

3rd Annual Report

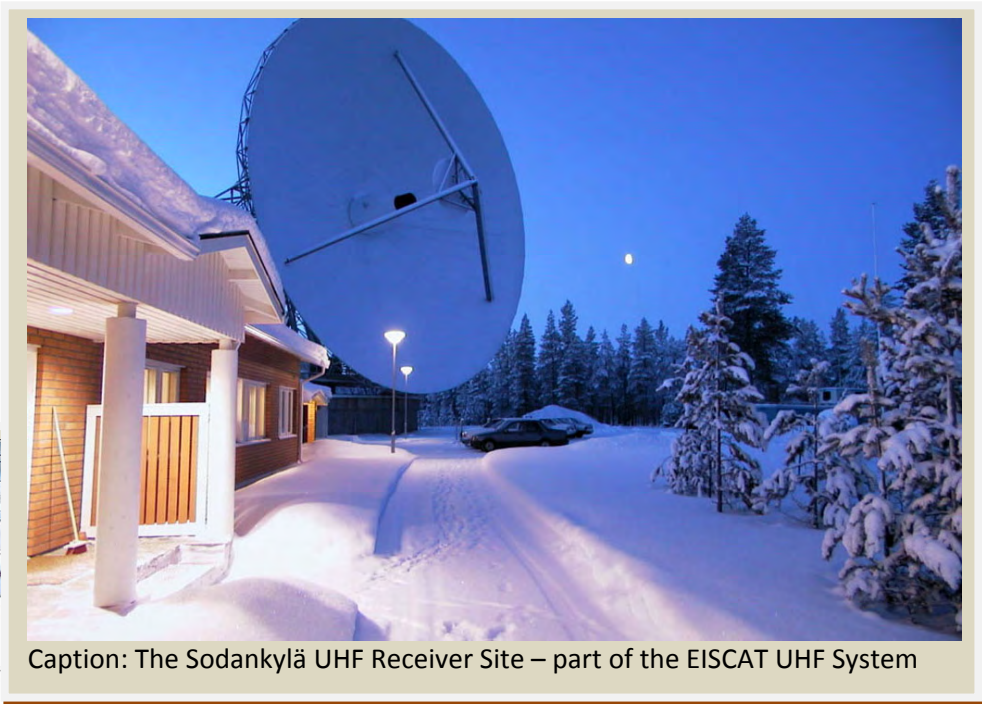
EISCAT_USERS_1

Access to EISCAT facilities for new users

Transnational Access implemented as Specific Support Action

Contract number: 026077
Project Co-ordinator: EISCAT Scientific Association
Project website: <http://www.eiscat.se/TransNationalAccess>
Reporting period: from 01/01/2008 to 31/12/2008

Project funded by the European Community under the "Structuring the European Research Area" Specific Programme Research Infrastructures action



Caption: The Sodankylä UHF Receiver Site – part of the EISCAT UHF System

Autogenerated Schedule - Windows

http://www.eisca

Autogenerated Sch

Year: 2008
Month: December

Requested
 Kiruna receiver
 Sodankylä receiver
 Svalbard radar
 Query

Archived data
 Heating
 SPEAR

	00UT	04UT	08UT	12UT	16UT	20UT	24UT
2008:12:01 Mon	-	-	-	-	-	-	-
2008:12:02 Tue	-	-	-	-	-	AAAAAAAAAAAA	uhf SW (5.9h) beata_cpl_1.0u_SW
2008:12:02 Tue	-	-	AAA	-	-	-	uhf FR (1.0h) taulu_fixed_1.30_FR
2008:12:02 Tue	-	-	AAAA	-	-	-	uhf FI (2.0h) arclu_nisse_test2_1.00_FI
2008:12:03 Wed	-	-	-	-	A	-	uhf FI (0.7h) arclu_cpl_1.00_FI
2008:12:03 Wed	AAAA	-	-	-	-	-	uhf SW (1.9h) beata_cpl_1.0u_SW
2008:12:04 Thu	-	-	-	-	AAAAAAAAAAAA	AAAAAAAAAAAA	uhf CP2 (10.9h) beata_ip2_1.0u_CP
2008:12:05 Fri	AAAAAAAAAAAAAAAA	AAAAAAAA	-	-	A	-	uhf CP2 (13.3h) beata_ip2_1.0u_CP
2008:12:05 Fri	-	-	-	-	AAAA	-	uhf FI (1.7h) asteroid_asteroid_4x_FI
2008:12:06 Sat	-	-	-	-	-	-	-
2008:12:07 Sun	-	-	-	-	-	-	-
2008:12:08 Mon	00UT	04UT	08UT	12UT	16UT	20UT	24UT
2008:12:09 Tue	-	-	-	-	-	-	-
2008:12:10 Wed	-	-	-	-	-	-	-
2008:12:11 Thu	-	-	-	-	-	AAAA	uhf IL (1.9h) mandas_zenith_1.00u_IL
2008:12:11 Thu	-	-	AAA	-	-	-	uhf IL (1.2h) mandas_zenith_1.00u_CP
2008:12:12 Fri	AAAAAAAAAAAA	-	-	-	-	AAAA	uhf IL (8.1h) mandas_zenith_1.00u_IL
2008:12:13 Sat	AAAAAAAAAAAA	-	-	-	-	AAAA	uhf IL (8.2h) mandas_zenith_1.00u_IL
2008:12:14 Sun	AAAAAAAAAAAA	-	-	-	-	-	uhf IL (6.0h) mandas_zenith_1.00u_IL
2008:12:14 Sun	-	-	-	-	A A	-	uhf CP (0.0h) mandas_zenith_1.00u_CP
2008:12:15 Mon	00UT	04UT	08UT	12UT	16UT	20UT	24UT
2008:12:16 Tue	-	-	-	A	-	-	uhf CP (0.1h) beata_cpl_1.0u_CP
2008:12:17 Wed	-	-	-	-	AAAAAAA	-	uhf NI (4.0h) beata_sweep3_1.0u_NI
2008:12:17 Wed	-	-	A	A	-	-	uhf NI (0.3h) beata_sweep1_1.0u_NI
2008:12:18 Thu	-	-	-	AAAAAAAAAAAA	AAAAAAAAAAAA	-	uhf CP2 (10.9h) beata_ip2_1.0u_CP
2008:12:19 Fri	-	-	-	-	AAAAAAA	-	uhf NI (4.0h) beata_sweep3_1.0u_NI
2008:12:19 Fri	AAAAAAAAAAAAAAAA	AAAAAAAAAAAAAAAA	-	-	-	-	uhf CP2 (19.0h) beata_ip2_1.0u_CP
2008:12:20 Sat	-	-	-	-	-	-	-
2008:12:21 Sun	-	-	-	-	-	-	-
2008:12:22 Mon	00UT	04UT	08UT	12UT	16UT	20UT	24UT
2008:12:23 Tue	-	-	-	-	-	-	-
2008:12:24 Wed	-	-	-	-	-	-	-
2008:12:25 Thu	-	-	-	-	-	-	-
2008:12:26 Fri	-	-	-	-	-	-	-
2008:12:27 Sat	-	-	-	-	-	-	-
2008:12:28 Sun	-	-	-	-	-	-	-
2008:12:29 Mon	00UT	04UT	08UT	12UT	16UT	20UT	24UT
2008:12:30 Tue	-	-	-	-	-	-	-
2008:12:31 Wed	-	-	-	-	-	-	-

Prepared at 09:28 UT Thu Jan 22 2009 - Astroscheduler V6 1.5b (HQ system)

Internet | Skyddat läge: På 100 %

Caption: The System Scheduler: <http://www.eiscat.se/raw/schedule/schedule.cgi>

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A. ACTIVITY REPORT

1. Progress report

1.1 Summary of the activities and major achievements

European Union support under the Transnational Access (TNA) programme allows the unique radar facilities of the EISCAT Scientific Association to be made available to a much wider range of European scientists than has ever been possible before. The EISCAT systems are normally only available to user communities within the Association. With the TNA programme new users can, if successful in the peer-review process, obtain access. The TNA project supports up to four user events per year.

A full-time, EISCAT funded, scientist is assigned as Project Manager for this project.

Contact has been established with several new potential users throughout the year through a variety of publicity and outreach mechanisms.

The fourth and fifth rounds of applications were solicited in spring and autumn 2008. One submission was received to the fifth round and it was evaluated in the same manner as the applications in previous rounds.

Four proposals were successfully run during the year. The first (Lamy et al.) was run on the mainland systems during March 2008. The projects which were combined into a single project (Teodosiev et al. and Nenovski et al.) were also successfully run on the mainland system during June and July 2008. An additional review procedure by experts in the field of the remaining project (Brosch et al.) was also carried out. The reviewers deemed the project to be feasible and thus the experiment was carried out in December 2008. The proposal received in the fifth call for applications (Mendonca et al.) was reviewed by the scientific oversight committee and time was awarded to the project. It is planned to run this event in 2009.

During this third year, the TNA program has continued to be widely advertised in formal oral and poster presentations at a range of meetings, as well as through the international EISCAT committees and the EISCAT web pages. Collaboration with other institutes also running TNA programs has continued.

1.2 Management overview

Management

The overall Project Management is conducted by the Headquarters staff of the EISCAT Scientific Association, located in Kiruna, Sweden, under the overall control of the Director. The Financial management and overall budgetary control are overseen by the Head of Administration, who is assisted by the administrative staff of the EISCAT Headquarters. The audit control is accomplished as part of EISCAT's normal audit procedures. The daily project activities have been performed by the assigned Project Manager.

Proposal Submission and Review

Two submission deadlines were set during this period: 1 April and 1 September 2008.

No new proposals were received in time for the fourth round due 1 April 2008. However contacts had been made with several groups before this deadline who indicated they would be interested in submitting a proposal in the coming year. An open dialogue with the research groups in question is now in place and it is hoped they will submit proposals to the sixth round due 28 February 2009. One new proposal was received for the fifth round. This proposal was reviewed by the Scientific Oversight Committee (SOC) and was accepted. Time was awarded on the system for project run in 2009.

The authors of the final proposal submitted in the third round responded to the questions raised by the SOC at the meeting in September 2007. The submitted additional document was then reviewed by experts in that particular scientific field. It was thus decided that the proposal was scientifically sound and time was awarded on the system.

Operations Status

The project by **Lamy** et al., submitted in the third round, was successfully performed in March 2008.

The projects which were combined, by **Nenovski** et al. and **Teodosiev** et al., and submitted in the third round, were successfully done in June and July 2008. Due to particularly poor scientific conditions 4 hours of running time on the system were cancelled.

The remaining second system support run hours from the project submitted by **Amata** et al. (submitted in the second call), which was unable to be run in December 2007 due to problems with the Longyearbyen power station, were successfully run on the Svalbard system in January and February 2008. These hours were paid by EISCAT.

The project by **Brosch** et al., submitted in the third round and then reviewed by external scientific experts in the field was performed in December 2008.

The project by **Mendonca** et al., submitted in the fifth round for proposals, was awarded 24 hours of time on the system for operations in 2009.

1.3 Description of the publicity concerning the new opportunities for access

The project web site (<http://www.eiscat.se/TransNationalAccess>) has been used by several scientific groups to ascertain information regarding the project and submission procedures. All publicity activities and documentation refer to this website as a source for further information and contact details for the project. The colour brochure has been used on several occasions at numerous meetings across Europe and elsewhere. Collaboration between EISCAT and Andøya Rocket Range and Alomar Observatory has continued throughout the 3rd year of the project. EISCAT now has a full colour advert in all publicity brochures distributed by Andøya Rocket Range and Alomar Observatory. EISCAT and Andøya Rocket Range and Alomar Observatory will continue to collaborate regarding publicity for the TNA project throughout the coming year. The project was widely publicised at the European Geophysical Union (EGU) meeting in Vienna, Austria, April 2008, and at the Committee on Space Research COSPAR in Montreal, Canada, July 2008. The meetings brought together several thousands of scientists from around the world and provided an excellent means to advertise the project.

Publicity activities during this reporting period

There exists an ongoing collaboration between EISCAT and the Andøya Rocket Range, Norway. Both have a very similar scientific client base and the two institutions often collaborate on scientific projects. There exists a symbiotic publicity relationship between the institutions, which includes an advert for the EISCAT facilities in all publicity brochures for Andøya.

The TNA program was widely publicised at the recent EGU meeting in Vienna, Austria. A number of new contacts were established at the meeting. The program was also publicised at the recent COSPAR meeting in Montreal, Canada. Both meetings were attended by several thousand scientists from across the world.

An article about the program was included in an ESA web-based newsletter.

Over 100 copies of the full colour brochure advertising the TNA program have been distributed through a variety of sources.

The TNA program was publicised at a meeting of all foreign diplomats to Norway.

Several tours have been conducted of the EISCAT radar sites to both scientific and diplomatic parties. The TNA program formed part of the presentation included in the tour.

1.4 Description of the selection procedure

Proposals are reviewed by the EISCAT Scientific Oversight Committee (SOC), a committee of experts established by the EISCAT Council. While the SOC was formally not created for the purposes of this TNA activity, it has been specifically tasked by the EISCAT Council to act as the peer-review panel for proposals submitted under this, and other, programs. The SOC consists of both experienced scientists from each of the present EISCAT Associates and external experts from outside the Association.

The review process follows closely the usual procedures for peer review and includes appropriate reporting of the referees' findings to proposers. The proceedings of the SOC are

fully minuted and monitored by the EISCAT Council and user communities thus ensuring that proposals are treated fairly and impartially in a transparent system.

The proposals are submitted to EISCAT for review by the SOC. This is done normally twice each year, with submission deadlines in spring and autumn. The SOC, using external reviewers where necessary to enhance its own competence, first classifies the submitted proposals and then ranks them in terms of scientific excellence, applicability to the EISCAT systems, and likely scientific return. The SOC also recommends the number of hours of radar running time given to each proposal. Where appropriate, the SOC also provides comments and suggestions to be relayed back to the proposers.

Selection meetings during this reporting period

1 April submission (fourth round)

2nd meeting of SOC held at the Polar Research Institute of China in Shanghai from 21 - 25 April, 2008.

1 September submission (fifth round)

3rd meeting of the SOC held at the Ångström laboratory in Uppsala, Sweden 2 – 3 September, 2008.

1.5 Transnational Access activity

User	Schedule	User Event
Co-ordinated EISCAT, SuperDARN, MIRACLE, ITACA, and Cluster observations of cusp related processes (CESMIC) by Amata et al.	30 January – 2 February 2008: The remaining 10 hours, which could not be run on the Svalbard system in December 2007 due to problems with the power station, were run in 2008. The hours were paid by EISCAT (second support run).	n/a
Modelling discrete auroral arc formation with conjugate EISCAT / ALIS observations by Lamy et al.	3 – 11 March 2008: A total of 24 hours of observing time was run using the UHF system.	UHF System 24 hours
Models of large-scale field aligned currents (FAC) in the magnetosphere, their intensity / distribution dependence on the solar wind / IMF conditions: a validation with EISCAT by Nenovski et al. and Magnetosphere – Ionosphere coupling: Large-scale and small-scale FAC structure interactions and energy transfer in the system by Teodosiev et al.	30 June – 2 July 2008 A total of 20 hours (out of 24 hours allocation) of observing time was run using the UHF system. Both experiments were run concurrently on the mainland radar system. The radar code used was able to satisfy both experimental requirements and the two scientists were collaborating on both experiments. Due to unsuitable scientific conditions at the time of the observations, 4 hours of the experiment were cancelled.	UHF System 20 hours
A systematic investigation of high-altitude meteor trails by Brosch et al.	11 – 14 December 2008. A total of 24 hours of observing time was run using both systems in parallel.	UHF System 24 hours VHF System 24 hours
Study of photon acceleration in space plasmas using EISCAT by Mendonca et al.	Not yet scheduled: The project was reviewed favourably by the SOC and 24 hours of time was awarded for operations in 2009. The running dates for the experiment are yet to be decided by the authors.	Planned for 2009

1.6 Scientific output of the users at the facility

User	Output
Modelling discrete auroral arc formation with conjugate EISCAT / ALIS observations by Lamy et al.	<i>Preliminary results from the experiment are to be presented at a scientific meeting in Chile in January 2009</i>
Models of large-scale field aligned currents (FAC) in the magnetosphere, their intensity / distribution dependence on the solar wind / IMF conditions: a validation with EISCAT by Nenovski et al. and Magnetosphere – Ionosphere coupling: Large-scale and small-scale FAC structure interactions and energy transfer in the system by Teodosiev et al.	<i>The data were presented by the scientists at a recent international conference, Fundamental Space Research, organised by the Russian Academy of Sciences and the Bulgarian Academy of Sciences in September 2008.</i>

1.7 User meetings

None during the reporting period.

1.8 Update of the non-confidential Project information

None during the reporting period.

Annex 1 – Composition of the Users Selection Panel (section 1.4)

Dr. Anita Aikio

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Dr. Sixto Gonzalez

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Prof. Jürgen Röttger

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Annex 2 – List of User-Projects (section 1.5)

Projects Submitted and Reviewed by the SOC and Run on the Radar Systems

Acronym	Amata
Title	Co-ordinated EISCAT, SuperDARN, MIRACLE, ITACA, and Cluster observations of cusp related processes (CESMIC)
Objectives	<p>Multi-Instrument observations, both ground and space based, of polar patch formation in the high latitude ionosphere. The formation of these polar patches is governed by the extent and the location of the terrestrial and solar magnetic field lines involved in the reconnection process.</p> <p>The experiment will utilise both the EISCAT VHF and Svalbard systems.</p> <p>The EISCAT observations will be complemented by measurements from the SuperDARN radars, the ITACA all-sky cameras located on Svalbard and Greenland, the MIRACLE all-sky camera also located on Svalbard. The CLUSTER satellite will also be used to monitor conditions inside the cusp region and also as a solar wind and magnetosheath monitor.</p>
Users	E. Amata, I. Coco, S. Massetti, M. F. Marcucci
Institutions	Istituto di Fisica dello Spazio Interplanetario, INAF, Via del fosso del cavaliere 100, 00133 Roma, Italy
Installation	EISCAT Svalbard Radar, 10 hours (funded by EISCAT)
Achievements	<p>A total of 24 hours of observing time was run on the mainland VHF system in 2007/P2. A total of 12 hours of observing time was run on the Svalbard system in 2007/P2.</p> <p>The remaining 10 hours of time (24 hours of time was awarded to be run on the Svalbard system) were not run in 2007/P2 due to problems at Longyearbyen power station. These remaining 10 hours were run on the system in January 2008.</p> <p>The data are still being analysed in conjunction with the multiple data sets gathered during the experiment from other instruments.</p>

Acronym	Brosch
Title	A Systematic Investigation of High-Altitude Meteor Trails
Objectives	<p>This project aims to detect and investigate the properties of high altitude meteor trails as observed by the monostatic VHF and UHF radars of EISCAT. The specific goals are (a) to confirm the previous high altitude echoes detected in Israel and (b) to study the altitude distribution and character (density, temperature, drifts and ion composition) of the trails with the incoherent scatter method.</p>
Users	N. Brosch (1), A. Pellinen-Wannberg (2)
Institutions	<p>(1) Wise Observatory, Tel Aviv University, Tel Aviv, Israel</p> <p>(2) Umeå University and Swedish Institute of Space Physics, Kiruna, Sweden</p>

Installation	EISCAT UHF System, 24 hours EISCAT VHF System, 24 hours
Achievements	The project was successfully run in December 2008. The data are currently being analysed.

Acronym	Lamy
Title	Modelling discrete auroral arc formation with conjugate EISCAT/ALIS observations
Objectives	To use the UHF tri-static facility at EISCAT to validate a model the authors have developed to understand the formation of discrete auroral arcs and the complex interactions between the ionosphere and magnetosphere. By measuring the convection velocity in the ionosphere, they can determine the ionospheric electrostatic potential. They will combine EISCAT measurements with simultaneous optical observations of the auroral arcs made by the ALIS camera. This will allow them to calculate the ionospheric electrostatic potential in two independent ways, simultaneously.
Users	H. Lamy (1), M. Roth (1), J. De Keyzer (1), M. Mihai Echim (1), M. Voiculescu (2), The ALIS team (3)
Institutions	(1) Belgian Institute for Space Aeronomy, Avenue Circulaire 3, 1180 Bruxelles, Belgium (2) University Dunarea de Jos, Romania (3) Kiruna, Sweden
Installation	EISCAT UHF System, 24 hours
Achievements	The project was successfully carried out in March 2008. This represents the first collaboration between scientists from Belgium and EISCAT. The preliminary results are to be presented at a scientific meeting in Chile in January 2009. An excellent working relationship has been founded with the project scientists in question and they plan to submit a new project in the next call for proposals.

Acronym	Nenovski
Title	Models of large scale field aligned currents (FAC) in the magnetosphere, their intensity / distribution dependence on solar wind / IMF conditions: a validation with EISCAT
Objectives	A quantitative comparison of large scale FAC patterns with co-ordinated ground based-EISCAT-satellite observations and for particular events, ingestion of EISCAT data into AMIE assimilation analysis Validation of large scale FAC models and associated plasma vortex structures in the boundary regions of the magnetosphere-ionosphere system depending on the solar wind and IMF conditions.

	Comparison with ground based EISCAT and satellite observations will enable the project to delineate FAC contributions from principal mechanisms - reconnection and / or viscous processes at the magnetopause and the nonlinear one as follows from the zero frequency surface mode large scale FAC model.
Users	P. Nenovski (1), D. Danov (2), G, Crowley (3)
Institutions	(1) Geophysical Institute, 1113 Sofia, Bulgaria (2) Central Laboratory for Solar-Terrestrial Influences, 113 Sofia, Bulgaria (3) ASTRA Corporation, Texas, U.S.A.
Installation	EISCAT UHF System, 20 hours (together with Teodosiev project)
Achievements	The project was run successfully on the mainland radar system in June and July 2008. Due to unsuitable scientific conditions at the time of the observations 4 hours of the experiment was cancelled. This project represents the first collaboration between EISCAT and scientists from Bulgaria. The data were presented by the scientists at a recent international conference, Fundamental Space Research, organised by the Russian Academy of Sciences and the Bulgarian Academy of Sciences in September 2008.

Acronym	Teodosiev
Title	Magnetosphere - Ionosphere coupling - Large-scale and small scale FAC structure interactions and energy transfer in the system
Objectives	A complete study of small scale field aligned current (FAC) processes of high intensity, co-existing with large scale FAC systems in the polar and CUSP regions, through which the greatest amounts of energy flux deposit in the ionosphere and thermosphere have been observed.
Users	D. Teodosiev (1), E. Yordanova (1), S. C. Buchert (2), P. Nenovski (3), Y. Ogawa (4)
Institutions	(1) Space Research Institute, Bulgarian Academy of Sciences, 1000 Sofia, Bulgaria (2) Swedish Institute of Space Physics, Uppsala, Sweden (3) Geophysical Institute, Bulgarian Academy of Sciences, 1113 Sofia, Bulgaria (4) National Institute of Polar Research, Japan
Installation	EISCAT UHF System, 20 hours (together with Nenovski project)
Achievements	This project was combined with the project submitted by Nenovski et al.

Projects Submitted and Reviewed by the SOC to be Run on the Radar Systems in 2009

Acronym	Mendonca
Title	Study of photon acceleration in space plasmas using EISCAT
Objectives	<p>The request is for 24 hours of EISCAT accounting time for a joint mainland and HF heating experiment to study Stimulated Electromagnetic Emissions (SEE). The aim is to replicate some of the standard SEE measurements already carried out in previous years which have shown strongly structured SEE emissions observed at HF frequencies during CW heating experiments. To measure the stimulated emissions, we propose to use EISCAT's existing set of spectrum analysers and HF antennas, as already discussed with scientists at EISCAT. The project will concentrate particularly on geophysical conditions and heater pump frequencies which produce upshifted SEE structures. It is believed that this phenomenon can be explained by the wake field scattering model of photon acceleration developed by scientists working at the Rutherford Appleton Laboratory.</p> <p>In addition to the experimental studies, previous SEE data obtained at EISCAT will also be examined which also show these features. The aim is to compare the observed upshifted SEE emissions to the predictions of the model based on the pump frequency and heater power matching our experimental conditions and the characteristics of the background plasma determined by the EISCAT UHF radar.</p>
Users	T. Mendonca (1), B. Bingham (2), R. Trines (2), I. McCrea (2), M. Kosch (3), M. Rietveld (4)
Institutions	(1) Instituto Superior Technico, Lisbon (2) Rutherford Appleton Laboratory, Didcot, UK (3) University of Lancaster, Lancaster, UK (4) EISCAT Scientific Association, Kiruna, Sweden
Installation	EISCAT UHF System, <i>not yet scheduled</i>
Achievements	The project was reviewed by the Science Oversight Committee in September 2008 and the 24 hours of time requested was approved. Contact has been made with the scientists and it is expected the project will be run in 2009.

Annex 3 – List of Users (section 1.5)

Project	Users	Institutions
Amata	E. Amata, I. Coco, S. Massetti, M. F. Marcucci	Istituto di Fisica dello Spazio Interplanetario, INAF, Via del fosso del cavaliere 100, 00133 Roma, Italy
Brosch	N. Brosch (1), A. Pellinen-Wannberg (2)	(1) Wise Observatory, Tel Aviv University, Tel Aviv, Israel (2) Umeå University and Swedish Institute of Space Physics, Kiruna, Sweden
Lamy	H. Lamy (1), M. Roth (1), J. De Keyzer (1), M. Mihai Echim (1), M. Voiculescu (2), The ALIS team (3)	(1) Belgian Institute for Space Aeronomy, Avenue Circulaire 3, 1180 Bruxxelles, Belgium (2) University Dunarea de Jos, Romania (3) Kiruna, Sweden
Mendonca	T. Mendonca (1), B. Bingham (2), R. Trines (2), I. McCrea (2), M. Kosch (3), M. Rietveld (4)	(1) Instituto Superior Technico, Lisbon (2) Rutherford Appleton Laboratory, Didcot, UK (3) University of Lancaster, Lancaster, UK (4) EISCAT Scientific Association, Kiruna, Sweden
Nenovski	P. Nenovski (1), D. Danov (2), G. Crowley (3)	(1) Geophysical Institute, 1113 Sofia, Bulgaria (2) Central Laboratory for Solar-Terrestrial Influences, 113 Sofia, Bulgaria (3) ASTRA Corporation, Texas, U.S.A.
Teodosiev	D. Teodosiev (1), E. Yordanova (1), S. C. Buchert (2), P. Nenovski (3), Y. Ogawa (4)	(1) Space Research Institute, Bulgarian Academy of Sciences, 1000 Sofia, Bulgaria (2) Swedish Institute of Space Physics, Uppsala, Sweden (3) Geophysical Institute, Bulgarian Academy of Sciences, 1113 Sofia, Bulgaria (4) National Institute of Polar Research, Japan

Annex 4 – List of Publications (section 1.6)

Conference proceedings:

JOULE HEATING IN THE LOWER THERMOSPHERE CAUSED BY LARGE-SCALE FIELD-ALIGNED CURRENTS – SOLAR WIND AND INTERPLANETARY MAGNETIC FIELD INFLUENCES

P. Nenovski (1), D. Danov (2), G. Crowley (3), and L. Baddeley (4)

(1) Geophysical Institute, Bulgarian Academy of Sciences, 1113 Sofia, Bulgaria

(2) Central Laboratory for Solar-Terrestrial Influences, Bulgarian Academy of Sciences, 1113 Sofia, Bulgaria

(3) Atmospheric & Space Technology Research Associates, Texas, USA

(4) EISCAT Scientific Association, Ramfjordmoen, N-9027 Ramfjordbotn, Tromsø, Norway

Annex 5 – Updated non-confidential Project information (section 1.8)

None during the reporting period.

B. MANAGEMENT REPORT (FINANCIAL INFORMATION)

B.1 Justification of the resources deployed

Summary of total human effort and actual eligible costs against initial plan

Deployed management effort in total for P3

Management	Plan	Outcome	Percent
Person-months	0.72	0.60	78%

User events per facility and outcome for P3

User events	Plan	Outcome	Percent
Planned UHF events	2	3	150%
Planned VHF events	2	1	50%
In total	4	4	100%

Operations per facility and outcome for P3

System	Plan	Outcome	Percent
UHF system, hours	48	68	142%
VHF system, hours	48	24	50%
In total, hours	96	92	96%

Actual eligible costs in total for P3

Cost type in €	Plan	Outcome	Percent
Management	8 737	7 730	88%
UHF system	65 686	93 055	142%
VHF system	40 505	20 252	50%
Travel and accommodation	6 400	13 695	58%
In total	121 328	124 733	103%

B.1.1 Justification of resources deployed during the reporting period

(Attached)

Justification of resources deployed during reporting period

Contract N°	026077	Project acronym	EISCAT_USERS_1
Participant N°	1	Participant short name	EISCAT
		Management of the Design Study	
		Total effort in person-months ⁽¹⁾	0.60
Cost category	Actual direct eligible costs (€)	Justification of costs <i>description of expenditure and link to the specific work carried out (e.g. tasks, work packages, ...)</i>	
Other cost	1 723.59	Advertising and printing costs	
Personnel cost	4 177.91	Management work by Mr. H. Andersson and support staff	
Travel cost	1 164.94	Management travel during P3 - 2 trips	
Sub-contracts	664.05	Audit certificate by Öhrlings PricewaterhouseCoopers AB	
		Operations	
		Total effort in person-months ⁽¹⁾	n/a
Cost category	Actual direct eligible costs (€)	Justification of costs <i>description of expenditure and link to the specific work carried out (e.g. tasks, work packages, ...)</i>	
UHF system	93 054.87	Operations, UHF system, totally 68 hours	
VHF system	20 252.40	Operations, VHF system, totally 24 hours	
		User travel and accommodation	
		Total effort in person-months ⁽¹⁾	n/a
Cost category	Actual direct eligible costs (€)	Justification of costs <i>description of expenditure and link to the specific work carried out (e.g. tasks, work packages, ...)</i>	
Travels	2 356.11	Airfare and ground transport, 4 users/events	
Accommodation	814.85	Accommodation, 4 users/events	
Subsistences	524.27	Claimed subsistences, 4 users/events	
Total direct eligible costs	124 733.00		
Total indirect costs	24 813.79		
Adjustments previous period	-73.78		
Total costs ⁽²⁾	149 473.00	Global estimate of the total costs for AC contractors (not only the eligible costs)	

⁽¹⁾ AC contractors must include both the total estimated human effort (including permanent staff) and, in brackets, additional staff only.

⁽²⁾ Totals should correspond to the respective figures on FORM C - Financial Statement

B.2 Forms C -Financial Statement

B.2.1 Financial Statement

(Attached)

**Form C - Model of Financial Statement per Activity for a Specific Support Action /
Transnational Access to Infrastructures**
(to be completed by each contractor)

Type of instrument	Specific Support Action	Type of Action (if necessary)	Transnational Access to Infrastructures
Project Title (or Acronym)	EISCAT_USERS_1	Contract n°	026077
Contractors's legal name	EISCAT Scientific Association		
Legal Type	Non-profit		
Contact Person	Henrik Andersson	Telephone	+46-980 79150
Telecopy	+46-980-79159	E-mail	Henrik.Andersson@eiscat.se
Cost model used (AC/FC or FCF) / (UF: User Fee)(*)	FCF/UF	Indirect costs (Real or Flat Rate of 20% of Direct costs, except subcontracting)	Flat Rate of 20% of Direct costs, except subcontracting (**)
Period from	01/01/2008	To	31/12/2008

(*) If UF is used under "other specific activities: transnational access/connectivity", please mention the two cost models used (eg. FC/UF or FCF/UF or AC/UF)

(**) Except otherwise agreed in Article 9 [special clauses] of the contract.

1- Resources (Third party(ies))

Are there any resources made available on the basis of a prior agreement with third parties identified in Annex I of the contract? (Yes / No)

If Yes, please provide the following information

Third Party (Y1)	Legal name	Cost model used
Third Party 2 (Y2)	Legal name	Cost model used
Third Party 3 (Y3)	Legal name	Cost model used
Third Party 4 (Y4)	Legal name	Cost model used

If necessary add another Form C

2- Declaration of eligible costs (in €)

Please complete only the activity covered by the relevant instrument (and type of action) indicated above and as mentioned in Article II.25 and/or in Annexes I and III of the contract.

If you are a contractor using the additional cost model (AC):

- indicate only your additional eligible costs, except for Management of the Consortium Activity for which you may indicate your full eligible costs;
- do not declare eligible direct additional costs specifically covered by contributions from third parties as mentioned in Articles II.20 and II.23.a and b of the contract.

If you are a contractor using a full cost model (FC/FCF), indicate your full eligible costs

The costs declared should distinguish between direct and indirect costs

If necessary, adjustments to previous period(s) may be included where appropriate.

	Type of Activity												Total (G) = (A)+(B)+(C)+ (D)+(E)+(F)	
	Research and Technological Development / Innovation (A)		Demonstration (B)		Training (C)		Management of the Consortium (D)		Other Specific Activities: Transnational Access (E)		Other Specific Activities (E)			
	Contractor	Third Party(ies)	Contractor	Third Party(ies)	Contractor	Third Party(ies)	Contractor	Third Party(ies)	Contractor	Third Party(ies)	Contractor	Third Party(ies)	Contractor	Third Party(ies)
Direct costs							7 730.49		113 307.27		3 695.23		124 733.00	
Of which subcontracting							664.05		0.00		0.00		664.05	
Indirect costs							1 413.29		22 661.45		739.05		24 813.79	
Adjustments to previous period(s)							-73.78		0.00		0.00		-73.78	
Total costs							9 070.00		135 968.73		4 434.28		149 473.00	

3- Declaration of receipts (in €)

If you are a contractor using the additional cost model (AC), indicate only receipts covered by Article II.23.c of the contract.
If you are a contractor using a full cost model (FC/FCF), indicate receipts covered by Article II.23 of the contract.

	Type of Activity												Total (G) = (A)+(B)+(C)+ (D)+(E)+(F)		
	Research and Technological Development / Innovation (A)		Demonstration (B)		Management of the Consortium (C)		Other Specific Activities: Coordination / Networking (D)		Other Specific Activities: Transnational Access / Connectivity (E)		Other Specific Activities (E)				
	Contractor	Third Party(ies)	Contractor	Third Party(ies)	Contractor	Third Party(ies)	Contractor	Third Party(ies)	Contractor	Third Party(ies)	Contractor	Third Party(ies)			
Total receipts					0				0		0				

4- Declaration of interest generated by the pre-financing (in €)

To be completed only by the coordinator.

Did the pre-financing (advance) you received by the Commission for this period earn interest? (Yes / No)

Yes

If yes, please indicate the amount (in €)

6 232.87

5- Request of FP6 Financial Contribution (in €)

For this period, the FP6 Community financial contribution requested is equal to (amount in€)

149 473.00

6- Audit certificates

According to the contract, does this Financial Statement need an audit certificate (or several in case of Third party(ies)) delivered by independent auditor(s)? (Yes / No)

Yes

If Yes, does this(those) audit certificate(s) cover only this Financial Statement per Activity? (Yes / No)

Yes

If No, what are the periods covered by this(those) audit certificate(s) ?

From - to

What is the total cost of this(those) audit certificate(s) (in €) per independent auditor(s) ?

Audit certificate of the contractor (X)

Legal name of the audit firm	Örhings PricewaterhouseCoopers AB	Cost of the certificate	664.05
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Audit certificate(s) of the third party(ies) (Ys) (if necessary)

Y1 : Legal name of the audit firm		Cost of the certificate	
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Y2 : Legal name of the audit firm		Cost of the certificate	
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Y3 : Legal name of the audit firm		Cost of the certificate	
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Y4 : Legal name of the audit firm		Cost of the certificate	
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If necessary add another Form C.

Total (Z) = (X) + (Ys)

Reminders:

The cost of an audit certificate is included in the costs declared under the activity "Management of the Consortium". The required audit certificate (s) is (are) attached to this Financial Statement

7- Conversion rates

Costs incurred in currencies other than EURO shall be reported in EURO.

Please mention the conversion rate used (only one choice is possible) – Please note that the same principle applies for receipts.


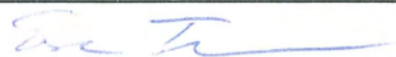
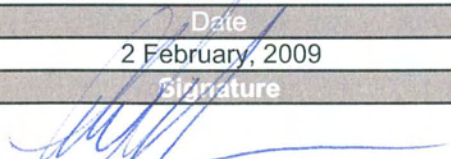
Contractor	
- Conversion rate of the date of incurred actual costs? (YES / NO)	No
- Conversion rate of the first day of the first month following the period covered by this Financial Statement? (YES/NO)	Yes
Third Party(ies) (if necessary)	
Third Party 1 (Y1)	
- Conversion rate of the date of incurred actual costs? (YES / NO)	
- Conversion rate of the first day of the first month following the period covered by this Financial Statement? (YES/NO)	
Third Party 1 (Y2)	
- Conversion rate of the date of incurred actual costs? (YES / NO)	
- Conversion rate of the first day of the first month following the period covered by this Financial Statement? (YES/NO)	
Third Party 3 (Y3)	
- Conversion rate of the date of incurred actual costs? (YES / NO)	
- Conversion rate of the first day of the first month following the period covered by this Financial Statement? (YES/NO)	
Third Party 4 (Y4)	
- Conversion rate of the date of incurred actual costs? (YES / NO)	
- Conversion rate of the first day of the first month following the period covered by this Financial Statement? (YES/NO)	

If necessary add another Form C.

8- Contractor's Certificate

We certify that:

- the costs declared above are directly related to the resources used to reach the objectives of the project ;
 - the receipts declared above are directly related to the resources used to reach the objectives of the project ;
 - the costs declared above fall within the definition of eligible costs specified in Articles II.19, II.20, II.21, II.22 and II.25 of the contract, and, if relevant, in Annex III and Article 9 (special clauses) of the contract ;
 - the receipts declared above fall within the definition of receipts specified in Article II.23 of the contract ;
 - the interest generated by the pre-financing declared above falls within the definition of Article II.27 of the contract ;
 - the necessary adjustments, especially to costs reported in previous Financial Statement(s) per Activity, have been incorporated in the above Statement ;
 - the above information declared is complete and true ;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Contractor's Stamp	Name of the Person responsible for the work	Name of the duly authorised Financial Officer
 EISCAT Scientific Association P.O. Box 812 SE-981 28 Kiruna, Sweden	Dr. Esa Turunen	Mr. Henrik Andersson
	Date	Date
	2 February, 2009	2 February, 2009
	Signature	Signature
		

B.2.2 Audit Certificate

(Attached)

EISCAT Scientific Association
P. O. Box 812
SE-981 28 Kiruna

We, Öhrlings Pricewaterhouse Coopers AB, established in N Köpmangatan 12 B, SE-801 38 Gävle, Sweden represented for signature of this audit certificate by Annika Wedin, authorized public accountant, hereby certify that:

- we have conducted an audit relating to the cost declared in the Financial Statement per Activity of EISCAT Scientific Association hereinafter referred to as contractor, to which this audit certificate is attached, and which is to be presented to the Commission of the European Communities under RITA contract "Access to EISCAT facilities for new users", EISCAT_USERS_1, contract number 026077, for the following period covered by the EC contract: 2008-01-01 – 2008-12-31.
- We confirm that our audit was carried out in accordance with generally accepted auditing standards respecting ethical rules and on the basis of the relevant provisions of the above-referenced contract and its annexes.

The above mentioned Financial Statement per Activity was examined and all tests of the supporting documentation and accounting records deemed necessary were carried out in order to obtain reasonable assurance that, in our opinion, based on our audit:

- the amount of the total eligible costs € 149 473.00 (one hundred forty nine thousand four hundred seventy three euros and zero cents), declared in Box 2 of the attached Financial Statement per Activity is complying with the following cumulative conditions:
 - they are actual and reflect the contractor's economic environment;
 - they are determined in accordance with the contractor's accounting principles;
 - they have been incurred during the period covered by the Financial Statement per Activity concerned by this audit certificate;
 - they are recorded in the accounts of the contractor at the date of the establishment of this audit certificate;

AW

- they are exclusive of any non-eligible costs identified below which are established in the second paragraph of article II.19 of the above mentioned contract with the Commission of the European Communities:
 - any identifiable indirect taxes, including VAT or duties;
 - interest owed;
 - provisions for possible future losses or charges;
 - exchange losses;
 - costs declared, incurred or reimbursed in respect of another Community project;
 - return on capital;
 - debt and debt service charges;
 - excessive or reckless expenditure;
 - any cost which does not meet the conditions established in Article II.19.1. of your contract with the Commission of the European Communities.

- they have been claimed according to the FCF (full cost flat rate) cost reporting model or the UF (user fee) cost reporting model depending on type of cost, which the contractor is eligible to use according to the above mentioned contract with the Commission of the European Communities;

- they are claimed according to the following basis for the conversion rate used of EURO:
 - the rate applicable on the first day of the month following the end of the reporting period;

- as declared in the Box 3 of the attached Financial Statement per Activity, the total amount of receipts for the period covered by this Financial Statement per Activity is equal to € 0 (zero euros);

- as declared in the Box 4 of the attached Financial Statement per Activity, the total amount of interest yielded by the pre-financing received from the Commission of the European Communities for the period covered by this Financial Statement per Activity is equal to € 6 232.87 (six thousand two hundred thirty two euros and eighty seven cents);

- accounting procedures used in the recording of eligible costs and receipts respect the accounting rules of the State in which the contractor is established and permit the direct reconciliation between the costs and receipts incurred for the implementation of the project covered by the EC contract and the overall statement of accounts relating to the contractor's overall business activity;

- our company is qualified to deliver this audit certificate in full compliance with the second and third paragraphs of article II.26 of the contract;

AMW

- as declared in the Box 6 of the attached Financial Statement per Activity, the contractor paid for this audit certificate a price equal to € 830.07 (eight hundred thirty euros and seven cents) in which VAT is equal to € 166.01 (one hundred sixty six euros and one cent).

Gävle 2009-02-02

Öhrlings Pricewaterhouse Coopers AB



Annika Wedin
Authorized public accountant

EISCAT Scientific Association
Headquarters
P. O. Box 812
SE-981 28 Kiruna, Sweden