CP-CSA Periodic Report

Project No: 227290

Project Acronym: RadioNet-FP7

Project Full Name: Advanced Radio Astronomy in Europe

CP-CSA Periodic Report

Period covered: from 01/01/2009 to 30/06/2010 Date of preparation: 08/09/2010 Start date of project: 01/01/2009 **Date of submission (SESAM):** 08/09/2010 15:43:15 CET

Project coordinator name: Prof. Michael Albert Garrett

Project coordinator organisation name: STICHTING ASTRONOMISCH ONDERZOEK IN

NEDERLAND

Version: 1

CP-CSA Periodic Report

PROJECT PERIODIC REPORT

Grant Agreement number:	227290
Project acronym:	RadioNet-FP7
Project title:	Advanced Radio Astronomy in Europe
Funding Scheme:	FP7-CP-CSA-Infra
Date of latest version of Annex I against which the assessment will be made:	29/06/2010
Period number:	1st
Period covered - start date:	01/01/2009
Period covered - end date:	30/06/2010
Name of the scientific representative of the project's coordinator and organisation:	Prof. Michael Albert Garrett, STICHTING ASTRONOMISCH ONDERZOEK IN NEDERLAND
Tel:	0031521595126
Fax:	0031521595101
E-mail:	garrett@astron.nl
Project website address:	www.radionet-eu.org

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Declaration by the scientific representative of the project coordinator (1)

I, Prof. Michael Albert Garrett, STICHTING ASTRONOMISCH ONDERZOEK IN NEDERLAND, as scientific representative of the coordinator of the project RadioNet-FP7 and in line with the obligations as stated in Article II.2.3 of the Grant Agreement declare that:

The project has achieved most of its objectives and technical goals for the period with relatively minor deviations.

The attached periodic report represents an accurate description of the work carried out in this project for this reporting period.

The public website is up to date, if applicable.

To my best knowledge, the financial statements which are being submitted as part of this report are in line with the actual work carried out and are consistent with the report on the resources used for the project (section 6) and if applicable with the certificate on financial statement.

All beneficiaries, in particular non-profit public bodies, secondary and higher education establishments, research organisations and SMEs, have declared to have verified their legal status. Any changes have been reported under section 5 (Project Management) in accordance with Article II.3.f of the Grant Agreement.

Name	Prof. Michael Albert Garrett, STICHTING ASTRONOMISCH ONDERZOEK IN NEDERLAND
Date	08/09/2010

This declaration was visaed electronically by Andre VAN ES (ECAS user name nvanesan) on 08/09/2010 at 08/09/2010 15:43:15 CET

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1. Publishable summary

Publishable summary

RadioNet FP7 is an Integrating Activity, funded under the European Commission's Seventh Framework Programme (FP7). RadioNet has 27 partners from 14 countries; they range from operators of radio telescope facilities to Universities and laboratories that specialise in fundamental research, micro-electronics, MMIC design and superconducting component fabrication. RadioNet has pulled together all of Europe's leading radio astronomy facilities to produce a focused, coherent and integrated project with the aim of significantly enhancing the quality and quantity science performed by European astronomers. This Mid-term Report summarises the activities of the RadioNet partners over the first 18 months of the project. Progress has been impressive across all the various networking and joint research activities. In addition, user access to radio telescope facilities has met or in some cases exceeded the original goals laid down in the work programme. All of the Networking Activities have conducted a vigorous and wide-ranging programme of events and activities during the period of this report and have continued to have a significant impact on radio astronomy. Through the various activities, RadioNet has funded or enabled a total of 28 meetings on a variety of topics ranging from scientific discussions on magnetic fields, a new golden age of radio astronomy, a detailed discussion on recent developments in RFI mitigation techniques through to the annual meeting of Young European Radio Astronomers Club (YERAC). Altogether these meetings were attended by hundreds of astronomers and engineers, many of them assisted by RadioNet funding. The results of most discussions are available via the RadioNet website (www.radionet-eu.org) and, in many cases, are being published as conference proceedings or in refereed journals.

In its Transnational Access (TNA) programme, RadioNet offers access to the major radio facilities owned and run by various countries and organisations in Europe. The facilities range from single-dishes to interferometers and cover the frequency bands from ~ 30 MHz to ~1 THz. During the period of this report, the RadioNet TNA programme provided 1960 hours of access, around 40% of the total access planned over the full duration of the project (3 years). We expect the amount of access provided to sharply increase in the coming 18 months, as various telescope system upgrades are complete (e.g. SCUBA-2 on the JCMT) and new telescopes become fully operational (e.g. the SRT and LOFAR). There were 195 users of the various facilities, many of whom were first time users. 21 TNA-related papers have been published, including 14 that appeared in peer-reviewed scientific journals.

RadioNet runs three Joint Research Activities (JRAs) that cover three very different technology areas: ALBiUS is a JRA focused on improving the user software of Europe's major interferometers, APRICOT is designing a large-format focal-plane radio camera for mm-telescopes, AMSTAR+ is developing a next generation 2-D receiver array for Europe's mm and submm-wave telescopes, and UniBoard is creating a generic, high performance, scalable FPGA-based computing platform for a wide-variety of radio astronomy applications. The progress of the JRAs has been good. However, unlike the Networking activities and TNA programme, they have been affected by the very late transfer of EC funding at the start of the project. Nevertheless, all the JRAs achieved some notable successes, including: excellent performance of the DSB receiver over an IF band of 4 to 12 GHz (AMSTAR+), the completion of the mechanical and thermal design of a 7 horn system using the platelet technique (APRICOT), the implementation of a cross-package (interoperable) approach to the commissioning of LOFAR data (ALBiUS), and last but not least, the construction of a prototype UniBoard system and its growing adoption by a large number of anticipated radio astronomy systems and associated telescope applications.

2. Core of the report

Project objectives, Work progress and achievements, and project management during the period

The Project Summary Pdf document contains the core of the report.

3. Deliverables and milestones tables

Deliverables (excluding the periodic and final reports)

	_	_	iu imai reports						
WP no.	Del. no.	Deliverable name	Lead beneficiary	Nature	Dissemination level	Delivery date from Annex I (proj month)	Delivered Yes/No	Actual / Forecast delivery date	Comments
	9	9.01 Hardware design document				20	Yes	29/01/2010 w	Set of documents on ww.radionet-eu.org/fp7wil
	10	9.03 Firmware design document: pulsar binning machine				20	Yes	17/06/2010	
	11	9.04 Firmware design document: digital receiver				20	Yes	08/10/2009	
	12	9.05 First generation board				20	Yes	17/05/2010	
1	1	1.03 First Promotional Materials				20	Yes	30/04/2009	
2	2	2.14 Conf. Proceed 1				20	Yes	30/09/2009	
3	3	3.06 Rep. EVN TOG 1				20	Yes	29/05/2009	
3	4	3.07 Rep. EVN TOG 2				20	Yes	26/02/2010	
4	5	4.01 Website online				20	Yes	27/02/2009	
4	6	4.02 List TRA Propos 1				20	Yes	31/12/2009	
4	7	4.08 YERAC proceeding 1				20	Yes	31/12/2009	
5	8	5.10 Spect. Man. School				20	Yes	30/10/2009	
7	25	7.01 AMSTAR+ progress report	Institut de Radioastronomie	Report	PP	7	Yes	20/05/2009	

			Millimetrique INSTITUT DE ADIOASTRONOM MILLIMETRIQUE INSTITUT DE RADIO ASTRONOMIE MILLIMETRIQUE SOCIETE CIVILE* I.R.A.M.						
7	26		Institut de Radioastronomie Millimetrique INSTITUT DE ADIOASTRONOM MILLIMETRIQUE INSTITUT DE RADIO ASTRONOMIE MILLIMETRIQUE SOCIETE CIVILE* I.R.A.M.		PU	13	Yes	08/12/2009	
8	13	8.14 Atmospheric model - PWV and opacities international	THE UNIVERSITY OF MANCHESTER	Report	PU	6	Yes	30/06/2010	
8	14	8.14 Atmospheric model - SRT opacity	THE UNIVERSITY OF MANCHESTER	Report	PU	6	Yes	02/09/2010	
8	15	8.14 Atmospheric model - SRT pwv	THE UNIVERSITY OF MANCHESTER	Report	PU	6	Yes	02/09/2010	
8	16	8.14 Atmospheric model - Lowe thesis	THE UNIVERSITY OF MANCHESTER	Report	PU	6	Yes	29/12/2006	
8	17	8.14 Atmospheric model - Effelsberg Water Vapour	THE UNIVERSITY OF MANCHESTER	Report	PU	6	Yes	03/03/2006	

		radiometer measurements							
8	18	8.14 Atmospheric model - IRA418_08	THE UNIVERSITY OF MANCHESTER	Report	PU	6	Yes	29/02/2008	
8	19	8.14 Atmospheric model - Physics modelling of atmospheric transmission	THE UNIVERSITY OF MANCHESTER	Report	PU	6	Yes	28/12/2001	
8	20	8.14 Atmospheric model - SITCOM Package Description		Report	PU	6	Yes	07/09/2010	
8	21	8.14 Atmospheric model - SRT Meteo Presentation	THE UNIVERSITY OF MANCHESTER	Report	PU	6	Yes	05/08/2010	
8	22	8.14 Atmospheric model - SRT Meteorology Report 2	THE UNIVERSITY OF MANCHESTER	Report	PU	6	Yes	09/10/2009	
8	23	8.01 Study of receiver architectures and definition of the preferred concept	THE UNIVERSITY OF MANCHESTER	Report	PU	6	Yes	07/09/2010	
9	24	9.01 Hardware design document	STICHTING ASTRONOMISCE ONDERZOEK IN NEDERLAND	Report	PU	11	Yes	07/09/2010	

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Milestone no.	Milestone name	Work package no	Lead beneficiary	Delivery date from Annex I	Achieved Yes/No	Actual / Forecast achievement date	Comments
611	Calibration of pilot experiment using interoperability	6	4	30/04/2010	Yes	30/04/2010	

	framework						
631	RFI mitigation software	6	5	30/06/2010	No	29/04/2011	Delayed due to late hire of ALBiUS person.
701	Standalone, bench top test of photonic LO with spectroscopic quality	7	9	31/05/2010	No	30/09/2010	Delay due to shortage of manpower.
702	Establish final cryogenic HEMT model for MMIC design	7	5	30/06/2010	No	30/06/2011	Problem of oscillations must be solved first.
801	Report on receiver architectures (Task1)	8	6	30/06/2009	Yes	30/06/2009	
802	Report on atmospheric model	8	6	30/06/2009	Yes	18/11/2009	
803	Deliver Euro MICs: first devices to establish noise performance (Task 3)	8	6	31/12/2009	No	30/06/2011	Delayed due to late start; independently funded precursor progr. at IAF, by MPIfR and FG-IGN, has carried the progr. forward. FG-IGN have measurements on IAF discrete transistors under IGN-IAF agreement (under NDA). Disclosure to futher negotation.
804	Definition paper of functions and interfaces for building blocks (Task 1)	8	6	30/06/2010	No	31/12/2010	Delayed due to late start.
805	Deliver Euro MMICs amplifiers and other circuits for RF&IF applications (Task 3)	8	6	30/06/2010	No	30/06/2011	Delayed due to late start; independently funded precursor programmes at IAF, by MPIfR and FG-IGN, has carried the programme forward. Subject to futher negotiation the results may be disclosed after the APRICOT MMIC order to IAF is placed.
806	Report on performance of first Euro MIC	8	6	30/06/2010	No	30/06/2011	Delayed due to late start; independently funded

	devices (Task 4)						precursor programmes at IAF, by MPIfR and FG-IGN, has carried the programme forward. Non-APRICOT results may be under NDA restriction.
901	Completed board design	9	1	30/11/2009	Yes	29/01/2010	
902	Completed VHDL design (correlator)	9	4	30/11/2009	Yes	29/01/2010	Inventory of parameter space completed.
903	Completed VHDL design (pulsar binning machine)	9	6	30/11/2009	Yes	17/06/2010	
904	Completed VHDL design (digital receiver)	9	3	30/11/2009	Yes	08/10/2009	

4. Explanation of the use of the resources

STICHTING ASTRONOMISCH ONDERZOEK IN NEDERLAND Work Package Item description Amount Explanations 1 Personnel costs 227064.25 Personnel costs, including indirect costs for project leader, project scientist and project controller Subcontracting 7710.00 Orios webservices, Deloitte auditors Travel 26893.51 Project meetings and outreach 1 Equipment 1116.59 Depreciation of computer system project leader Other 45000.00 Participation in ESKAC Other Outreach materials 5697.14 Other 3918.36 Remaining direct project costs Personnel costs 111042.00 Personnel costs, including 6 indirect costs for 2 system design engineers and instrument engineer 9 Personnel costs 301533.50 Personnel costs, including indirect costs for 6 project resources 9 Travel 608.90 Project meetings 9 Other 100.45 Remaining direct project 10 Access costs 36523.20 168 hours EVN TNA x EUR 217,40 15 76775.00 83 hours LOFAR TNA x Access costs EUR 925,00 16 92736.00 288 hours WSRT TNA x Access costs **EUR 322** Total: 936718.9

Institut de Radioastronomie Millimetrique INSTITUT DE RADIOASTRONOMIE MILLIMETRIQUE INSTITUT DE RADIO ASTRONOMIE MILLIMETRIQUE SOCIETE CIVILE* I.R.A.M.

Work Package	Item description	Amount	Explanations
1	Subcontracting	7500.00	Audit & Certification
7	Personnel costs	195528.27	Personnel costs
7	Travel	1551.78	Travel costs
7	Materials	4684.43	Materials
7	Other	756.52	Remaining direct project costs
7	Indirect costs	121512.60	Indirect costs
18	Access costs	193040.00	Access costs to PdBI
18	Access costs	301447.50	Access costs to PV
	Total:	826021.1	

ISTITUTO NAZIONA	LE DI ASTROFISICA	ISTITUTO NAZIONALE DI ASTROFISICA								
Work Package	Item description	Amount	Explanations							
2	Personnel costs	12452.87	Personnel costs, including indirect costs for Dr. Venturi							
7	Travel costs	2227.81	Travel costs, including indirect costs for Dr. Navarrini Grenoble (F) 19-21/05/10 euro 709.65; Dr. Navarrini Oxford (UK) 07-09/12/09 euro 682.73							
8	Personnel costs	61007.98	Personnel costs for Dr. Mantovani, Eng. Orfei; Eng. Nesti; Eng. Cremonini; Mr. Panella; Mr. Cresci; Mr. Mariotti							
8	Travel costs	1814.06	Dr. Venturi Hamburg (D) 10-12/03/10 euro 554,46; Dr. Mantovani Cagliari (I) 03-05/05/10 euro 373,18; Dr. Feretti Cagliari (I) 03-05/05/10 euro 472,81; Dr. Venturi Cagliari (I) 03-05/05/10 euro 413,61							
8	Indirect costs	37693.22	Indirect costs							
9	Personnel costs	48645.63	Personnel costs for Dr. Comoretto and Eng. Russo							
9	Travel costs	1878.86	Dr. Comoretto Dwingeloo (NL) 25-28/02/09 euro 1069.68; Dr. Comoretto Bordeaux (F) 10-13/05/10 euro 809.18							
9	Indirect costs	30314.69	Indirect costs							
10	Access costs	38027.76	Medicina 2009: 112.13 access x 113.05 unit cost = 12.676,30; Noto 2009: 112.13 access x 11305 unit cost = 12.676,30; Medicina H1 2010: 56.06 access x 113.05 unit cost = 6.337,58; Noto H1 2010: 56.06 access x 113.05 unit cost = 6.337,58							
	Total:	234062.88								

JOINT INSTITUTE FOR V.L.B.I. IN EUROPE (J.I.V.E.)								
Work Package	Item description	Amount	Explanations					
1	Personnel costs	34550.57	Personnel costs for Van den Poll					
1	Subcontracting	4450.00	Deloitte auditors					
1	Travel costs	1188.71	Travel costs					
1	Indirect costs	21443.57	Indirect costs					
2	Travel costs	75810.74	Travel costs, including indirect costs					
3	Travel costs	57975.90	Travel costs, including indirect costs					
4	Travel costs	42977.97	Travel costs, including indirect costs					

5	Travel costs	37557.57	Travel costs, including indirect costs
6	Personnel costs	130560.97	Personnel costs for Bourke, Cimo, Kettenis, van Langevelde
6	Travel costs	4520.61	Travel costs
6	Other costs	1687.74	Remaining direct project costs
6	Indirect costs	82061.59	Indirect costs
9	Personnel costs	186520.73	Personnel costs for Hargreaves, Szomoru, Kettenis, Boven, Verkouter
9	Materials	16608.51	10Gbe Ethernet Core (2009), EBV elektronik (2010). No VAT included
9	Materials	68877.48	FPGA (2009), Uniboard proto (2010). No VAT included.
9	Other	311.37	Remaining direct project costs: a.o. from ExBoX (2009), startup proto (2010) and exchange rate differences. No VAT included
9	Indirect costs	163390.85	Indirect costs
10	Travel	47905.18	Travel costs, including indirect costs
10	Access costs	461675.76	Estimated unit cost (2009: 112 hours, 2010: 57 hours)
11	Travel	6361.23	Travel costs, including indirect costs
12	Travel	965.81	Travel costs, including indirect costs
13	Travel	7370.48	Travel costs, including indirect costs
18	Travel	8707.01	Travel costs, including indirect costs
	Total:	1463480.3499999999	

MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.

Work Package	Item description	Amount	Explanations
1	Travel	1808.54	Travel Costs KickOff and Controller meeting
3	Personnel costs	19198.24	Personal Costs Scientist
3	Indirect costs	26433.74	Overhead (135,71% - 2009) (140,50% - 2010)
6	Personnel costs	11646.47	Personal costs Scientist and Salary of 1 Scientst
6	Travel	548.20	Travel costs
6	Indirect costs	16244.90	Overhead (135,71% - 2009) (140,50% - 2010)
8	Personnel costs	126336.04	Salary of 2 technicians & Personal Costs Scientists
8	Travel	3342.69	Travel costs

8	Indirect costs	173969.85	Overhead (135,71% - 2009) (140,50% - 2010)
10	Access costs	36523.20	TNA Unit Costs for 168 Hours
13	Access costs	232786.00	TNA Unit Costs for 487 Hours
	Total:	648837.8700000001	

Work Package	Item description	Amount	Explanations
1	Travel	1426.50	Chair P.Diamond management travel
1	Other	42.90	Radioastronomy.eu domain name for 1 year, wifi access for P.Diamond at boardmeeting, Sardinia
1	Indirect costs	881.64	Indirect costs
4	Personnel costs	18939.08	Personnel costs, including indirect costs for A. Richards
6	Personnel costs	28314.99	P.Harrison to start in Sept 2010, A. Richards(1), S. Garrington(1), T. Muxlow(1), R. Beswick(1), R. Noble(1) person months
6	Travel	195.82	Travel costs
6	Indirect costs	17188.86	Indirect costs
6	Other	137.29	Remaining direct project costs
8	Personnel costs	53110.10	P.Wilkinson(1.86), M.Missous(3.82)
8	Equipment	3334.67	Dynatex DXE Wafer Expander (DXE-570-02) from QC-Quality Control GmbH, Karlsfeld
8	Equipment	1125.10	Supply & Fit replacement vacuum pump to Jeol 840A SEM
8	Travel	6615.31	Travel to APRICOT meetings
8	Indirect costs	38511.11	Indirect costs
9	Personnel costs	36689.28 (1.	A.Ahmedsaid (3), B.Stappers 09),R.Ferdman(1.09),C.Shenton(including indirect costs.
10	Access costs	36518.15	Min 168 hours @ €217.37 pe unit, divided pro rata between years
12	Access costs	245525.03	305 hours at unit cost of €805, divided as per observations

CHALMERS TEKNISKA HOEGSKOLA AB				
Work Package Item description Amount Explanations				

488555.82999999996

Total:

7	Personnel costs	82595.03	Salary Dimitar Dochev
7	Equipment	9206.61	Cleanroom fee
7	Other	908.48	Direct IT cost
7	Travel	1131.88	Travel V Belitsky RR-nr: 2009-04177 20090519-20090520, ver 40623178
7	Travel	269.64	Travel V Desmaris London 20091207, ver 40649110
7	Materials	418.88	Chemicals
7	Materials	121.85	Materials
7	Indirect costs	56791.42	Indirect costs
10	Access costs	36524.88	Prel 112 hrs á 217,41 60 hrs, 56 hrs á 217,41
17	Access costs	138852.00	120 tim * 798(2009) + prel 54 tim jan-jun 2010 a 798;00
	Total:	326820.67000000004	

UNIWERSYTET MIKOLAJA KOPERNIKA W TORUNIU				
Work Package	Item description	Amount	Explanations	
8	Personnel costs	10254.45	Remuneration of B. Lew for the period 01/10/09-30/06/2010; employed for the direct purposes of the project	
8	Travel	745.87	Travel of B. Lew to Germany 14-18.11.2009	
8	Indirect costs	6600.18	Indirect costs	
10	Access costs	14609.28	TNA Access Costs for 168 Hours	
	Total:	32209.78		

SCIENCE AND TECHNOLOGY FACILITIES COUNCIL			
Work Package	Item description	Amount	Explanations
7	Personnel costs	5327.17	Staff effort. 0.114 SY
7	Equipment	1102.26	SVR2000/1 amplifier
7	Equipment	168.18	Equipment
7	Indirect costs	5593.53	Indirect costs
11	Access costs	128439.00	Access costs
	Total:	140630.14	

STICHTING SRON NETHERLANDS INSTITUTE FOR SPACE RESEARCH			
Work Package	Item description	Amount	Explanations
7	Personnel costs	100967.00	Working hours * direct hour tariff
7	Travel	2468.19	Travel costs

7	Indirect costs	62061.11	Indirect costs
	Total:	165496.3	

OBSERVATOIRE DE PARIS				
Work Package	Item description	Amount	Explanations	
7	Other	7598.86	Test bench hardware	
7	Indirect costs	4559.32	Indirect costs	
	Total:	12158.18		

UNIVERSITAET ZU KOELN				
Work Package	Item description	Amount	Explanations	
7	Personnel costs	20835.02	Personnel costs; in 2009 Wulff (clean room engineer), Jacobs (clean room chef), Schultz (mechanical engineer), Honingh (management/design) and in 2010 in addition Selig diplomastudent and Schomacker bachelor of physics.	
7	Travel	569.20	Travel costs	
7	Indirect costs	12842.53	Indirect costs	
	Total:	34246.75		

FUNDACION GENERAL DE LA UNIVERSIDAD DE ALCALA Work Package Item description **Explanations** Amount 7 Personnel Costs 38973.81 Personnel costs by FG 7 Travel 2245.60 Travel costs by FG 7 Materials Material costs by FG 1661.36 7 Indirect costs 3001.66 Indirect costs by FG 8 Travel 1773.56 Travel costs by FG 8 Materials 324.64 Material costs by FG 8 Indirect costs 146.87 Indirect costs by FG Personnel costs 26214.48 Personnel costs by FG/MF (IGN) 7 Travel 2255.55 Travel costs by FG/MF (IGN) 7 Other costs MMIC development by 24938.43 FG/MF (IGN) 7 Materials 7800.63 Remaining direct other costs by FG/MF (IGN) Personnel costs 16551.19 Personnel costs by FG/MF 8 (IGN) Travel 679.84 Travel costs by FG/MF (IGN) 8 MMIC development by FG/MF (IGN) 8 Other 24245.69

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8	Materials	7403.70	Remaining direct other costs by FG/MF (IGN)
10	Access costs	36559.50	TNA Access Costs for 168 Hours by FG/MF (IGN)
	Total:	194776.51	

TECHNISCHE UNIVERSITEIT DELFT				
Work Package	Item description	Amount	Explanations	
7	Personnel costs	95028.23	R. Barends: Postdoc, 2009 12 Months; E. Driessen: Postdoc, 2009 2 Months, 2010 6 Months; T. Klapwijk: Hoogleraar 2009 0,17 Months = 21 hours; T. Klapwijk: Hoogleraar 2010 0,16 Months = 20 hours	
7	Other	3322.85	Remaining direct project costs; travel and materials	
7	Indirect costs	106240.18	Indirect costs	
	Total:	204591.26		

EUROPEAN SOUTHERN OBSERVATORY - ESO EUROPEAN ORGANISATION FOR ASTRONOMICAL RESEARCH IN THE SOUTHERN HEMISPHERE

Work Package	Item description	Amount	Explanations
6	Personnel costs	61947.26	Personnel costs
6	Travel	4041.26	Participation in various ALBiUS project and RadioNet Board meetings.
6	Travel	1306.41	Organisation and Catering ALBiUS Project meeting Garching, 16-17 June 2009.
6	Indirect costs	13458.99	Indirect costs
	Total:	80753.92000000001	

Korea Astronomy and Space Science Institute

Work Package	Item description	Amount	Explanations
9	Personnel costs	16626.72	Personnel costs
9	Other	59881.35	Remaining direct project costs; travel, equipment and materials
9	Indirect costs	13311.11	Indirect costs
	Total:	89819.18000000001	

UNIVERSITA DEGLI STUDI DI ROMA TOR VERGATA				
Work Package	Item description	Amount	Explanations	
3	Personnel costs	16681 42	Salary of a full profes	

(prof. Ernesto Limiti) for 1,25 month; including indirect

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			costs.
8	Personnel costs	9762.87	Salary of a researcher (ing. Antonio Serino) for 0,75 month and salary of a full professor (prof. ernesto Limiti) for 0,75 month.
8	Travel	2304.50	Amsterdam (30/31 March 2009) - prof. Ernesto Limiti; Manchester (11/13 March 2009) - prof. Ernesto Limiti; Cagliari (3-4 May 2010) - prof. Ernesto Limiti.
8	Indirect costs	7240.42	Indirect costs
	Total:	35989.21	

THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE

Work Package	Item description	Amount	Explanations
6	Personnel costs	12557.09	Salary costs for Dr J Geisbuesch (April-June 2010)
6	Other	21.89	Poster Printing
6	Indirect costs	7547.39	Indirect costs
	Total:	20126.37	

THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD

Work Package	Item description	Amount	Explanations
6	Personnel costs	13571.78	H.R. Klockner Salary Jan 10 - Jun 10
6	Equipment	4201.12	Cryogenic Amplifier 4-12 Ghz
6	Indirect costs	10663.74	Indirect costs
	Total:	28436.64	

UNIVERSITE DE BORDEAUX I				
Work Package	Item description	Amount	Explanations	
6	Personnel costs	12660.56	Salary L. Chemin 15 April_30 June 2010. Salary L. Chemin, P. Charlot.	
6	Travel	638.50	P. Charlot Mission No 4534 - ALBIUS Kickoff meeting.	
6	Indirect costs	7979.44	Indirect costs.	
9	Personnel costs	62491.92	Salary P. Camino April to December 2009 - January to April 2010. Salary P. Camino Feb. March 2009, A. Baudry, B. Quertier, P. Caïs.	
9	Travel	2310.97	B. Quertier + P. Camino : Workshop Uniboard ASTRON.	
9	Indirect costs	38881.73	Indirect costs.	

Total:	124963 12

VENTSPILS AUGSTSKOLA				
Work Package	Item description	Amount	Explanations	
10	Access costs	14590.80	TNA Access Costs for 168 Hours	
	Total:	14590.8		

Associated Universities, Inc. / National Radio Astronomy Observatory				
Work Package	Item description	Amount	Explanations	
6	Personnel costs	70361.54	Personnel costs for Bhatnagar and Golap, including indirect costs.	
10	Access costs	73046.40	168 hours of participation in Global VLBI @ 434.8/hr	
	Total:	143407.94		

UNIVERSITE D'ORLEANS			
Work Package	Item description	Amount	Explanations
9	Personnel costs	10449.76	Salaries of a lecturer (0,97 PM), incl. indirect costs
	Total:	10449.76	

FRAUNHOFER-GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V Work Package Item description Amount Explanations 7 Personnel costs 47922.25 Personnel costs 7 Materials 12345.78 110GHz infinity probes for

C	•		*
7	Personnel costs	47922.25	Personnel costs
7	Materials	12345.78	110GHz infinity probes for on wafer measurements
7	Other	13767.07	Remaining direct project costs
7	Indirect costs	45023.72	Indirect costs
	Total:	119058.82	

NATIONAL RESEARCH FOUNDATION			
Work Package	Item description	Amount	Explanations
10	Access costs	0.00	HARTRAO was down a significant part of the first project period.
	Total:	0	

AALTO-KORKEAKOULUSAATIO			
Work Package	Item description	Amount	Explanations

10	Access costs	14607.60	168 hours of EVN TNA access at 86.95e/hour.
	Total:	14607.6	

SHANGHAI ASTRONOMICAL OBSERVATORY - CHINESE ACADEMY OF SCIENCES

Work Package	Item description	Amount	Explanations
9	Personnel costs	0.00	Not much man power until now.
	Total:	0	

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Attachments	TNA DataBase RadioNet FP7.zip, 1st Periodic Report FINAL.pdf, TNA List of Panel members.pdf, TNA List of User Projects.pdf, TNA List of Users Publications.pdf, TNA List of Users.pdf
Grant Agreement number:	227290
Project acronym:	RadioNet-FP7
Project title:	Advanced Radio Astronomy in Europe
Funding Scheme:	FP7-CP-CSA-Infra
Project starting date:	01/01/2009
Project end date:	
Name of the scientific representative of the project's coordinator and organisation:	Prof. Michael Albert Garrett, STICHTING ASTRONOMISCH ONDERZOEK IN NEDERLAND
Period covered - start date:	01/01/2009
Period covered - end date:	30/06/2010
Name	
Date	08/09/2010

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Project No.: 227290
Period number: 1st
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