

IceCube M&O Staffing Matrix sort by WBS v11.0 2011.0915

WBS L2	WBS L3	US / Non-US	Institution	Labor Cat.	Names			Tasks	NSF M&O Core	U.S. IN-KIND	Non U.S. In-Kind	Grand Total			
					Cat.	Description	Cat.						Description	Cat.	Description
					AD	Administration	GR						Graduate Student	PO	Postdoctoral Scientist
					SC	Scientist	WO	Winterover							
					EN	Engineer	MA	Management							
2.1 Program Management	2.1.1 Administration	US	LBNL	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		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	UA	KE	TOALE, PATRICK			Software Coordinator		0.75		0.75			
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	UW	KE	HALZEN, FRANCIS			Principle Investigator	0.08	0.33		0.42			
2.1 Program Management	2.1.1 Administration	US	UW	KE	KARLE, ALBRECHT			Associate Director for Science and Instrumentation	0.08	0.33		0.42			
2.1 Program Management	2.1.1 Administration	US	UW	KE	YECK, JAMES			Director of Operations	0.75			0.75			
2.1 Program Management	2.1.1 Administration	US	UW	SC	HILL, GARY			Weekly call, ICC support		0.20		0.20			
2.1 Program Management	2.1.1 Administration	US	UW	SC	DESIATI, PAOLO			Pubcom member		0.10		0.10			
2.1 Program Management	2.1.1 Administration	US	UW	MA	MERCK, MARTIN			Computing Infrastructure Management	1.00			1.00			
2.1 Program Management	2.1.1 Administration	US	UW	MA	PELES, ADI			Resource Coordinator	0.50			0.50			
2.1 Program Management	2.1.1 Administration	US	UW	AD	UW AD			Administrative Support	0.50			0.50			
2.1 Program Management	2.1.1 Administration	US	UW	AD	UW AD			Host Spring collaboration meeting		0.50		0.50			
2.1 Program Management	2.1.1 Administration	US	US Total						2.97	3.97		6.93			
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	AD	DESY AD			Host Fall Collaboration Meeting			0.00	0.00			
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	MPI	KE	RESCONI, ELISA			Analysis Coordinator			0.50	0.50			
2.1 Program Management	2.1.1 Administration	Non-US	RWTH	KE	WIEBUSCH, CHRISTOPHER			Coordinate BMBF Funding			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	BERTRAND, DANIEL			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	MAINZ	KE	KÖPKE, LUTZ			ExecCom member			0.20	0.20			
2.1 Program Management	2.1.1 Administration	Non-US	BOCHUM	KE	BECKER, JULIA			Pubcom member			0.10	0.10			
2.1 Program Management	2.1.1 Administration	Non-US	Non-US Total						2.90	3.97		6.93			
2.1 Program Management	2.1.1 Administration	WBS L3 T						2.97	3.97	2.90		9.83			
2.1 Program Management	2.1.2 Engineering And R&D	US	KU	KE	BESSON, DAVE			EMI - Radio R&D			0.10	0.10			
2.1 Program Management	2.1.2 Engineering And R&D	US	UMD	KE	HOFFMAN, KARA			Detector R&D		0.20		0.20			
2.1 Program Management	2.1.2 Engineering And R&D	US	UW	SC	DUVERNOIS, MICHAEL			Science Support	0.25			0.25			
2.1 Program Management	2.1.2 Engineering And R&D	US	UW	SE	LAUNDRIE, ANDREW			EMI, Instrumentation, I/F	0.25			0.25			
2.1 Program Management	2.1.2 Engineering And R&D	US	UW	SE	LAUNDRIE, ANDREW			Engineering Support	0.45			0.45			
2.1 Program Management	2.1.2 Engineering And R&D	US	UW	SE	SANDSTROM, PERRY			EMI, Instrumentation, I/F	0.15			0.15			
2.1 Program Management	2.1.2 Engineering And R&D	US	UW	SE	SANDSTROM, PERRY			Engineering Support	0.15			0.15			
2.1 Program Management	2.1.2 Engineering And R&D	US	UW	EN	UW EN			Engineering Support	0.10			0.10			
2.1 Program Management	2.1.2 Engineering And R&D	US	UW	MA	DUVERNOIS, MICHAEL			EMI, Instrumentation, I/F	0.25			0.25			
2.1 Program Management	2.1.2 Engineering And R&D	US	US Total						1.60	0.30		1.90			
2.1 Program Management	2.1.2 Engineering And R&D	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	Non-US	EPFL	KE	EPFL KE			Acoustic R&D Support			0.10	0.10			
2.1 Program Management	2.1.2 Engineering And R&D	Non-US	RWTH	PO	LAIHEM, KARIM			Acoustic R&D Support			0.20	0.20			
2.1 Program Management	2.1.2 Engineering And R&D	Non-US	ULB	KE	HANSON, KAEAL ULB			EMI/R&D			0.10	0.10			
2.1 Program Management	2.1.2 Engineering And R&D	Non-US	UU	KE	HALLGREN, ALLAN			Acoustic R&D Support			0.10	0.10			
2.1 Program Management	2.1.2 Engineering And R&D	Non-US	WUPPERTAL	KE	HELBING, KLAUS			R&D Lead			0.10	0.10			
2.1 Program Management	2.1.2 Engineering And R&D	Non-US	WUPPERTAL	KE	WUPPERTAL KE			RFI			0.10	0.10			
2.1 Program Management	2.1.2 Engineering And R&D	Non-US	WUPPERTAL	PO	KARG, TIMO			Acoustic			0.10	0.10			
2.1 Program Management	2.1.2 Engineering And R&D	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	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	Non-US	Non-US Total						1.00	0.35		1.00			
2.1 Program Management	2.1.2 Engineering And R&D	WBS L3 T						1.60	0.30	1.00		2.90			
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						0.25			0.25			
2.1 Program Management	2.1.3 Usap Support	WBS L3 T						0.25				0.25			
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	MALKUS, EVELYN			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						0.85	0.35		1.20			
2.1 Program Management	2.1.4 Education & Outreach	WBS L3 T						0.85	0.35			1.20			
2.1 Program Management	2.1.4 Education & Outreach	WBS L2 Total						5.67	4.62	3.90		14.18			

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WBS L2	WBS L3	US / Non-US	Institution	Labor Cat.	Names			Tasks	NSF M&O Core	U.S. IN-KIND	Non U.S. In-Kind	Grand Total									
					Cat.	Description	Cat.						Description	Cat.	Description						
					AD	Administration	GR						Graduate Student	PO	Postdoctoral Scientist	TE	Technician	CS	Computer Science Eng.	KE	Key Personnel/Faculty
2.2 Detector Operations & Main	2.2 Detector Operations & Maintenance	US	LBNL	KE	NYGREN, DAVID R		Track Engine Trigger		0.10		0.10										
2.2 Detector Operations & Main	2.2 Detector Operations & Maintenance	US	UW	MA	LAITSCH, DENISE		Detector Operations Manager		1.00		1.00										
2.2 Detector Operations & Main	2.2 Detector Operations & Maintenance	US	US Total						1.00	0.10	1.10										
2.2 Detector Operations & Main	2.2 Detector Operations & Maintenance	WBS L3 T										1.00	0.10	1.10							
2.2 Detector Operations & Main	2.2.1 Run Coordination	US	UW	SC	KRASBERG, MARK		Winterovers coordinator		0.25		0.25										
2.2 Detector Operations & Main	2.2.1 Run Coordination	US	UW	WO	UW WO		Operate Detector (Winter-Overs)		3.00		3.00										
2.2 Detector Operations & Main	2.2.1 Run Coordination	US	US Total						3.25	0.00	3.25										
2.2 Detector Operations & Main	2.2.1 Run Coordination	Non-US	UC	GR	UC GR		Flasher Runs			0.10	0.10										
2.2 Detector Operations & Main	2.2.1 Run Coordination	Non-US	BONN	PO	BOSSER, SEBASTIAN		Run Coordinator			0.50	0.50										
2.2 Detector Operations & Main	2.2.1 Run Coordination	Non-US	Non-US Total							0.60	0.60										
2.2 Detector Operations & Main	2.2.1 Run Coordination	WBS L3 T										3.25	0.00	0.60	3.85						
2.2 Detector Operations & Main	2.2.2 Data Acquisition	US	LBNL	EN	STEZELBERGER, THORSTEN		Maintain DAQ Hardware (Hubs, DOR, Clocks, GPS,...)		0.15		0.15										
2.2 Detector Operations & Main	2.2.2 Data Acquisition	US	UD	KE	UD KE		DAQ Monitoring		0.05		0.05										
2.2 Detector Operations & Main	2.2.2 Data Acquisition	US	UW	SC	KRASBERG, MARK		DOM Cal Maintenance, DOM Monitoring and Troubleshooting		0.35		0.35										
2.2 Detector Operations & Main	2.2.2 Data Acquisition	US	UW	SC	KRASBERG, MARK		Provide Real-time System Monitoring and Paging		0.20		0.20										
2.2 Detector Operations & Main	2.2.2 Data Acquisition	US	UW	SC	WENDT, CHRISTOPHER		DOM CAL Maintenance		0.25		0.25										
2.2 Detector Operations & Main	2.2.2 Data Acquisition	US	UW	SE	GLOWACKI, DAVID		Maintain DAQ Software Systems (incl. triggers, DOM SW, etc. up to Event Builder)		1.00		1.00										
2.2 Detector Operations & Main	2.2.2 Data Acquisition	US	UW	TE	BELLINGER, JIM		Maintain DAQ Software Systems		0.25		0.25										
2.2 Detector Operations & Main	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 & Main	2.2.2 Data Acquisition	US	UW	CS	JACOBSEN, JOHN (NPX)		Maintain DAQ Hardware (Hubs, DOR, Clocks, GPS,...)		0.15		0.15										
2.2 Detector Operations & Main	2.2.2 Data Acquisition	US	UW	GR	WEAVER, CHRISTOPHER		DOM CAL Maintenance		0.15		0.15										
2.2 Detector Operations & Main	2.2.2 Data Acquisition	US	US Total						2.60	0.20	2.80										
2.2 Detector Operations & Main	2.2.2 Data Acquisition	Non-US	DESY	SC	SULANKE, K.-H.		DAQ Firmware Support			0.15	0.15										
2.2 Detector Operations & Main	2.2.2 Data Acquisition	Non-US	ULB	KE	HANSON, KAEI ULB		Data Acquisition			0.20	0.20										
2.2 Detector Operations & Main	2.2.2 Data Acquisition	Non-US	Non-US Total							0.35	0.35										
2.2 Detector Operations & Main	2.2.2 Data Acquisition	WBS L3 T										2.60	0.20	0.35	3.15						
2.2 Detector Operations & Main	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 & Main	2.2.3 Online Filter (Pnf)	US	UMD	CS	SCHMIDT, TORSTEN		Maintain PnF S/W and Online Filters		0.25		0.25										
2.2 Detector Operations & Main	2.2.3 Online Filter (Pnf)	US	UMD	GR	REDL, PETER		Online Filter Testing		0.25		0.25										
2.2 Detector Operations & Main	2.2.3 Online Filter (Pnf)	US	US Total						0.45	0.25	0.70										
2.2 Detector Operations & Main	2.2.3 Online Filter (Pnf)	WBS L3 T										0.45	0.25	0.70							
2.2 Detector Operations & Main	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 & Main	2.2.4 Sps Operations	US	UW	CS	SOUNDARAPANDIAN, KARTHIK		Maintain South Pole Computing H/W Infrastructure and operating systems		0.75		0.75										
2.2 Detector Operations & Main	2.2.4 Sps Operations	US	UW	EN	WISNIEWSKI, PAUL		Networking and Security Maintenance		0.25		0.25										
2.2 Detector Operations & Main	2.2.4 Sps Operations	US	US Total						1.25	0.00	1.25										
2.2 Detector Operations & Main	2.2.4 Sps Operations	WBS L3 T										1.25	0.00	1.25							
2.2 Detector Operations & Main	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 & Main	2.2.5 Spts Operations	US	UW	CS	SOUNDARAPANDIAN, KARTHIK		Maintain South Pole Test System Hardware and Operating Systems		0.25		0.25										
2.2 Detector Operations & Main	2.2.5 Spts Operations	US	US Total						0.35	0.00	0.35										
2.2 Detector Operations & Main	2.2.5 Spts Operations	WBS L3 T										0.35	0.00	0.35							
2.2 Detector Operations & Main	2.2.6 Experiment Control	US	UW	CS	JACOBSEN, JOHN (NPX)		IceCube Live Maintenance and Upgrades		0.85		0.85										
2.2 Detector Operations & Main	2.2.6 Experiment Control	US	US Total						0.85	0.00	0.85										
2.2 Detector Operations & Main	2.2.6 Experiment Control	WBS L3 T										0.85	0.00	0.85							
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	CAU	KE	JAPARIDZE, GEORGE		Monitoring shifts		0.02		0.02										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	GTECH	GR	GTECH GR		Monitoring shifts		0.03		0.03										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	KU	KE	BESSON, DAVE		Monitoring shifts		0.02		0.02										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	LBNL	SC	KIRYLUK, JOANNA		BadDomList		0.20		0.20										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	LBNL	PO	LBNL PO		Monitoring shifts		0.09		0.09										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	OSU	PO	OSU PO		Monitoring shifts		0.02		0.02										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	OSU	PO	ROTT, CARSTEN		Maintain good run list		0.20		0.20										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	PSU	GR	BELL, MICHAEL		Monitoring shifts		0.03		0.03										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	PSU	GR	DUNKMAN, MATT		Monitoring shifts		0.03		0.03										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	SUBR	SC	TER-ANTONYAN, SAMVEL		Detector Monitoring		0.02		0.02										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	UA	PO	ZARZHITZKY, PAVEL		Monitoring shifts		0.03		0.03										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	UA	GR	XU, DONGLIAN		Monitoring shifts		0.03		0.03										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	UAA	KE	RAWLINS, KATHERINE		Monitoring shifts		0.02		0.02										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	UCB	SC	FILIMONOV, KIRILL		Coordinate Monitoring		0.50		0.50										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	UCB	SC	UCB SC		Monitoring shifts		0.02		0.02										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	UCB	GR	UCB GR		Monitoring shifts		0.02		0.02										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	UCI	PO	SILVERSTRI, ANDREA		Monitoring shifts		0.01		0.01										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	UCI	GR	HANSON, JORDAN		Monitoring shifts		0.01		0.01										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	UD	PO	KUWABARA, TAKAO		Temp. & Pressure atmospheric monitoring		0.25		0.25										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	UMD	PO	WISSING, HENRIKE		Monitoring shifts		0.03		0.03										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	UMD	GR	UMD GR		Monitoring shifts		0.06		0.06										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	UW	PO	UW PO		Monitoring shifts		0.12		0.12										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	UW	GR	BAKER, MICHAEL		Stability (L2 Processing)		0.10		0.10										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	UW	GR	UW GR		Monitoring shifts		0.12		0.12										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	US	US Total						0.00	1.96	1.96										

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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
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	CHIBA	GR	CHIBA GR		Detector Monitoring			0.03	0.03										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	DESY	SC	DESY SC		Detector Monitoring			0.06	0.06										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	DESY	SC	BENABDERRAHMANE, LOFI		Deputy Monitoring Coordinator			0.20	0.20										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	DESY	GR	DESY GR		Detector Monitoring			0.12	0.12										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	DTMND	GR	DTMD GR		Detector Monitoring			0.03	0.03										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	EPFL	GR	EPFL GR		Detector Monitoring			0.03	0.03										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	MPI	GR	MPI GR		Detector Monitoring			0.05	0.05										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	RWTH	GR	PAUL, LARRISA		RASTA & SPATS monitoring			0.10	0.10										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	RWTH	GR	RWTH GR		Monitoring (3 weeks)			0.09	0.09										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	SU	GR	SU GR		Detector Monitoring			0.06	0.06										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	UC	GR	UC GR		Detector Monitoring			0.02	0.02										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	ULB	GR	ULB GR		Detector Monitoring			0.03	0.03										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	UMH	GR	KOHNEN, GEORGE		Detector Monitoring			0.03	0.03										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	UOX	KE	SARKAR, SUBIR		Detector Monitoring			0.02	0.02										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	UU	GR	UU GR		Detector Monitoring			0.03	0.03										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	VUB	PO	VUB PO		Monitoring shifts			0.06	0.06										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	VUB	GR	VUB GR		Monitoring shifts			0.06	0.06										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	WUPPERTAL	GR	WUPPERTAL GR		South Pole EMI Monitoring			0.15	0.15										
2.2 Detector Operations & Main	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 & Main	2.2.7 Detector Monitoring	Non-US	MAINZ	GR	UM GR		Detector Monitoring			0.05	0.05										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	MAINZ	GR	SCHATTO, KAI		Monitoring IceCube Live integration			0.10	0.10										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	GENT	GR	UGENT GR		Detector Monitoring			0.03	0.03										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	BOONN	GR	UBONN GR		Detector Monitoring			0.03	0.03										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	BOCHUM	GR	UBOCHUM GR		Detector Monitoring			0.03	0.03										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	Non-US	Non-US Total							1.86	1.86										
2.2 Detector Operations & Main	2.2.7 Detector Monitoring	WBS L3 T						0.00	1.96	1.86	3.82										
2.2 Detector Operations & Main	2.2.8 Detector Calibration	US	GTECH	GR	DAUGHHETEE, JACOB		Standard Candle Vertex and Energy Calibration			0.20	0.20										
2.2 Detector Operations & Main	2.2.8 Detector Calibration	US	LBNL	SC	KIRYLUK, JOANNA		Flasher Runs			0.10	0.10										
2.2 Detector Operations & Main	2.2.8 Detector Calibration	US	UA	KE	WILLIAMS, DAWN		managing flasher runs and other calibrations (stage 2 geometry)			0.15	0.15										
2.2 Detector Operations & Main	2.2.8 Detector Calibration	US	UA	GR	XU, DONGLIAN		Low-energy cascade calibration with flashers			0.10	0.10										
2.2 Detector Operations & Main	2.2.8 Detector Calibration	US	UCB	SC	WOSCHNAGG, KURT		Calibration Lead			0.15	0.15										
2.2 Detector Operations & Main	2.2.8 Detector Calibration	US	UCB	GR	UCB GR		Calibration			0.10	0.10										
2.2 Detector Operations & Main	2.2.8 Detector Calibration	US	UW	SC	WENDT, CHRISTOPHER		Prepare and Evaluate Flasher Calibrations. Evaluate (DomCal) Calibration Runs and update Calibration constants			0.28	0.28										
2.2 Detector Operations & Main	2.2.8 Detector Calibration	US	UW	GR	FEINTZIG, JACOB		Ice Properties			0.15	0.15										
2.2 Detector Operations & Main	2.2.8 Detector Calibration	US	UW	GR	GLADSTONE, LAURA		Moon Shadow			0.10	0.10										
2.2 Detector Operations & Main	2.2.8 Detector Calibration	US	UW	GR	VAN SANTEN, JACOB		Calibration of DOM waveforms			0.15	0.15										
2.2 Detector Operations & Main	2.2.8 Detector Calibration	US	UW	GR	SANTANDER, MARCOS		Moon Shadow			0.15	0.15										
2.2 Detector Operations & Main	2.2.8 Detector Calibration	US	US Total							0.28	1.35										
2.2 Detector Operations & Main	2.2.8 Detector Calibration	Non-US	DESY	GR	ACHIM STOESSL		Flasher Analysis			0.20	0.20										
2.2 Detector Operations & Main	2.2.8 Detector Calibration	Non-US	DESY	GR	EIKE MIDDLELL		Flasher Analysis			0.10	0.10										
2.2 Detector Operations & Main	2.2.8 Detector Calibration	Non-US	UU	PO	MILLER, JONATHAN		Flasher Calibration			0.20	0.20										
2.2 Detector Operations & Main	2.2.8 Detector Calibration	Non-US	Non-US Total							0.50	0.50										
2.2 Detector Operations & Main	2.2.8 Detector Calibration	WBS L3 T						0.28	1.35	0.50	2.13										
2.2 Detector Operations & Main	2.2.9 Ictop Operations	US	UD	SC	UD SC		Coordinate IceTop Operations			1.00	1.00										
2.2 Detector Operations & Main	2.2.9 Ictop Operations	US	UWRF	KE	SPICZAK, GLENN		IceTop tank Monitoring			0.03	0.03										
2.2 Detector Operations & Main	2.2.9 Ictop Operations	US	US Total							1.00	0.03										
2.2 Detector Operations & Main	2.2.9 Ictop Operations	WBS L3 T						1.00	0.03	0.00	1.03										
2.2 Detector Operations & Main	2.2.10 Supernova Operations	Non-US	MAINZ	GR	KROLL, GÖSTA		SuperNova Operations			0.50	0.50										
2.2 Detector Operations & Main	2.2.10 Supernova Operations	Non-US	Non-US Total							0.50	0.50										
2.2 Detector Operations & Main	2.2.10 Supernova Operations	WBS L3 T								0.50	0.50										
2.2 Detector Operations & Main	WBS L2 Total							11.03	3.89	3.81	18.72										
2.3 Computing And Data Manag	2.3.1 Core Software	US	UMD	CS	SCHMIDT, TORSTEN		Maintain Core Analysis Framework (IceTray)			0.50	0.50										
2.3 Computing And Data Manag	2.3.1 Core Software	US	UMD	CS	UMD CS		Maintain Core Software Repository			0.25	0.25										
2.3 Computing And Data Manag	2.3.1 Core Software	US	UMD	GR	UMD GR		Core Software			0.25	0.25										
2.3 Computing And Data Manag	2.3.1 Core Software	US	UMD	GR	MEAGHER, KEVIN		Core Software			0.50	0.50										
2.3 Computing And Data Manag	2.3.1 Core Software	US	UMD	CS	STRASZHEIM, TROY		Maintain Core Analysis Framework (IceTray)			0.88	0.88										
2.3 Computing And Data Manag	2.3.1 Core Software	US	UW	TE	DIAZ-VELEZ, JUAN CARLOS		Simulation Programs: diplopia			0.80	0.80										
2.3 Computing And Data Manag	2.3.1 Core Software	US	UW	TE	FADIRAN, OLADIPO		Maintain Data Processing Software			0.20	0.20										
2.3 Computing And Data Manag	2.3.1 Core Software	US	UW	PO	KURAHASHI, NAOKO		IceTray Support (Q frame)			0.15	0.15										
2.3 Computing And Data Manag	2.3.1 Core Software	US	UW	GR	VAN SANTEN, JACOB		IceTray Support (IZMA)			0.15	0.15										
2.3 Computing And Data Manag	2.3.1 Core Software	US	US Total							2.63	1.05										
2.3 Computing And Data Manag	2.3.1 Core Software	Non-US	RWTH	PO	BOERSMA, DAVID RWTH		Maintain Reconstruction Framework			0.10	0.10										
2.3 Computing And Data Manag	2.3.1 Core Software	Non-US	ULB	PO	MAROTTA, ALBERTO		Maintain and Operate Database Systems (I3OmDb)			0.20	0.20										
2.3 Computing And Data Manag	2.3.1 Core Software	Non-US	Non-US Total							0.30	0.30										
2.3 Computing And Data Manag	2.3.1 Core Software	WBS L3 T						2.63	1.05	0.30	3.98										

IceCube M&O Staffing Matrix sort by WBS v11.0 2011.0915

WBS L2	WBS L3	US / Non-US	Institution	Labor Cat.	Names			Tasks	NSF M&O Core	U.S. IN-KIND	Non U.S. In-Kind	Grand Total					
					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 Manag	2.3.2 Data Storage & Transfer	US	UW	TE	BELLINGER, JIM		Organize and monitor the production of filtered science data. Organize the usage of data analysis computing storage. Migrate data to second tier storage	0.50			0.50						
2.3 Computing And Data Manag	2.3.2 Data Storage & Transfer	US	UW	TE	BELLINGER, JIM		Support the development of data warehouse software	0.25			0.25						
2.3 Computing And Data Manag	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 Manag	2.3.2 Data Storage & Transfer	US	UW	AD	RICHARDS, JOHN		Maintain and Operate Data Storage Infrastructure	1.00			1.00						
2.3 Computing And Data Manag	2.3.2 Data Storage & Transfer	US	UW	TE	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 Manag	2.3.2 Data Storage & Transfer	US	US Total					2.45	0.00		2.45						
2.3 Computing And Data Manag	2.3.2 Data Storage & Transfer	WBS L3 T						2.45	0.00		2.45						
2.3 Computing And Data Manag	2.3.3 Computing Resources	US	PSU	PO	KOSKINEN, JASON		Coordination and Support for Grid and distributed computing	0.25			0.25						
2.3 Computing And Data Manag	2.3.3 Computing Resources	US	SUBR	SC	TER-ANTONYAN, SAMVEL		LONI Grid computing		0.30		0.30						
2.3 Computing And Data Manag	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 Manag	2.3.3 Computing Resources	US	UW	EN	SKARLUPKA, HEATH		Maintain Core High Performance Computing Systems	1.00			1.00						
2.3 Computing And Data Manag	2.3.3 Computing Resources	US	UW	EN	UW TE		Coordination and Support for Grid and distributed computing										
2.3 Computing And Data Manag	2.3.3 Computing Resources	US	UW	EN	UW TE		Maintain Data Center Infrastructure	1.00			1.00						
2.3 Computing And Data Manag	2.3.3 Computing Resources	US	UW	EN	WISNIEWSKI, PAUL		Maintain Data Center Networking and Security	0.75			0.75						
2.3 Computing And Data Manag	2.3.3 Computing Resources	US	UW	TE	UW TE		Maintain Data Center Infrastructure	0.50			0.50						
2.3 Computing And Data Manag	2.3.3 Computing Resources	US	UW	TE	UW TE		Maintain Core High Performance Computing Systems	0.44			0.44						
2.3 Computing And Data Manag	2.3.3 Computing Resources	US	US Total					4.19	0.30		4.49						
2.3 Computing And Data Manag	2.3.3 Computing Resources	Non-US	DESY	GR	KISLAT, FABIAN		Reconstruction Coordinator (acting), Maintain Reconstruction Framework			0.15	0.15						
2.3 Computing And Data Manag	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 Manag	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 Manag	2.3.3 Computing Resources	Non-US	SU	SC	SU SC		Computing Resources			0.40	0.40						
2.3 Computing And Data Manag	2.3.3 Computing Resources	Non-US	UMH	GR	KOHNEN, GEORGE		IC database management			0.30	0.30						
2.3 Computing And Data Manag	2.3.3 Computing Resources	Non-US	Non-US Total							3.10	3.10						
2.3 Computing And Data Manag	2.3.3 Computing Resources	WBS L3 T						4.19	0.30		7.59						
2.3 Computing And Data Manag	2.3.4 Data Production	US	UW	PO	KURAHASHI, NAOKO		Online processing-muon channel	0.20			0.20						
2.3 Computing And Data Manag	2.3.4 Data Production	US	UW	PO	TOSCANO, SIMONA		Cascade data processing	0.30			0.30						
2.3 Computing And Data Manag	2.3.4 Data Production Processing	US	UW	TE	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 Manag	2.3.4 Data Production	US	US Total					0.50	0.50		1.00						
2.3 Computing And Data Manag	2.3.4 Data Production	Non-US	RWTH	GR	SCHUKRAFT, ANNE		Photonics Production			0.25	0.25						
2.3 Computing And Data Manag	2.3.4 Data Production	Non-US	Non-US Total							0.25	0.25						
2.3 Computing And Data Manag	2.3.4 Data Production	WBS L3 T						0.50	0.50		1.25						
2.3 Computing And Data Manag	2.3.5 Simulation Production	US	LBNL	PO	GERHARDT, LISA		Simulation Production on PDSF	0.20			0.20						
2.3 Computing And Data Manag	2.3.5 Simulation Production	US	PSU	PO	KOSKINEN, JASON		Simulation Production	0.17			0.17						
2.3 Computing And Data Manag	2.3.5 Simulation Production	US	UD	PO	TAMBURRO, ALESSIO		IceTop Simulation Production		0.50		0.50						
2.3 Computing And Data Manag	2.3.5 Simulation Production	US	UD	PO	HUSSAIN, SHAHID		IceTop Simulation Production	0.15			0.15						
2.3 Computing And Data Manag	2.3.5 Simulation Production	US	UMD	GR	CHRISTY, BRIAN		Simulation Production coordination	0.25			0.25						
2.3 Computing And Data Manag	2.3.5 Simulation Production	US	UW	SC	DESIATI, PAOLO		Coordination of Simulation Production	0.70			0.70						
2.3 Computing And Data Manag	2.3.5 Simulation Production	US	UW	GR	EISCH, JONATHAN		IceTop Simulation Production	0.30			0.30						
2.3 Computing And Data Manag	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 Manag	2.3.5 Simulation Production	US	UW	TE	SCHULTZ, DAVID		Simulation Production	1.00			1.00						
2.3 Computing And Data Manag	2.3.5 Simulation Production	US	US Total					2.30	1.57		3.87						
2.3 Computing And Data Manag	2.3.5 Simulation Production	Non-US	DESY	KE	WALTER, MICHAEL		Simulation Production Cluster			0.20	0.20						
2.3 Computing And Data Manag	2.3.5 Simulation Production	Non-US	DESY	SC	BERGMANN, JENS		Simulation Production Cluster			0.25	0.25						
2.3 Computing And Data Manag	2.3.5 Simulation Production	Non-US	DESY	GR	DESY GR		Simulation Production Cluster			0.15	0.15						
2.3 Computing And Data Manag	2.3.5 Simulation Production	Non-US	DTMND	GR	DTMD GR		Simulation Production			0.40	0.40						
2.3 Computing And Data Manag	2.3.5 Simulation Production	Non-US	RWTH	PO	LAIHEM, KARIM		MonteCarlo simulations of Cherenkov light yield			0.10	0.10						
2.3 Computing And Data Manag	2.3.5 Simulation Production	Non-US	RWTH	GR	PAUL, LARRISA		Simulation Production on cluster/GRID			0.25	0.25						
2.3 Computing And Data Manag	2.3.5 Simulation Production	Non-US	RWTH	GR	SCHUNCK, MATTHIAS		Simulation Production on cluster/GRID			0.25	0.25						
2.3 Computing And Data Manag	2.3.5 Simulation Production	Non-US	ULB	PO	MAROTTA, ALBERTO		Computer Cluster - simulation			0.30	0.30						
2.3 Computing And Data Manag	2.3.5 Simulation Production	Non-US	VUB	PO	STRAHLER, ERIK		simulation of ice properties and DOM sensitivities			0.25	0.25						
2.3 Computing And Data Manag	2.3.5 Simulation Production	Non-US	ALBERTA	KE	GRANT, DARREN		WestGrid computing			0.10	0.10						
2.3 Computing And Data Manag	2.3.5 Simulation Production	Non-US	ALBERTA	GR	WOOD, TANIA		WestGrid computing			0.20	0.20						
2.3 Computing And Data Manag	2.3.5 Simulation Production	Non-US	WUPPERTAL	PO	KARG, TIMO		Simulation Production			0.20	0.20						
2.3 Computing And Data Manag	2.3.5 Simulation Production	Non-US	WUPPERTAL	GR	WUPPERTAL GR		Simulation Production			0.20	0.20						
2.3 Computing And Data Manag	2.3.5 Simulation Production	Non-US	MAINZ	SC	AHRENS, JENS		Simulation Production			0.15	0.15						
2.3 Computing And Data Manag	2.3.5 Simulation Production	Non-US	MAINZ	GR	WIEBE, KLAUS		Simulation Production			0.20	0.20						
2.3 Computing And Data Manag	2.3.5 Simulation Production	Non-US	Non-US Total							3.20	3.20						
2.3 Computing And Data Manag	2.3.5 Simulation Production	WBS L3 T						2.30	1.57		7.07						
2.3 Computing And Data Manag	WBS L2 Total							12.07	3.42		6.85	22.34					

IceCube M&O Staffing Matrix sort by WBS v11.0 2011.0915

WBS L2	WBS L3	US / Non-US	Institution	Labor Cat.	Names		Tasks	NSF M&O Core	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
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	PO	BERGHAUS, PATRICK		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	UW	KE	MONTARULI, TERESA		TFT Board member		0.10		0.10										
2.4 Triggering And Filtering	2.4.1 TFT Coordination	US	US Total					0.30	0.85		1.15										
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	Non-US	WUPPERTAL	PO	KARG, TIMO		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, CARLOS		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 T								0.30	0.85	0.50	1.65								
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	LBNL	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	PSU	KE	COWEN, DOUG		Hybrid/Tau WG Chair		0.25		0.25										
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	PSU	KE	DEYOUNG, TYCE		Deep Core WG - Co Chair		0.25		0.25										
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	PSU	GR	DUNKMAN, MATT		develop and verify Deep Core filters		0.17		0.17										
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	UCB	SC	WOSCHNAGG, KURT		Diffuse / atmosnu WG Co-chair		0.25		0.25										
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	UD	PO	BERGHAUS, PATRICK - UD		muon channel 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	UW	KE	WESTERHOFF, STEFAN		CR-WG Co Chair		0.10		0.10										
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	KE	MARUYAMA, REINA		Supernova WG Chair		0.25		0.25										
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	UW	PO	TOSCANO, SIMONA		Cascade Online filter		0.10		0.10										
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	UW	GR	VAN SANTEN, JACOB		Online filters / SuperDST		0.15		0.15										
2.4 Triggering And Filtering	2.4.2 Physics Filters	US	US Total					0.00	2.92		2.92										
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	GR	FRANKE, ROBERT		Online Filter for Alerts			0.10	0.10										
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	DESY	GR	FRANKE, ROBERT		Rate Data Bank South Pole			0.10	0.10										
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	HUMBOLDT	KE	KOLANOSKI, HERMANN		CR-WG Co Chair		0.25		0.25										
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	RWTH	PO	BOERSMA, DAVID RWTH		Gal Cen Filter & Moon Filter		0.15		0.15										
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	RWTH	PO	BOERSMA, DAVID RWTH		muon channel WG Co. Chair		0.25		0.25										
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	RWTH	GR	BISSOK, MARTIN		Gal Cen Filter		0.10		0.10										
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	RWTH	GR	RWTH GR		Development of the slow monopole trigger		0.20		0.20										
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	SU	KE	HULTH, PER OLOF		Low Energy DeepCore WG Co Chair		0.25		0.25										
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	SU	SC	SEO, SEON-HEE		Develop & verify filters		0.05		0.05										
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	ULB GR		Study of Tau Filters at South Pole		0.10		0.10										
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	UU	KE	HALLGREN, ALLAN		online filter development		0.05		0.05										
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	UU	KE	DE LOS HEROS, CARLOS		WIMP WG Chair		0.25		0.25										
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	UU	GR	HENRIC, TAAVOLA		Online filter development & testing		0.10		0.10										
2.4 Triggering And Filtering	2.4.2 Physics Filters	Non-US	UU	GR	STROM, RICKARD		Online filter development & testing		0.10		0.10										
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	PO	BUITIN, STIJN		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	BARBADOS	KE	SEUNARINE, SURUJ		Work on cascade filter		0.15		0.15										
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	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							5.00	5.00										
2.4 Triggering And Filtering	2.4.2 Physics Filters	WBS L3 T								0.00	2.92	5.00	7.92								
2.4 Triggering And Filtering	2.4.2 Physics Filters	WBS L2 Total								0.30	3.77	5.50	9.57								

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WBS L2	WBS L3	US / Non-US	Institution	Labor Cat.	Names			Tasks	NSF M&O Core	U.S. IN-KIND	Non U.S. In-Kind	Grand Total			
					Cat.	Description	Cat.						Description	Cat.	Description
					AD	Administration	GR						Graduate Student	PO	Postdoctoral Scientist
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 Data Quality, Reconstruction & Simulation Tools	Non-US	BARBADOS	KE	SEUNARINE, SURUJ		Analysis of flasher runs for inice calibration of saturation, and flasher and Standard Candle runs for absolute energy calibration for cascades.			0.15	0.15				
2.5 Data Quality, Reconstruction	2.5 Data Quality, Reconstruction & Simulation	Non-US Non-US Total								0.15	0.15				
2.5 Data Quality, Reconstruction	2.5 Data Quality, Reconstruction & Simulation	WBS L3 T								0.15	0.15				
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	LBNL	PO	LBNL PO	DOM simulator & calibrator		0.35			0.35				
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	LBNL	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	KE	IMLAY, RICHARD	Simulation Programs		0.15			0.15				
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UA	PO	ZARZHITZKY, PAVEL	Simulation verification		0.30			0.30				
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UA	GR	XU, DONGLIAN	DeepCore simulation verification		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	HUSSAIN, SHAHID	Ice Properties Simulation		0.30			0.30				
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UD	GR	RUZYBAEV, BAKHTIYAR	Ice Properties Simulation		0.30			0.30				
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UD	GR	XU, CHEN	Simulation Programs: sim-services		0.30			0.30				
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UMD	SC	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	Simulation Programs: mmc/mmc-icetray and ucr-icetray	0.20				0.20				
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UW	SC	HILL, GARY	Maintain and Verify Simulation of Photon Propagation and update Ice Properties	0.30				0.30				
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UW	PO	ABBASI, RASHA	DST data checking		0.10			0.10				
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UW	PO	AGUILAR SANCHEZ JUAN A	low level moun data verification (data/mc)		0.10			0.10				
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UW	PO	HOSHINA, KOTOYO	nugen maintenance		0.20			0.20				
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UW	GR	WHITEHORN, NATHAN	Photonics tables		0.20			0.20				
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US	UW	TE	DIAZ-VELEZ, JUAN CARLOS	Maintain Simulation Production Software	0.20				0.20				
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	US US Total						1.60	3.13		4.73				
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	UOX	KE	SARKAR, SUBIR	Yellow Book-maintenance				0.10	0.10				
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	Non-US	UU	PO	MILLER, JONATHAN	Simulation Programs: photonics				0.05	0.05				
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	BECKER, JULIA	Update MMC from Java to C++				0.10	0.10				
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	Non-US	BOCHUM	GR	FEDYNITCH, ANATOLI	Update MMC from Java to C++				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 Non-US Total								1.25	1.25				
2.5 Data Quality, Reconstruction	2.5.1 Simulation Programs	WBS L3 T						1.60	3.13	1.25	5.98				
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	LBNL	GR	SANDRA, MIARECKI	algorithm for measuring muon energy		0.30			0.30				
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	PSU	PO	KOSKINEN, JASON	Coordinate Deep Core reconstruction for production		0.20			0.20				
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	PSU	GR	DUNKMAN, MATT	develop starting track reconstruction - hybrid reco.		0.25			0.25				
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	KE	IMLAY, RICHARD	Reconstruction/ Analysis tools		0.15			0.15				
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	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	UW	SC	CHIRKIN, DMITRY	Direct photon tracking / iceproperties calibration 0.3 ; FE/pulse extractor 0.1 ; reco software 0.1		0.40			0.40				
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	UW	PO	AGUILAR SANCHEZ JUAN A	GRB		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	RODRIGUES, JOAO-PAULO	Supernova simulation / moun energy reconstruction		0.20			0.20				
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	US	UW	GR	WHITEHORN, NATHAN	Energy Reconstruction		0.15			0.15				
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 US Total						0.00	3.13		3.13				

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WBS L2	WBS L3	US / Non-US	Institution	Labor Cat.	Names		Tasks	NSF M&O Core	U.S. IN-KIND	Non U.S. In-Kind	Grand Total				
					Cat.	Description						Cat.	Description	Cat.	Description
					AD	Administration						GR	Graduate Student	PO	Postdoctoral Scientist
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	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 comparison for EHE-filtered and IceTop events, Standard Candle Analysis			0.20	0.20				
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	MIDDELL, EIKE		Cascade Reconstruction			0.30	0.30				
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	RWTH	PO	BOERSMA, DAVID RWTH		Reconstruction Coordinator			0.15	0.15				
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	RWTH	GR	BLUMENTHAL, JAN		Muon reconstruction			0.10	0.10				
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	RWTH	GR	EULER, SEBASTIAN		Finite track reconstruction			0.20	0.20				
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	RWTH	GR	SCHUNCK, MATTHIAS		Energy reconstruction			0.20	0.20				
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	RWTH	GR	WALLRAFF, MARIUS		New Feature Extractor			0.30	0.30				
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	SU	SC	SEO, SEON-HEE		Photonics/Simulation Work			0.05	0.05				
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	Non-US	VUB	KE	VAN EIJNDHOVEN, NICK		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	BUITIN,STIJN		muon track reconstruction in IceCube and DeepCore, waveform feature extractor			0.13	0.13				
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		Reconstruction Tools			0.30	0.30				
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	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							5.05	5.05				
2.5 Data Quality, Reconstruction	2.5.2 Reconstruction/ Analysis Tools	WBS L3 T						0.00	3.13	5.05	8.18				
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	US	UA	KE	WILLIAMS, DAWN		Data Quality Lead			0.15	0.15				
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	US Total						0.00	0.15	0.15	0.15				
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	MAINZ	GR	WIEBE, KLAUS		Checking the low energy level 2 filter			0.20	0.20				
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	MPI	PO	MPI PO		Data Quality & DeepCore			0.60	0.60				
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	VUB	KE	VAN EIJNDHOVEN, NICK		data quality verification			0.25	0.25				
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	VUB	PO	STRAHLER, ERIK		verification Deep Core data quality			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	BUITIN,STIJN		verification Deep Core data quality			0.13	0.13				
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	Non-US	Non-US Total							1.80	1.80				
2.5 Data Quality, Reconstruction	2.5.3 Data Quality	WBS L3 T						0.00	0.15	1.80	1.95				
2.5 Data Quality, Reconstruction	2.5.4 Offline Data Processing	US	UW	SC	HILL, GARY		Offline processing			0.20	0.20				
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	KURAHASHI, NAOKO		Offline Level 2 Processing			0.20	0.20				
2.5 Data Quality, Reconstruction	2.5.4 Offline Data Processing	US Total						0.20	0.35	0.55	0.55				
2.5 Data Quality, Reconstruction	2.5.4 Offline Data Processing	Non-US	RWTH	GR	RWTH GR		Development of processing scripts for L2/L1 processing			0.20	0.20				
2.5 Data Quality, Reconstruction	2.5.4 Offline Data Processing	Non-US	Non-US Total							0.20	0.20				
2.5 Data Quality, Reconstruction	2.5.4 Offline Data Processing	WBS L3 T						0.20	0.35	0.20	0.75				
2.5 Data Quality, Reconstruction	WBS L2 Total							1.80	6.75	8.45	17.00				
Grand Total								30.86	22.44	28.51	81.80				