward Bound	0.10				0.10			
2.1 Program Management	2.1.4 Education & Outreach	US	UWRF	TE	UWRF TE	Teachers Program	0.10				0.10			
2.1 Program Management	2.1.4 Education & Outreach	US	US Total				1.20	0.00	0.25		1.45			
2.1 Program Management	2.1.4 Education & Outreach	WBS L3	Support				1.20	0.00	0.25		1.45			

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		Cat.	Description	Cat.	Description	Cat.						Description	Cat.	Description
		AD	Administration	GR	Graduate Student	PO						Postdoctoral Scientist	TE	Technician
		CS	Computer Science Eng.	KE	Key Personnel/Faculty	SC						Scientist	WO	Winterover
EN	Engineer	MA	Management	SE	Senior Engineer									
2.1 Program Management	WBS L2 Total						7.13	0.55	2.35	4.55	14.58			
2.2 Detector Operations & Maintenance	2.2 Detector Operations & Maintenance	US	LBNL	KE	NYGREN,DAVID R	Track Engine Trigger			0.10		0.10			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	UW	SC	KELLEY, JOHN	Deputy Maintenance and Operations Manager	0.75				0.75			
2.2 Detector Operations & Maintenance	2.2 Detector Operations & Maintenance	US	US Total				0.75	0.00	0.10		0.85			
2.2 Detector Operations & Maintenance	2.2 Detector Operations & Maintenance	Non-US	UMH	GR	KOHNEN, GEORGES	Database Coordinator				0.10	0.10			
		Non-US	Non-US Total							0.10	0.10			
2.2 Detector Operations & Maintenance	2.2 Detector Operations & Maintenance		WBS L3				0.75	0.00	0.10	0.10	0.95			
2.2 Detector Operations & Maintenance	2.2.1 Run Coordination	US	UW	TE	Auer, Ralf	Winter Overs coordinator	0.25				0.25			
2.2 Detector Operations & Maintenance	2.2.1 Run Coordination	US	UW	TE	UW Winter Overs	Operate Detector (Winter-Overs)	3.00				3.00			
2.2 Detector Operations & Maintenance	2.2.1 Run Coordination	US	US Total				3.25	0.00	0.00		3.25			
2.2 Detector Operations & Maintenance	2.2.1 Run Coordination	Non-US	UC	GR	UC GR	Flasher Runs				0.10	0.10			
2.2 Detector Operations & Maintenance	2.2.1 Run Coordination	Non-US	BONN	PO	BOSSER, SEBASTIAN	Run Coordinator				0.50	0.50			
2.2 Detector Operations & Maintenance	2.2.1 Run Coordination	Non-US	Non-US Total							0.60	0.60			
2.2 Detector Operations & Maintenance	2.2.1 Run Coordination		WBS L3				3.25	0.00	0.00	0.60	3.85			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	LBNL	EN	STEZELBERGER,THOR	Maintain DAQ Hardware (Hubs, DOR, Clocks, GPS,...)	0.15				0.15			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	UD	KE	SECKEL, DAVID	DAQ Monitoring			0.05		0.05			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	UW	SC	KELLEY, JOHN	DOM Cal Maintenance, DOM issues	0.15				0.15			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	UW	SC	WENDT, CHRISTOPHE	Flasher output, flasher calibration	0.20				0.20			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	UW	SC	WENDT, CHRISTOPHE	DOM charge response, linearity, DOM cal support	0.20				0.20			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	UW	CS	Frere, Michael	Maintain DAQ Software Systems (incl. triggers, DOM SW, etc. up to Event Builder)	1.00				1.00			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	UW	CS	GLOWACKI, DAVID	Maintain DAQ Software Systems (incl. triggers, DOM SW, etc. up to Event Builder)	1.00				1.00			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	UW	CS	Newcomb, Matthew	Maintain DAQ Software Systems (incl. triggers, DOM SW, etc. up to Event Builder)	0.75				0.75			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	UW	TE	BELLINGER, JIM	Maintain South Pole Test System Hardware and Operating Systems	0.25				0.25			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	UW	SE	SANDSTROM, PERRY	Maintain DAQ Hardware (Hubs, DOR, Clocks, GPS,...)	0.25				0.25			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	UW	CS	JACOBSEN, JOHN (NP)	Maintain DAQ Hardware (Hubs, DOR, Clocks, GPS,...)	0.15				0.15			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	UW	GR	WEAVER, CHRISTOPH	DOM CAL Maintenance		0.20			0.20			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	US	US Total				4.10	0.20	0.05		4.35			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	Non-US	ULB	KE	HANSON, KAELE	Data Acquisition				0.20	0.20			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	Non-US	ULB	GR	HEEREMAN, DAVID	Develop Hit Spooling for Supernova & others				0.50	0.50			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	Non-US	ULB	GR	PINAT, ELISA	Data Acquisition				0.20	0.20			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition	Non-US	Non-US Total							0.90	0.90			
2.2 Detector Operations & Maintenance	2.2.2 Data Acquisition		WBS L3				4.10	0.20	0.05	0.90	5.25			

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		Cat.	Description	Cat.	Description	Cat.						Description	Cat.	Description
		AD	Administration	GR	Graduate Student	PO						Postdoctoral Scientist	TE	Technician
		CS	Computer Science Eng.	KE	Key Personnel/Faculty	SC						Scientist	WO	Winterover
EN	Engineer	MA	Management	SE	Senior Engineer									
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	US	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)	US	UMD	CS	Schmidt, Torsten	Maintain PnF Software and Online Filters	0.30				0.30			
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	US	UMD	GR	REDL, PETER	Online Filter Testing		0.25			0.25			
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	US	US Total				0.50	0.25	0.00		0.75			
2.2 Detector Operations & Maintenance	2.2.3 Online Filter (Pnf)	WBS L3					0.50	0.25	0.00		0.75			
2.2 Detector Operations & Maintenance	2.2.4 Sps Operations	US	UW	SE	SANDSTROM, PERRY	Maintain South Pole Computing H/W Infrastructure and operating systems	0.25				0.25			
2.2 Detector Operations & Maintenance	2.2.4 Sps Operations	US	UW	TE	BRIK, VLADIMIR	Maintain South Pole Computing H/W Infrastructure and operating systems	0.75				0.75			
2.2 Detector Operations & Maintenance	2.2.4 Sps Operations	US	UW	TE	WISNIEWSKI, PAUL	Networking and Security Maintenance	0.25				0.25			
2.2 Detector Operations & Maintenance	2.2.4 Sps Operations	US	US Total				1.25	0.00	0.00		1.25			
2.2 Detector Operations & Maintenance	2.2.4 Sps Operations	WBS L3					1.25	0.00	0.00		1.25			
2.2 Detector Operations & Maintenance	2.2.5 Spts Operations	US	UW	TE	BRIK, VLADIMIR	Maintain South Pole Computing H/W Infrastructure and operating systems	0.25				0.25			
2.2 Detector Operations & Maintenance	2.2.5 Spts Operations	US	UW	SE	LAUNDRIE, ANDREW	Maintain South Pole Test System Hardware and Operating Systems	0.10				0.10			
2.2 Detector Operations & Maintenance	2.2.5 Spts Operations	US	US Total				0.35	0.00	0.00	0.00	0.35			
2.2 Detector Operations & Maintenance	2.2.5 Spts Operations	WBS L3					0.35	0.00	0.00		0.35			
2.2 Detector Operations & Maintenance	2.2.6 Experiment Control	US	UW	CS	JACOBSEN, JOHN (NP)	IceCube Live Maintenance and Upgrades	0.65				0.65			
2.2 Detector Operations & Maintenance	2.2.6 Experiment Control	US	US Total				0.65	0.00	0.00		0.65			
2.2 Detector Operations & Maintenance	2.2.6 Experiment Control	WBS L3					0.65	0.00	0.00		0.65			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	CAU	KE	JAPARIDZE, GEORGE	Monitoring shifts			0.02		0.02			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	GTECH	GR	CASEY, JAMES	Monitoring shifts		0.03			0.03			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	KU	KE	BESSON, DAVE	Monitoring shifts			0.02		0.02			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	StonyBrook	KE	KIRYLUK,JOANNA	BadDomList			0.10		0.10			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	StonyBrook	GR	NIEDERHAUSEN, HANS	Detector Monitoring		0.05			0.05			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	LBNL	PO	CHANG, HYON HA	Monitoring shifts		0.09			0.09			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	OSU	PO	OSU PO	Monitoring shifts			0.02		0.02			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	OSU	PO	ROTT, CARSTEN	Maintain good run list			0.10		0.10			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	OSU	PO	PFENDNER, CARL	Maintain good run list			0.10		0.10			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	PSU	PO	CLARK, KEN	Monitoring shifts		0.03			0.03			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	PSU	GR	DUNKMAN, MATT	Monitoring shifts		0.03			0.03			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	SUBR	KE	TER-ANTONYAN, SAM	Detector Monitoring			0.02		0.02			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	UA	PO	UA PO	Monitoring shifts		0.03			0.03			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	UA	GR	XU, DONGLIAN	Monitoring shifts		0.03			0.03			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	UA	GR	PEPPER, JAMES	Monitoring shifts		0.03			0.03			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	UA	GR	LARSON, MICHAEL	Monitoring shifts		0.03			0.03			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	UAA	KE	RAWLINS, KATHERINE	Monitoring shifts			0.02		0.02			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	UCB	SC	FILIMONOV, KIRILL	Coordinate Monitoring		0.10			0.10			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	UCB	SC	FILIMONOV, KIRILL	Coordinate Monitoring	0.25				0.25			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	UCB	SC	UCB SC	Monitoring shifts		0.10			0.10			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	UCB	GR	UCB GR	Monitoring shifts		0.10			0.10			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	UCI	PO	SILVERSTRI, ANDREA	Monitoring shifts			0.01		0.01			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	UCI	GR	HANSON, JORDAN	Monitoring shifts			0.01		0.01			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	UD	PO	KUWABARA, TAKAO	Temp. & Pressure atmospheric monitoring			0.30		0.30			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	UMD	PO	UMD PO	Monitoring shifts		0.03			0.03			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	UMD	GR	UMD GR	Monitoring shifts		0.06			0.06			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	UW	PO	UW PO	Monitoring shifts		0.12			0.12			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	UW	GR	UW GR	Monitoring shifts		0.12			0.12			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	US	US Total				0.25	0.98	0.71		1.94			

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WBS L2	WBS L3	US /	Institution	Labor	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. IN-KIND	Non U.S. In-Kind	Grand Total			
		Cat.	Description	Cat.	Description	Cat.						Description	Cat.	Description
		AD	Administration	GR	Graduate Student	PO						Postdoctoral Scientist	TE	Technician
		CS	Computer Science Eng.	KE	Key Personnel/Faculty	SC						Scientist	WO	Winterover
EN	Engineer	MA	Management	SE	Senior Engineer									
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	CHIBA	GR	CHIBA GR	Detector Monitoring				0.03	0.03			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	DESY	SC	DESY SC	Detector Monitoring				0.05	0.05			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	DESY	GR	DESY GR	Detector Monitoring				0.12	0.12			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	DTMND	GR	DTMD GR	Detector Monitoring				0.03	0.03			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	EPFL	PO	BRUIJN, RONALD	Detector Monitoring				0.03	0.03			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	Munchen	GR	MPI GR	Detector Monitoring				0.05	0.05			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	RWTH	GR	PAUL, LARRISA	RASTA Data Monitoring				0.10	0.10			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	RWTH	GR	RWTH GR	Monitoring (4 weeks)				0.12	0.12			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	SU	GR	SU GR	Detector Monitoring				0.06	0.06			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	UC	GR	UC GR	Detector Monitoring				0.02	0.02			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	ULB	GR	ULB GR	Detector Monitoring				0.06	0.06			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	UOX	KE	SARKAR, SUBIR	Detector Monitoring				0.02	0.02			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	UU	GR	UU GR	Monitoring Shifts				0.03	0.03			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	VUB	PO	VUB PO	Monitoring shifts				0.06	0.06			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	VUB	GR	VUB GR	Monitoring shifts				0.06	0.06			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	WUPPERTAL	GR	WUPPERTAL GR	South Pole EMI Monitoring				0.15	0.15			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	WUPPERTAL	GR	WUPPERTAL GR	AURA, SPATS, surface antenna operations (RASTA)				0.45	0.45			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	MAINZ	GR	UM GR	Detector Monitoring				0.05	0.05			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	GENT	GR	UGENT GR	Detector Monitoring				0.03	0.03			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	DPNC	GR	ASEN, CHRISTOV	Detector Monitoring				0.20	0.20			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	DPNC	GR	RAAMEZ MOHAMED	Detector Monitoring				0.10	0.10			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	BONN	GR	UBONN GR	Detector Monitoring				0.03	0.03			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	BOCHUM	GR	SCHöNEBERG, SEBAS	Detector Monitoring				0.03	0.03			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	Non-US	Non-US Total							1.88	1.88			
2.2 Detector Operations & Maintenance	2.2.7 Detector Monitoring	WBS L3					0.25	0.98	0.71	1.88	3.82			
2.2 Detector Operations & Maintenance	2.2.8 Detector Calibration	US	GTECH	GR	CASEY, JAMES	Bubble studies with flashers		0.20			0.20			
2.2 Detector Operations & Maintenance	2.2.8 Detector Calibration	US	UA	KE	WILLIAMS, DAWN	managing flasher runs and other calibrations (stage 2 geometry)			0.20		0.20			
2.2 Detector Operations & Maintenance	2.2.8 Detector Calibration	US	UA	GR	XU, DONGLIAN	Low-energy cascade calibration with flashers		0.10			0.10			
2.2 Detector Operations & Maintenance	2.2.8 Detector Calibration	US	UA	GR	PEPPER, JAMES	Verification monitoring integration into IceCube Live		0.10			0.10			
2.2 Detector Operations & Maintenance	2.2.8 Detector Calibration	US	UCB	SC	WOSCHNAGG, KURT	Calibration Lead		0.10			0.10			
2.2 Detector Operations & Maintenance	2.2.8 Detector Calibration	US	UCB	GR	UCB GR	Calibration		0.10			0.10			
2.2 Detector Operations & Maintenance	2.2.8 Detector Calibration	US	UW	SC	WENDT, CHRISTOPHE	Absolute DOM sensitivity	0.40				0.40			
2.2 Detector Operations & Maintenance	2.2.8 Detector Calibration	US	UW	GR	FEINTZIG, JACOB	Ice Properties		0.10			0.10			
2.2 Detector Operations & Maintenance	2.2.8 Detector Calibration	US	UW	GR	JERO, KYLE	DOM Linearity, sensitivity		0.15			0.15			
2.2 Detector Operations & Maintenance	2.2.8 Detector Calibration	US	UW	GR	JERO, KYLE	Ice properties (anisotropy) Base Grants		0.25			0.25			
2.2 Detector Operations & Maintenance	2.2.8 Detector Calibration	US	UW	GR	VAN SANTEN, JACOB	Calibration of DOM waveforms		0.10			0.10			
2.2 Detector Operations & Maintenance	2.2.8 Detector Calibration	US	US Total				0.40	1.20	0.20		1.80			
2.2 Detector Operations & Maintenance	2.2.8 Detector Calibration	Non-US	DESY	GR	ACHIM STOESSL	Flasher Analysis				0.20	0.20			
2.2 Detector Operations & Maintenance	2.2.8 Detector Calibration	Non-US	Non-US Total							0.20	0.20			
2.2 Detector Operations & Maintenance	2.2.8 Detector Calibration	WBS L3					0.40	1.20	0.20	0.20	2.00			
2.2 Detector Operations & Maintenance	2.2.9 Ictop Operations	US	UD	SC	TILAV, SERAP	Coordinate IceTop Operations	1.00				1.00			
2.2 Detector Operations & Maintenance	2.2.9 Ictop Operations	US	UWRF	KE	SPICZAK, GLENN	IceTop tank Monitoring			0.03		0.03			
2.2 Detector Operations & Maintenance	2.2.9 Ictop Operations	US	US Total				1.00	0.00	0.03		1.03			
2.2 Detector Operations & Maintenance	2.2.9 Ictop Operations	WBS L3					1.00	0.00	0.03	0.00	1.03			

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WBS L2	WBS L3	US /	Institution	Labor	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. IN-KIND	Non U.S. In-Kind	Grand Total			
		Cat.	Description	Cat.	Description	Cat.						Description	Cat.	Description
		AD	Administration	GR	Graduate Student	PO						Postdoctoral Scientist	TE	Technician
		CS	Computer Science Eng.	KE	Key Personnel/Faculty	SC						Scientist	WO	Winterover
EN	Engineer	MA	Management	SE	Senior Engineer									
2.2 Detector Operations & Maintenance	2.2.10 Supernova Operations	US		UW	KE	MARUYAMA, REINA	Supernova DAQ and Simulation tools			0.15		0.15		
2.2 Detector Operations & Maintenance	2.2.10 Supernova Operations	US		UW	GR	RIEDEL, BENEDIKT	Supernova DAQ		0.15			0.15		
2.2 Detector Operations & Maintenance	2.2.10 Supernova Operations	US	US Total					0.00	0.15	0.15	0.00	0.30		
2.2 Detector Operations & Maintenance	2.2.10 Supernova Operations	Non-US	MAINZ	GR		KROLL, GÖSTA	SuperNova Operations				0.20	0.20		
2.2 Detector Operations & Maintenance	2.2.10 Supernova Operations	Non-US	MAINZ	GR		EBERHARD, BENJAMIN	SuperNova Operations				0.50	0.50		
2.2 Detector Operations & Maintenance	2.2.10 Supernova Operations	Non-US	MAINZ	GR		BAUM, VOLKER	SuperNova Operations				0.50	0.50		
2.2 Detector Operations & Maintenance	2.2.10 Supernova Operations	Non-US	EPFL	KE		RIBORDY, MATHIEU	Development of the multi-hit detection technique				0.20	0.20		
2.2 Detector Operations & Maintenance	2.2.10 Supernova Operations	Non-US	EPFL	PO		BRIUJN, RONALD	Development of the multi-hit detection technique				0.32	0.32		
2.2 Detector Operations & Maintenance	2.2.10 Supernova Operations	Non-US	Non-US Total								1.72	1.72		
2.2 Detector Operations & Maintenance	2.2.10 Supernova Operations	WBS L3						0.00	0.15	0.15	1.72	2.02		
2.2 Detector Operations & Maintenance	WBS L2 Total							12.50	2.78	1.24	5.40	21.91		
2.3 Computing And Data Management	2.3.1 Core Software	US	UMD	GR		HELLAUER, ROBERT	Core Software		0.25			0.25		
2.3 Computing And Data Management	2.3.1 Core Software	US	UMD	CS		Schmidt, Torsten	Maintain Core Analysis Framework (IceTray)	0.50				0.50		
2.3 Computing And Data Management	2.3.1 Core Software	US	UMD	CS		Straszheim, Troy	Maintain Core Analysis Framework (IceTray)	1.00				1.00		
2.3 Computing And Data Management	2.3.1 Core Software	US	UMD	CS		UMD CS	Maintain Core Software Repository	0.50				0.50		
2.3 Computing And Data Management	2.3.1 Core Software	US	UMD	GR		MEAGHER, KEVIN	Core Software		0.50			0.50		
2.3 Computing And Data Management	2.3.1 Core Software	US	UW	TE		DIAZ-VELEZ, JUAN CARLOS	Simulation Programs: diplopia	0.80				0.80		
2.3 Computing And Data Management	2.3.1 Core Software	US	UW	TE		Jackson, Steven	Simulation Programs software	0.25				0.25		
2.3 Computing And Data Management	2.3.1 Core Software	US	UW	TE		FADIRAN, OLADIPO	Maintain Data Processing Software	0.20				0.20		
2.3 Computing And Data Management	2.3.1 Core Software	US	UW	PO		WHITEHORN, NATHAN	IceTray support, software maintenance		0.20			0.20		
2.3 Computing And Data Management	2.3.1 Core Software	US	UW	PO		NEILSON, NAOKO	IceTray Support (Q frame)		0.10			0.10		
2.3 Computing And Data Management	2.3.1 Core Software	US	US Total					3.25	1.05	0.00		4.30		
2.3 Computing And Data Management	2.3.1 Core Software	Non-US	UU	SC		BOERSMA, DAVID	Maintain Reconstruction Framework				0.10	0.10		
2.3 Computing And Data Management	2.3.1 Core Software	Non-US	Non-US Total								0.10	0.10		
2.3 Computing And Data Management	2.3.1 Core Software	WBS L3						3.25	1.05	0.00	0.10	4.40		
2.3 Computing And Data Management	2.3.2 Data Storage & Transfer	US	UW	TE		FADIRAN, OLADIPO	Transformation of Data for Long-Term Persistence and Archival. Maintain Data Warehouse Standards, Software (Ingest), Data Access (FTP), and Web Interface	0.20				0.20		
2.3 Computing And Data Management	2.3.2 Data Storage & Transfer	US	UW	TE		RICHARDS, JOHN	Maintain and Operate Data Storage Infrastructure	1.00				1.00		
2.3 Computing And Data Management	2.3.2 Data Storage & Transfer	US	UW	TE		Auer, Ralf	Maintain and Operate Data Storage Infrastructure	0.38				0.38		
2.3 Computing And Data Management	2.3.2 Data Storage & Transfer	US	UW	CS		MEADE, PATRICK	Transfer Data from S. Pole to UW Data Warehouse and Archive at S. Pole. Maintain Data Transfer SW (SPADE). Maintain Data Warehouse Standards, Software (Ingest), Data Access (FTP), and Web Interface	0.50				0.50		
2.3 Computing And Data Management	2.3.2 Data Storage & Transfer	US	US Total					2.08	0.00	0.00		2.08		
2.3 Computing And Data Management	2.3.2 Data Storage & Transfer	Non-US	DESY	GR		SCHÖNWALD, ARNE	Data transfer UW-DESY				0.10	0.10		
2.3 Computing And Data Management	2.3.2 Data Storage & Transfer	Non-US	Non-US Total								0.10	0.10		
2.3 Computing And Data Management	2.3.2 Data Storage & Transfer	WBS L3						2.08	0.00	0.00	0.10	2.18		

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WBS L2	WBS L3	US /	Institution	Labor	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. IN-KIND	Non U.S. In-Kind	Grand Total			
		Cat.	Description	Cat.	Description	Cat.						Description	Cat.	Description
		AD	Administration	GR	Graduate Student	PO						Postdoctoral Scientist	TE	Technician
		CS	Computer Science Eng.	KE	Key Personnel/Faculty	SC						Scientist	WO	Winterover
EN	Engineer	MA	Management	SE	Senior Engineer									
2.3 Computing And Data Manage	2.3.3 Computing Resources	US	PSU	PO	CLARK, KEN	Coordination and Support for Grid and distributed computing	0.25				0.25			
2.3 Computing And Data Manage	2.3.3 Computing Resources	US	SUBR	KE	TER-ANTONYAN, SAM	LONI Grid computing			0.30		0.30			
2.3 Computing And Data Manage	2.3.3 Computing Resources	US	UMD	TE	UMD TE	Coordination and Support for Grid and distributed computing	0.25				0.25			
2.3 Computing And Data Manage	2.3.3 Computing Resources	US	UW	TE	SKARLUPKA, HEATH	Maintain Core High Performance Computing Systems Coordination and Support for Grid and distributed computing	1.00				1.00			
2.3 Computing And Data Manage	2.3.3 Computing Resources	US	UW	TE	Barnet, Steve	Maintain Core Computing Systems, Coordination Grid & distributed computing	1.00				1.00			
2.3 Computing And Data Manage	2.3.3 Computing Resources	US	UW	TE	BELLINGER, JIM	Maintain Core High Performance Computing Systems	0.75				0.75			
2.3 Computing And Data Manage	2.3.3 Computing Resources	US	UW	TE	WISNIEWSKI, PAUL	Maintain Data Center Networking and Security	0.75				0.75			
2.3 Computing And Data Manage	2.3.3 Computing Resources	US	UW	TE	Auer, Ralf	Maintain Data Center Infrastructure	0.38				0.38			
2.3 Computing And Data Manage	2.3.3 Computing Resources	US	US Total				4.38	0.00	0.30		4.68			
2.3 Computing And Data Manage	2.3.3 Computing Resources	Non-US	DESY	TE	DESY TE	European Data Center -Distributed Computing and Labor				2.00	2.00			
2.3 Computing And Data Manage	2.3.3 Computing Resources	Non-US	DESY	GR	JACOBI, EMANUEL	Reconstruction Release Manager , Maintain Reconstruction Framework				0.20	0.20			
2.3 Computing And Data Manage	2.3.3 Computing Resources	Non-US	UU	GR	TAAVOLA, HENRIC	Computing resources				0.20	0.20			
2.3 Computing And Data Manage	2.3.3 Computing Resources	Non-US	DTMND	SC	PIELOTH, DAMIAN	Coordinate GRID computing in Germany				0.25	0.25			
2.3 Computing And Data Manage	2.3.3 Computing Resources	Non-US	SU	SC	SU SC	Computing Resources				0.40	0.40			
2.3 Computing And Data Manage	2.3.3 Computing Resources	Non-US	UMH	GR	KOHNEN, GEORGES	IC database management				0.30	0.30			
2.3 Computing And Data Manage	2.3.3 Computing Resources	Non-US	Non-US Total							3.35	3.35			
2.3 Computing And Data Manage	2.3.3 Computing Resources	WBS L3 :						4.38	0.00	0.30	3.35	8.03		
2.3 Computing And Data Manage	2.3.4 Data Production Processing	US	UW	GR	SANTANDER, MARCOS	Moon Shadow online		0.15			0.15			
2.3 Computing And Data Manage	2.3.4 Data Production Processing	US	UW	CS	MEADE, PATRICK	Unpacking, Decoding & Calibration of Raw Data (Level1); Run Common Reconstructions on UW IceCube Compute Cluster (Level2)	0.50				0.50			
2.3 Computing And Data Manage	2.3.4 Data Production Processing	US	US Total				0.50	0.15	0.00		0.65			
2.3 Computing And Data Manage	2.3.4 Data Production Processing	Non-US	Non-US Total							0.00	0.00			
2.3 Computing And Data Manage	2.3.4 Data Production Processing	WBS L3 :						0.50	0.15	0.00	0.00	0.65		
2.3 Computing And Data Manage	2.3.5 Simulation Production	US	LBNL	PO	GERHARDT,LISA	Simulation Production on PDSF		0.20			0.20			
2.3 Computing And Data Manage	2.3.5 Simulation Production	US	PSU	PO	KOSKINEN, JASON	Simulation Production		0.08			0.08			
2.3 Computing And Data Manage	2.3.5 Simulation Production	US	PSU	PO	CLARK, KEN	Simulation Production		0.08			0.08			
2.3 Computing And Data Manage	2.3.5 Simulation Production	US	UD	PO	TAMBURRO, ALESSIO	IceTop Simulation Production		0.35			0.35			
2.3 Computing And Data Manage	2.3.5 Simulation Production	US	UD	PO	HUSSAIN, SHAHID	IceTop Simulation Production			0.15		0.15			
2.3 Computing And Data Manage	2.3.5 Simulation Production	US	UMD	GR	CHRISTY, BRIAN	Simulation Production coordination		0.25			0.25			
2.3 Computing And Data Manage	2.3.5 Simulation Production	US	UW	SC	DESIATI, PAOLO	Coordination of Simulation Production	0.20				0.20			
2.3 Computing And Data Manage	2.3.5 Simulation Production	US	UW	SC	DESIATI, PAOLO	Simulation Production panel chair	0.20				0.20			
2.3 Computing And Data Manage	2.3.5 Simulation Production	US	UW	TE	Jackson, Steven	Simulation Production	0.75				0.75			
2.3 Computing And Data Manage	2.3.5 Simulation Production	US	UW	GR	MCNALLY, FRANK	IceTop Simulation ProductionProduction / Data Processing			0.30		0.30			
2.3 Computing And Data Manage	2.3.5 Simulation Production	US	UW	TE	FADIRAN, OLADIPO	Simulation Production Coordination; production configurations, test production and web portal.	0.60				0.60			
2.3 Computing And Data Manage	2.3.5 Simulation Production	US	US Total				1.75	1.26	0.15		3.16			

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WBS L2	WBS L3	US /	Institution	Labor	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. IN-KIND	Non U.S. In-Kind	Grand Total								
												Cat.	Description	Cat.	Description	Cat.	Description	Cat.	Description
												AD	Administration	GR	Graduate Student	PO	Postdoctoral Scientist	TE	Technician
												CS	Computer Science Eng.	KE	Key Personnel/Faculty	SC	Scientist	WO	Winterover
EN	Engineer	MA	Management	SE	Senior Engineer														
2.3 Computing And Data Manage	2.3.5 Simulation Production	Non-US	DESY	SC	GORA, DARIUSZ	Simulation Production Cluster				0.20	0.20								
2.3 Computing And Data Manage	2.3.5 Simulation Production	Non-US	DESY	PO	KARG, TIMO	Simulation Production				0.20	0.20								
2.3 Computing And Data Manage	2.3.5 Simulation Production	Non-US	DESY	GR	DESY GR	Simulation Production Cluster				0.15	0.15								
2.3 Computing And Data Manage	2.3.5 Simulation Production	Non-US	DTMND	GR	DTMD GR	Simulation Production				0.40	0.40								
2.3 Computing And Data Manage	2.3.5 Simulation Production	Non-US	RWTH	GR	PAUL, LARRISA	Simulation Production on cluster/GRID				0.30	0.30								
2.3 Computing And Data Manage	2.3.5 Simulation Production	Non-US	RWTH	GR	LEIF RADEL	Geant Simulations				0.10	0.10								
2.3 Computing And Data Manage	2.3.5 Simulation Production	Non-US	RWTH	GR	WALLRAFF, MARIUS	Simulation Production on GPU				0.10	0.10								
2.3 Computing And Data Manage	2.3.5 Simulation Production	Non-US	ULB	PO	ULB PO	Computer Cluster - simulation				0.30	0.30								
2.3 Computing And Data Manage	2.3.5 Simulation Production	Non-US	VUB	PO	MILLER, JONATHAN	Ice properties and flasher runs				0.13	0.13								
2.3 Computing And Data Manage	2.3.5 Simulation Production	Non-US	ALBERTA	KE	GRANT, DARREN	WestGrid computing				0.10	0.10								
2.3 Computing And Data Manage	2.3.5 Simulation Production	Non-US	ALBERTA	GR	WOOD, TANIA	WestGrid computing				0.20	0.20								
2.3 Computing And Data Manage	2.3.5 Simulation Production	Non-US	WUPPERTAL	GR	WUPPERTAL GR	Simulation Production				0.20	0.20								
2.3 Computing And Data Manage	2.3.5 Simulation Production	Non-US	MAINZ	GR	WIEBE, KLAUS	Simulation Production				0.10	0.10								
2.3 Computing And Data Manage	2.3.5 Simulation Production	Non-US	UMH	GR	KOHNNEN, GEORGES	Simulation Production				0.25	0.25								
2.3 Computing And Data Manage	2.3.5 Simulation Production	Non-US	EPFL	PO	BRUIJN, RONALD	Run cluster EPFL				0.15	0.15								
2.3 Computing And Data Manage	2.3.5 Simulation Production	Non-US	Non-US Total							2.88	2.88								
2.3 Computing And Data Manage	2.3.5 Simulation Production	WBS L3					1.75	1.26	0.15	2.88	6.04								
2.3 Computing And Data Mana	WBS L2 Total						11.95	2.46	0.45	6.43	21.29								
2.4 Triggering And Filtering	2.4.1 TFT Coordination	US	GTECH	KE	TABOADA, IGNACIO	TFT Board Chair		0.25			0.25								
2.4 Triggering And Filtering	2.4.1 TFT Coordination	US	UA	KE	WILLIAMS, DAWN	TFT Board member			0.10		0.10								
2.4 Triggering And Filtering	2.4.1 TFT Coordination	US	UD	KE	SECKEL, DAVID	TFT Board member			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	0.30				0.30								
2.4 Triggering And Filtering	2.4.1 TFT Coordination	US	UMD	GR	HELLAUER, ROBERT	Prepare datasets for filter testing and common MC datasets for testing		0.20			0.20								
2.4 Triggering And Filtering	2.4.1 TFT Coordination	US Total					0.30	0.45	0.20		0.95								
2.4 Triggering And Filtering	2.4.1 TFT Coordination	Non-US	ALBERTA	KE	GRANT, DARREN	TFT Board member				0.10	0.10								
2.4 Triggering And Filtering	2.4.1 TFT Coordination	Non-US	BONN	PO	BOSSER, SEBASTIAN	TFT Board member				0.10	0.10								
2.4 Triggering And Filtering	2.4.1 TFT Coordination	US	DESY	PO	BERGHAUS, PATRICK	TFT Board member		0.10			0.10								
2.4 Triggering And Filtering	2.4.1 TFT Coordination	US	DESY	PO	KARG, TIMO	TFT Board member		0.10			0.10								
2.4 Triggering And Filtering	2.4.1 TFT Coordination	Non-US	DPNC	KE	MONTARULI, TERESA	TFT Board member				0.10	0.10								
2.4 Triggering And Filtering	2.4.1 TFT Coordination	Non-US	UU	KE	HALLGREN, ALLAN	TFT Board member				0.10	0.10								
2.4 Triggering And Filtering	2.4.1 TFT Coordination	Non-US	UU	KE	DE LOS HEROS, CARLO	TFT Board member				0.10	0.10								
2.4 Triggering And Filtering	2.4.1 TFT Coordination	Non-US	Non-US Total							0.50	0.50								
2.4 Triggering And Filtering	2.4.1 TFT Coordination	WBS L3					0.30	0.45	0.20	0.50	1.45								
2.4 Triggering And Filtering	2.4 Triggering And Filtering	US	UA	GR	LARSON, MICHAEL	Track engine		0.15			0.15								
2.4 Triggering And Filtering	2.4 Triggering And Filtering	US	UA	GR	PEPPER, JAMES	2013 DeepCore filter and L2 proposal		0.20			0.20								
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	UA	KE	WILLIAMS, DAWN	Tau WG Chair		0.25			0.25								
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	StonyBrook	KE	KIRYLUK,JOANNA	Cascade WG Co-Chair			0.25		0.25								
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	LBNL	KE	KLEIN,SPENCER	Diffuse WG Co-chair			0.25		0.25								
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	LBNL	PO	CHANG, HYON HA	L2 processing for IC86, studying cascade energy resolution		0.30			0.30								
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	PSU	KE	DEYOUNG, TYCE	Low Energy WG - Co Chair			0.20		0.20								
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	UCB	SC	WOSCHNAGG, KURT	Diffuse / atmosnu WG Co-chair		0.10			0.10								
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	GTECH	GR	DAUGHHETEE, JACOB	Deep Core South Pole filter		0.15			0.15								
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	UD	PO	TAMBURRO, ALESSIO	CR-WG Co Chair		0.25			0.25								
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	UMD	SC	BLAUFUSS, ERIK	GRB WG Chair		0.25			0.25								
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	UMD	PO	WISSING, HENRIKE	EHE and Brights WG co-chair		0.25			0.25								
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	StonyBrook	PO	LESIK-BZDAK, MARIO	Cascade filters			0.20		0.20								
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	OSU	PO	ROTT, CARSTEN	WIMP WG Co-Chair			0.25		0.25								
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	UWRF	KE	SEUNARINE, SURUJ	Work on cascade filter		0.20			0.20								

IceCube M&O Staffing Matrix sort by WBS v13.0 2012.1001

WBS L2	WBS L3	US /		Institution	Labor	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. IN-KIND	Non U.S. In-Kind	Grand Total		
		Cat.	Description	Cat.	Description	Cat.	Description						Cat.	Description
		AD	Administration	GR	Graduate Student	PO	Postdoctoral Scientist						TE	Technician
		CS	Computer Science Eng.	KE	Key Personnel/Faculty	SC	Scientist						WO	Winterover
EN	Engineer	MA	Management	SE	Senior Engineer									
2.4 Triggering And Filtering	2.4.2 Physics Filters	US		UW	KE	WESTERHOFF, STEFA	CR-WG Co Chair			0.25		0.25		
2.4 Triggering And Filtering	2.4.2 Physics Filters	US		UW	PO	AUFFENBERG, JAN	Online filters (EHE)		0.15			0.15		
2.4 Triggering And Filtering	2.4.2 Physics Filters	US		UW	GR	WEAVER, CHRISTOPH	Online filters		0.10			0.10		
2.4 Triggering And Filtering	2.4.2 Physics Filters	US		US Total				0.00	2.35	1.40	0.00	3.75		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	SU	GR	BOHM, CHRISTIAN		Track engine				0.10	0.10		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	ALBERTA	KE	GRANT, DARREN		Low Energy WG Co-Chair				0.25	0.25		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	CHIBA	SC	ISHIHARA, AYA		EHE and Brights WG co-chair				0.25	0.25		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	CHIBA	SC	ISHIHARA, AYA		EHE Filters				0.15	0.15		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	DESY	SC	GORA, DARIUSZ		Online Filter Alerts / NToO program				0.15	0.15		
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	DESY	PO	BERGHAUS, PATRICK		moun channel WG Co. Chair		0.25			0.25		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	UU	SC	BOERSMA, DAVID		Develop Moon shadow and Galactic center filters				0.15	0.15		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	SU	KE	FINLEY, CHAD SU		Point Source WG Chair				0.25	0.25		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	SU	GR	ZOLL, MARCEL		Filters and Simulations				0.15	0.15		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	SU	GR	DANNINGER, MATTIAS		WIMP Trigger & Filter				0.10	0.10		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	ULB	GR	BECHET, SABRIN		Development of tau --> muon filter				0.15	0.15		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	UU	KE	HALLGREN, ALLAN		Online filter development				0.20	0.20		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	UU	KE	DE LOS HEROS, CARL		WIMP WG Chair				0.25	0.25		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	UU	GR	STROM, RICKARD		Online filter development & testing				0.20	0.20		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	VUB	PO	LABARE, MATHIEU		Filter for Southern sky muons				0.25	0.25		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	VUB	GR	KUNNEN JAN		Filter for Southern sky muons				0.50	0.50		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	WUPPERTAL	KE	HELBING, KLAUS		Exotics- WG chair				0.25	0.25		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	WUPPERTAL	GR	WUPPERTAL GR		New SUSY Filter				0.20	0.20		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	DPNC	KE	MONTARULI, TERESA		Online filtering				0.10	0.10		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	DPNC	PO	AGUILAR SANCHEZ JU		Online filtering				0.10	0.10		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	DPNC	GR	ASEN, CHRISTOV		Online filtering				0.10	0.10		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	DPNC	GR	RAAMEZ MOHAMED		Muon/EHE Filter				0.20	0.20		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	BONN	KE	KOWALSKI, MAREK		Cascade WG Co-Chair				0.25	0.25		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	BONN	GR	FRANCKOWIAK, ANNA		Alert System for follow-up				0.10	0.10		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	BONN	GR	HOMRIER, ANDREAS		Alert System for follow-up				0.10	0.10		
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US		Non-US Total							4.50	4.50		
2.4 Triggering And Filtering	2.4.2 Physics Filters	WBS L3						0.00	2.35	1.40	4.50	8.25		
2.4 Triggering And Filtering	WBS L2 Total							0.30	2.80	1.60	5.00	9.70		
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	BNL	PO	CHANG, HYON HA		DOM simulator & calibrator		0.10			0.10		
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	BNL	PO	GERHARDT,LISA		Simulation Programs: cmc		0.20			0.20		
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	SUBR	KE	FAZELY, ALI		GEANT Simulation			0.15		0.15		
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	SUBR	SC	XIANWU, XU		Simulation Programs			0.15		0.15		
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	KE	PO	TOALE, PATRICK		Trigger simulation		0.10			0.10		
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UA	GR	LARSON, MICHAEL		Noise simulation		0.15			0.15		
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UA	KE	TOALE, PATRICK		Trigger simulation		0.10			0.10		
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UCB	SC	WOSCHNAGG, KURT		Maintain and Verify Simulation of Photon Propagation and update Ice Properties	0.50				0.50		
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UD	PO	GONZALEZ, JAVIER		Simulations		0.10			0.10		
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UD	GR	RUZYBAEV , BAKHTIYA		Ice Properties Simulation		0.30			0.30		
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UD	GR	UD GR		Simulation Programs: sim-services		0.30			0.30		
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UMD	PO	OLIVAS, ALEX		Simulation Software Programs coordinator	0.40				0.40		
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UMD	PO	WISSING, HENRIKE		Maintain Detector Simulation (IceSim)		0.13			0.13		
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UMD	GR	REDL, PETER		Maintain Detector Simulation (IceSim)		0.25			0.25		
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UW	SC	CHIRKIN, DMITRY		Maintain and Verify Simulation of Photon Propagation and update Ice Properties	0.50				0.50		

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WBS L2	WBS L3	US /	Institution	Labor	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. IN-KIND	Non U.S. In-Kind	Grand Total			
		Cat.	Description	Cat.	Description	Cat.						Description	Cat.	Description
		AD	Administration	GR	Graduate Student	PO						Postdoctoral Scientist	TE	Technician
		CS	Computer Science Eng.	KE	Key Personnel/Faculty	SC						Scientist	WO	Winterover
EN	Engineer	MA	Management	SE	Senior Engineer									
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UW	SC	HOSHINA, KOTOYO	nugen maintenance	0.25				0.25			
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UW	PO	KOPPER, CLAUDIO	Direct photon propogation, IceTray, Simulations, Genie		0.25			0.25			
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UW	GR	RIEDEL, BENEDICT	Supernova DAQ, simulation		0.20			0.20			
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UW	TE	DIAZ-VELEZ, JUAN CAR	Maintain Simulation Production Software	0.20				0.20			
		US	US Total				1.85	2.18	0.30		4.33			
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	Non-US	DTMND	GR	MILKE, NATALIE	Simulation Programs: noise-generator				0.20	0.20			
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	Non-US	SU	KE	HULTQVIST, KLAS	Simulation Work				0.10	0.10			
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	Non-US	SU	GR	FLIS, SAMUEL	DOM simulation				0.15	0.15			
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	Non-US	UOX	KE	SARKAR, SUBIR	Yellow Book-maintenance				0.10	0.10			
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	Non-US	GENT	SC	UGENT SC	Support IceTop Simulations, IceTop Calibrations, IceTop Reconstruction				0.10	0.10			
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	Non-US	GENT	GR	UGENT GR	Support IceTop Simulations, IceTop Calibrations, IceTop Reconstruction				0.40	0.40			
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	Non-US	BOCHUM	KE	TJUS, JULIA	Development PROPOSAL simulation software				0.10	0.10			
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	Non-US	BOCHUM	GR	SCHÖNEBERG, SEBAS	Monte Carlo Production				0.10	0.10			
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	Non-US	BOCHUM	GR	OLIVO, MARTINO	Monte Carlo Validation				0.10	0.10			
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	Non-US	RWTH	GR	BLUMENTHAL, JAN	Photonics Production				0.10	0.10			
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	Non-US	RWTH	GR	LEIF RADEL	Implementation of new light yield factors in IceCube software				0.10	0.10			
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	Non-US	RWTH	GR	SEBASTIAN SCHÖNEN	Data driven Simulation tools for magnetic monopoles				0.10	0.10			
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	Non-US	EPFL	KE	RIBORDY, MATHIEU	Supernova detector (extension) responses				0.20	0.20			
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	Non-US	EPFL	PO	BRUIJN, RONALD	Supernova detector (extension) responses				0.30	0.30			
		Non-US	Non-US Total							2.15	2.15			
		WBS L3					1.85	2.18	0.30	2.15	6.48			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	LBNL	GR	MIARECKI, SANDRA	Algorithm for measuring muon energy		0.30			0.30			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools		LBNL	GR	BINDER, GARY	Cascade reconstruction algorithm		0.20			0.20			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	PSU	PO	KOSKINEN, JASON	Integrating the GENIE Monte Carlo software into IceCube software		0.20			0.10			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	PSU	PO	KOSKINEN, JASON	Coordinate reconstruction scripts for production		0.10			0.10			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	PSU	PO	TESIC, GORDANA	Integrate IceCube into AMON			0.50		0.50			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	PSU	GR	DUNKMAN, MATT	develop starting track reconstruction - hybrid reco.		0.50			0.47			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	SUBR	KE	FAZELY, ALI	Reconstruction/ Analysis tools				0.15	0.15			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	SUBR	SC	XIANWU, XU	Reconstruction/ Analysis tools				0.15	0.15			

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WBS L2	WBS L3	US /	Institution	Labor	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. IN-KIND	Non U.S. In-Kind	Grand Total			
		Cat.	Description	Cat.	Description	Cat.						Description	Cat.	Description
		AD	Administration	GR	Graduate Student	PO						Postdoctoral Scientist	TE	Technician
		CS	Computer Science Eng.	KE	Key Personnel/Faculty	SC						Scientist	WO	Winterover
EN	Engineer	MA	Management	SE	Senior Engineer									
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	UA	KE	TOALE, PATRICK	Double cascade fitter		0.10			0.10			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	UA	GR	XU, DONGLIAN	Improvements to low energy analysis framework		0.10			0.10			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	UA	GR	UA PO	Extension of GENIE to higher energies, GENIE/nugen comparison		0.10			0.10			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	UA	GR	UA PO	Hybrid reconstruction tools		0.20			0.20			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools		UD	PO	GONZALEZ, JAVIER	Event reconstruction		0.25			0.25			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	UAA	KE	RAWLINS, KATHERINE	flat-ntuple; muon-bundle-reco; Snow correction for IceTop			0.30		0.30			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	UMD	PO	WISSING, HENRIKE	develop & test reconstruction		0.13			0.13			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	UMD	GR	REDL, PETER	Reconstruction/ Analysis tools		0.25			0.25			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	StonyBrook	PO	LESLIAK-BZDAK, MARIO	Flashers and Standard Candle			0.10		0.10			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	StonyBrook	PO	LESLIAK-BZDAK, MARIO	BadDomList software maintenance			0.10		0.10			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	StonyBrook	GR	NIEDERHAUSEN, HANS	Standard Candle		0.10			0.10			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	StonyBrook	GR	NIEDERHAUSEN, HANS	Cascade reconstruction		0.10			0.10			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	UW	SC	CHIRKIN, DMITRY	Direct photon tracking / iceproperties calibration; FE/pulse extractor; reco S/W		0.15			0.15			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	UW	PO	AUFFENBERG, JAN	Energy Reconstruction		0.15			0.15			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	UW	GR	GLADSTONE, LAURA	Reconstruction tools-Deep Core		0.15			0.15			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	UW	GR	FEINTZIG, JACOB	Event reconstruction (spline fits)		0.10			0.10			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	UW	GR	VAN SANTEN, JACOB	Cascades		0.30			0.30			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	UW	PO	WHITEHORN, NATHAN	Event Reconstruction		0.30			0.30			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	UWRF	KE	MADSEN, JIM	Cosmic ray shower simulations and reconstruction			0.10		0.10			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	UWRF	KE	SEUNARINE, SURUJ	Low-Energy Extensions of IceTop		0.10			0.10			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	US Total					0.00	3.78	1.40		5.18		
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	ADELAIDE	KE	HILL, GARY	Event energy and direction reconstruction, millipede				0.40	0.40			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	ADELAIDE	GR	AARTSEN, MARK	Event energy and direction reconstruction, millipede				0.50	0.50			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	CHIBA	KE	YOSHIDA, SHIGERU	Maintain Romeo, EHE Simulations, Calibration using Standard Candles				0.20	0.20			
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	CHIBA	SC	KEIICHI MASE	Maintain Romeo, EHE Simulations, Maintain reconstruction projects (Portia), MC/Data				0.20	0.20			

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WBS L2	WBS L3	US /	Institution	Labor	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. IN-KIND	Non U.S. In-Kind	Grand Total								
												Cat.	Description	Cat.	Description	Cat.	Description	Cat.	Description
												AD	Administration	GR	Graduate Student	PO	Postdoctoral Scientist	TE	Technician
												CS	Computer Science Eng.	KE	Key Personnel/Faculty	SC	Scientist	WO	Winterover
EN	Engineer	MA	Management	SE	Senior Engineer														
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	CHIBA	GR	CHIBA GR	Improve the Ice Model, Afterpulse Simulator, Standard Candle Analysis, Maintain reconstruction projects (Ophelia, ehe-star)				0.20	0.20								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	DESY	GR	SCHÖNWALD, ARNE	Cascade Reconstruction				0.10	0.10								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	UU	SC	BOERSMA, DAVID	Reconstruction Coordinator				0.20	0.20								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	RWTH	GR	VEHRING, MARKUS	Finite track reconstruction				0.10	0.10								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	RWTH	GR	VEHRING, MARKUS	Genie MC development				0.20	0.20								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	RWTH	GR	WALLRAFF, MARIUS	Oscillation Propagation tool for neutrino oscillations in Earth				0.10	0.10								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	SU	GR	FLIS, SAMUEL	Energy Reconstruction				0.10	0.10								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	SU	GR	WOLF, MARTIN	Truncated Mean, EventViewer, cluster tool				0.20	0.20								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	VUB	KE	VAN EIJDHOVEN, NIC	development of reconstruction tools (IcePack framework)				0.25	0.25								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	VUB	PO	BOSE, DEBANJAN	muon track reconstruction in IceCube and DeepCore, waveform feature extractor				0.25	0.25								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	VUB	PO	LABARE, MATHIEU	muon track reconstruction in IceCube and DeepCore				0.13	0.13								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	VUB	PO	GOLUP, GERALDINA	muon track reconstruction for IceCube and DeepCore				0.25	0.25								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	VUB	GR	CASIER MARTIN	muon track reconstruction in IceCube and DeepCore				0.50	0.50								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	VUB	GR	BRAYEUR LIONEL	muon track reconstruction in IceCube and DeepCore				0.50	0.50								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	ALBERTA	KE	GRANT, DARREN	Maintenance of IceCube-Photonics interface				0.10	0.10								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	WUPPERTAL	GR	WUPPERTAL GR	New SUSY Reconstruction, Simulation, Propagation, Monopole, Photonics				0.50	0.50								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	MAINZ	GR	SCHATTO, KAI	PPC based tables				0.10	0.10								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	MAINZ	GR	WIEBE, KLAUS	Muon reconstruction				0.20	0.20								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	MAINZ	GR	WIEBE, KLAUS	Angular res. Cascades				0.20	0.20								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	HUMBOLDT	KE	KOLANOSKI, HERMANN	Reconstruction/ Analysis tools				0.10	0.10								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	HUMBOLDT	GR	ALTMANN, DAVID	Improving the track reconstruction.				0.15	0.15								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	BONN	GR	UBONN GR	Reconstruction/ Analysis tools				0.20	0.20								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	BONN	GR	PANKNIN, SEBASTIAN	IC-40 L3 processing				0.20	0.20								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US Non-US Total								5.93	5.93								
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	WBS L3					0.00	3.78	1.40	5.93	11.10								
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	US US Total					0.00	0.00	0.00		0.00								
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	Munchen	PO	MPI PO	Data Quality & DeepCore				0.60	0.60								
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	DPNC	GR	ASEN, CHRISTOV	Data and Simulation Quality				0.20	0.20								

IceCube M&O Staffing Matrix sort by WBS v13.0 2012.1001

WBS L2	WBS L3	US /	Institution	Labor	Names	Tasks	NSF M&O Core	NSF Base Grants	U.S. IN-KIND	Non U.S. In-Kind	Grand Total			
		Cat.	Description	Cat.	Description	Cat.						Description	Cat.	Description
		AD	Administration	GR	Graduate Student	PO						Postdoctoral Scientist	TE	Technician
		CS	Computer Science Eng.	KE	Key Personnel/Faculty	SC						Scientist	WO	Winterover
EN	Engineer	MA	Management	SE	Senior Engineer									
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	DPNC	GR	RAAMEZ MOHAMED	Data and Simulation Quality				0.20	0.20			
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	DPNC	PO	AGUILAR SANCHEZ JU	Data and Simulation Quality				0.20	0.20			
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	VUB	KE	VAN EIJDHOVEN, NIC	data quality verification				0.25	0.25			
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	VUB	PO	GOLUP, GERALDINA	GRB analysis				0.25	0.25			
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	VUB	PO	BOSE, DEBANJAN	verification Deep Core data quality				0.25	0.25			
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	VUB	PO	LABARE, MATHIEU	verification Deep Core data quality				0.13	0.13			
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	VUB	PO	MILLER, JONATHAN	WIMP analysis				0.38	0.38			
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	Non-US Total							2.45	2.45			
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	WBS L3					0.00	0.00	0.00	2.45	2.45			
2.5 Data Quality, Reconstruction	2.5.4 Offline Data Processing	US	UW	PO	AUFFENBERG, JAN	Offline Data Processing - EHE		0.15			0.15			
2.5 Data Quality, Reconstruction	2.5.4 Offline Data Processing	US	UW	PO	KOPPER, CLAUDIO	L2 processing support		0.30			0.30			
2.5 Data Quality, Reconstruction	2.5.4 Offline Data Processing	US	UW	PO	NEILSON, NAOKO	L2 Offline Processing		0.30			0.30			
2.5 Data Quality, Reconstruction	2.5.4 Offline Data Processing	US	UW	GR	FEINTZIG, JACOB	L2 processing, muon stream		0.10			0.10			
2.5 Data Quality, Reconstruction	2.5.4 Offline Data Processing	US	US Total				0.00	0.85	0.00		0.85			
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					0.00	0.85	0.00	0.00	0.85			
2.5 Data Quality, Reconstruction	WBS L2 Total						1.85	6.80	1.70	10.53	20.88			
Grand Total							33.73	15.39	7.34	31.90	88.35			