

**The Armagh Observatory and Planetarium
Accounts for 2004/2005, Year Ended 31 March 2005**



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Foreword to the Accounts

Background

The Armagh Observatory and the Armagh Planetarium are distinctive organisations part of the corporate entity, the Governors of the Armagh Observatory and Planetarium, incorporated under the Armagh Observatory and Planetarium (Northern Ireland) Order 1995, which superseded the original 1791 Act, an Act for settling and preserving a Public Observatory and Museum in the City of Armagh for ever, and amending legislation in 1938. The 1995 Order was subsequently amended by the Audit and Accountability (Northern Ireland) Order 2003, Schedule 1, paragraph 6. The corporation is registered as a charity under section 505 of the Income and Corporation Taxes Act 1988.

The Armagh Observatory is the oldest scientific institution in Northern Ireland, founded by Archbishop Richard Robinson in 1790 as part of his dream to see the creation of a university in the City of Armagh. It stands close to the centre of the City of Armagh together with the Armagh Planetarium in approximately 14 acres of attractive, landscaped grounds known as the Armagh Astropark. The Astropark, which is managed by the Observatory, includes two sundials and scale models of the solar system and the Universe, and features a number of outdoor exhibits and interpretation panels. A new public outreach facility, the Human Orrery, has recently been opened in the Observatory grounds to the south-east of the main building of the modern Observatory. The Armagh Planetarium was founded by Dr Eric Lindsay, the seventh Director of the Armagh Observatory and was officially opened on 1 May 1968, the first in Ireland and one of the first in the UK. The Armagh Observatory and the Armagh Planetarium operate under separate Directors and receive core funding from the Department of Culture, Arts and Leisure (DCAL).

Aims and Objectives

The aim of the corporation is to advance the knowledge and understanding of astronomy and related sciences through the execution, promotion and dissemination of astronomical research nationally and internationally in order to enrich the intellectual, economic, social and cultural life of the community.

Principal Activities

The principal function of the Armagh Observatory is to undertake original research of a world-class academic standard that broadens and expands our understanding of astronomy and related sciences. Research interests of Observatory staff currently focus on (i) Stellar and Galactic Astrophysics (including star formation, astrophysical jets, cool stars, hot stars, helium stars), (ii) the Sun (the dynamic solar atmosphere, chromosphere and corona), (iii) Solar System Astronomy (including celestial mechanics, planetary science, and the dynamical evolution and interrelationships of comets, asteroids and interplanetary dust), and (iv) Solar System - Terrestrial Relationships (including solar variability, climate, accretion of interplanetary dust and Near Earth Objects). In addition, Observatory staff participate in an active programme of education and lifelong learning via lectures, popular astronomy articles and interviews with the press, radio and television, as well as providing advice to the general public and undertaking a range of Observatory tours. The Observatory also maintains a unique 210-year long meteorological record and data-bank, the longest in the UK and Ireland from a single site. In addition to its primary research role, the Observatory has an important responsibility to maintain and preserve its historic buildings with their unique architectural features and its valuable collection of historic books, instruments and archives.

The Armagh Planetarium is a leading educational establishment whose primary function is to disseminate knowledge of a wide range of science and to promote the public understanding of astronomy and science through its programme of educational services for schools and the wider public. Staff deliver interactive presentations using the latest projection and information technology to all age groups and abilities on a wide range of astronomical and scientific topics, including meteorite impacts, the planets, current astronomical phenomena and earth sciences. The Planetarium also, through the large number of visitors coming through its doors, plays an important role in promoting and enhancing tourism within Armagh City and District.

Equal Opportunities Policy

The corporation is an equal opportunities employer, committed to ensuring that the talents and resources of all members of the corporation are utilised to the full. The corporation does not discriminate directly or indirectly on the grounds of religious belief, political opinion, trade union membership, gender, marital status, sexual orientation, age, disability, race, colour, or ethnic origin, against any member of staff, full-time or part-time, or job applicant, actual or potential, in any aspect of the corporation's activities, including matters of recruitment, training, promotion, appointment, nomination or selection for any position, job transfer or redundancy.

Policy on Payment of Suppliers

The corporation is committed to the payment of all invoices not in dispute within agreed contractual terms or within 30 days of the presentation of a valid invoice, or delivery if later. In the year ended 31 March 2005, 100% of Armagh Observatory invoices and 99.8% of Armagh Planetarium invoices were paid within these limits.

Auditors

Under the Audit and Accountability (Northern Ireland) Order 2003, responsibility for the audit of the accounts of the Armagh Observatory and Planetarium has been vested in the Comptroller and Auditor General for Northern Ireland.

Employee Information and Consultation

The corporation takes every opportunity to inform and consult with all members of the organisation on the corporation's activities and plans for the future through the dissemination of annual reports and operational plans, the provision of the latest information on research, educational and other activities through the web-sites, regular formal and informal briefing and discussion meetings, and consultations with staff representatives on employment-related and operational policies and procedures.

Further information is available on the Observatory at <http://star.arm.ac.uk/>, and on the Planetarium at <http://www.armaghplanet.com/>.

Corporate Governance

Board of Governors

The Board of Governors comprises the Church of Ireland Archbishop of Armagh (Chairman), the Dean and Chapter of the Church of Ireland Cathedral of Armagh, 1 DCAL nominee, 1 Queen's University Belfast (QUB) nominee, and up to 3 additional members nominated by the Board of Governors. Nominees normally serve for an initial period of 5 years with the possibility of extension.

Chairman: His Grace, The Most Reverend Dr R.H.A. Eames, The Lord Archbishop of Armagh
 The Very Reverend Dean H. Cassidy, St. Patrick's Cathedral, Armagh
 The Venerable Archdeacon R.G. Hoey, Camlough
 The Reverend Canon J.M. Barton, Acton
 The Reverend Canon W.J.A. Dawson, Pomeroy
 The Reverend Canon J.W. McKegey, Armagh
 The Reverend Canon C.F. Moore, Newtownhamilton
 The Reverend Canon H.J.W. Moore, Ballinderry
 The Reverend Canon R.J.N. Porteus, Derryloran
 The Reverend Canon F.D. Swann, Drumglass
 Councillor W. Gardiner-Watson, (DCAL Nominee)
 Professor K.L. Bell, (QUB Nominee - resigned September 2004)
 Professor A. Hibbert, (QUB Nominee - appointed September 2004)
 The Right Honourable, The Lord Ballyedmond, Ballyedmond Castle, Rostrevor (Board of Governors Nominee)

Management Committee

The Management Committee, an advisory committee to the Board of Governors, comprises the Church of Ireland Archbishop of Armagh or his nominee (Chairman), 3 Nominees from the Board of Governors, 4 DCAL nominees, 1 QUB nominee, 1 Particle Physics and Astronomy Research Council (PPARC) nominee, 1 Dublin Institute for Advanced Studies (DIAS) nominee, and up to 4 additional members co-opted by the Board of Governors. Nominees and those co-opted by the Governors normally serve for an initial period of 3-5 years with the possibility of extension.

Chairman: His Grace, The Most Reverend Dr R.H.A. Eames, The Lord Archbishop of Armagh
 Deputy Chairman: Dr F.N. Byrne, (Co-opted, Board of Governors)
 The Venerable Archdeacon R.G. Hoey, Camlough, (Board of Governors Nominee)
 Professor K.L. Bell, QUB, (Board of Governors Nominee - resigned September 2004)
 Dr E.M.Á. Downey, (DCAL Nominee)
 Mrs S. Hogg, (DCAL Nominee)
 Mrs M. Cruickshank, (DCAL Nominee)
 Professor P.L. Dufton, (QUB Nominee)
 Professor M.R. Merrifield, University of Nottingham, (PPARC Nominee)
 Professor L. Drury, (DIAS Nominee)
 Sir Kenneth Bloomfield, (Co-opted, Board of Governors)
 Professor D.A. Williams, University College London, (Co-opted, Board of Governors - resigned June 2004)

Directors and Secretary

Professor M.E. Bailey – Director, Armagh Observatory
 Dr T.R. Mason – Director, Armagh Planetarium
 Mr L.F. Young – Secretary

The Armagh Observatory — Operating Review

The following research highlights and performance indicators for 2004/2005 and the objectives for 2005/2006 are extracted from the Armagh Observatory Annual Report for the Calendar Year 2004 (Financial Year 2004/2005), which contains an extensive summary of the whole of the Observatory's research and other activities during 2004. The full Report is available at <http://star.arm.ac.uk/annrep/> or by contacting the Administrator at the Armagh Observatory, College Hill, Armagh, BT61 9DG, tel. +44-(0) 28-3752-2928.

Research Highlights

Solar Physics: The solar physics group has continued to study topics including ultraviolet (UV) explosive events on the Sun, (UV)/X-ray bright points, and evidence for magnetic reconnection in the solar atmosphere, using the impressive suites of instruments on board both the Solar and Heliospheric Observatory (SoHO) and the Transition Region and Coronal Explorer (TRACE) satellites. In particular, Professor J.G. Doyle and colleagues have made the first detection, to their knowledge, of a small magnetic loop in the quiet Sun which shows evidence for a supersonic $\approx 130 \text{ km s}^{-1}$ siphon-like flow.

The group has also revealed for the first time the existence of bi-directional jets, which are a signature of magnetic reconnection, occurring along coronal hole (CH) boundaries; and in another study show, for the first time, the association of the blinker phenomenon with brightenings in pre-existing coronal loops. Such brightening seems to be triggered by interchange reconnection, serving to provide topological connectivity between newly emerging magnetic flux and pre-existing flux, and a new model of the phenomenon has been proposed which requires further testing.

Origin of Stars: A book entitled "The Origin of Stars", by Dr M.D. Smith, was published in October 2004 by Imperial College Press. It is the first book on star formation, apart from collective works based on conference proceedings, for fifteen years. It presents the story of stellar procreation in a form comprehensible to the avid science reader and suitable for use as a university textbook. In particular, the book illustrates the recent revolution in our knowledge of star birth, on many scales.

ULTRACAM Observations of Subdwarf B Stars: Subdwarf B stars are highly evolved stars which pulsate non-radially in several modes with different frequencies. Measurements enable astronomers to establish their overall properties and internal structure with unusual precision. In a second visit to use the phenomenal high-speed ultracam photometer on the William Herschel Telescope in La Palma, Dr C.S. Jeffery teamed up with Dr Conny Aerts (Nijmegen and Leuven) to observe one of these pulsating stars for six consecutive nights. Over 60,000 images were obtained, which when played in sequence show the star's oscillations in red, green and ultraviolet light. These observations were supported by 14 hours of observations from the brand new Faulkes Telescope North in Hawaii. The combined observations have revealed 19 pulsation frequencies including nine new ones. Moreover, groups of close multiplets give rise to complex beating patterns, and are indicative of the star's slow rotation rate. The results will enable pulsation modes to be identified and the total mass and radius of the star to be measured. Together, they will help to resolve fundamental questions about how subdwarf B stars were formed.

First CCD Observations of Asteroids from Armagh: Drs A.A. Christou and D.J. Asher, in collaboration with the summer 2004 work-experience student Sharon McClure (Glenlola Collegiate, Bangor, Co.Down), have conducted astrometric observations of main-belt and near-Earth asteroids using the Observatory's ST-7 CCD camera attached to the Armagh Planetarium's 10-inch Meade Schmidt-Cassegrain telescope. Three main-belt asteroids were observed, namely (304) Olga, (849) Ara and (1146) Biarmia. One near-Earth asteroid, namely (1685) Toro, was also observed during a moderately close approach to the Earth. These are the first CCD observations of asteroids, and of near-Earth asteroids in particular, to be carried out from the Armagh Observatory, and represent the first precise astrometry to be carried out at the Armagh Observatory in forty years. The observations obtained in summer 2004 were reported to the Minor Planet Center in Cambridge, Massachusetts.

Drs A.A. Christou, D.J. Asher and Ms Sharon McClure also observed and imaged the unusual near-Earth asteroid 2000 PH₅ during its close approach to the Earth around 27 July 2004. These observations were carried out remotely using the new 2 m aperture Faulkes Telescope North, situated on the 10,000-foot summit of Haleakala, on the island of Maui in Hawaii. They also formed part of Sharon McClure's summer work experience project, which was supported by the Nuffield Science Bursary Scheme, which is run by the Sentinus programme in the University of Ulster at Jordanstown. It is believed that these observations were also the first Earth-approaching near-Earth asteroid to be observed with the Faulkes Telescope (see <http://star.arm.ac.uk/press/2000PH5.html>).

Occultation Astronomy: A team of 12 staff and students travelled in three groups to locations west of Sligo on the evening of Tuesday 20 July 2004, to observe with small telescopes and binoculars the predicted occultation of the magnitude 6.5 star HIP 186 in Pisces by the D-type minor planet (773) Irmintraud (diameter c.95 km), at approximately 01:19:22 UT on 21 July 2004. This was a particularly interesting event, as it had previously been suggested that Irmintraud could be an example of a very primitive parent body similar to the source of extremely rare, primitive meteorites such as Tagish Lake. The Armagh team was the only group on the island of Ireland able to observe the star and report a definite negative observation. Similar negative results were reported by observers in Spain, Italy and France, suggesting that the asteroid was quite far from its predicted path. This work gave the Armagh Observatory summer students an opportunity to experience a scientific project from its inception to completion, culminating in a publication.

Climate: The Grounds and Meteorological Officer, Mr S. Kelly, and other staff members, have continued to take daily measurements of the weather at Armagh throughout the year. In contrast to the warming trend of recent years, falling snow at the Observatory on 25 December made 2004 the fourth White Christmas at Armagh in nine years. Previous recent instances of snow at Armagh on Christmas Day were 1995, 1999 and 2001, prior to which we must go back to 1980 for another example.

Technical Equipment: Mr H.M. Murphy and Mr G.C. Coxhead implemented a number of important changes and upgrades to the Observatory's technical equipment during 2004, a few of which are summarized in their report below.

- The Observatory became an ordinary member of the Northern Ireland Regional Area Network (NIRAN) consortium in early 2004 and was connected to the NIRAN at 10 Megabits per second in October 2004. This was a considerable upgrade from the previous 1 Mbps proxy link to JANET via QUB. The router which connects both the Observatory and Planetarium to the NIRAN is managed remotely by the NIRAN technical team, and as the Observatory has no control over this it was necessary to implement a separate firewall between the router and the internal network. This was done in software on a redundant PC system.
- A high-performance computer cluster comprising 15 dual-processor 3.0 GHz work nodes and one master node, with a total of 30 GB memory, was purchased largely with funding from CosmoGrid (part of the Grid Ireland project; see <http://cagraidsvr06.cs.tcd.ie/vos.html>). This was installed during November 2004 in a room in the Observatory bungalow which has been converted to an air-conditioned computer room. The cluster is being used to model solar and stellar atmospheres. A Grid gateway system was also installed which will integrate the Observatory Cluster with Grid Ireland and will make the other computational clusters of Grid Ireland available to researchers at the Observatory.
- For some years the Observatory's scientific computer systems have used the RedHat Linux distribution as their operating system. This distribution has now become semi-commercial, and so most of the Observatory's systems have been switched to the alternative Fedora Core distribution to ensure lower total cost of ownership and access to the latest free software releases and updates.

Performance Indicators

The Armagh Observatory has achieved considerable success during the past year. Staff have produced 41 refereed scientific journal publications during the year, as well as one monograph ("The Origin of Stars", by Dr M.D. Smith); the number of identified media citations, namely 284, has remained at a high level, considerably above the target figure of 200; and the number of Distinct e-Visitors to the Observatory web-sites (<http://star.arm.ac.uk/>, <http://climate.arm.ac.uk/> and <http://arpc65.arm.ac.uk/~spm/>) has continued to grow.

The 41 papers published in refereed scientific journals is the highest since 1998. Such publications represent only a fraction of the Observatory's total scientific output.

Staff at the Observatory have obtained external grants and other income totalling £250,413 during the period (£239,427 in external grant receipts), maintaining the extremely high levels of recent years. These have averaged in excess of £250,000 per year over the past decade, i.e. more than 40% of the corresponding DCAL grant-in-aid over the same period. The corresponding high level of astronomical activity at Armagh demonstrates an extremely good return per unit of core DCAL funding.

In the same period, Armagh Observatory staff presented a record 93 talks and other scientific contributions at meetings both locally and abroad, and have maintained a very active programme of formal seminars and internal colloquia at the Observatory (23 such talks). They have also attracted 284 identified media citations in various mass-media including items in the national and international press, and on radio and television.

A notable achievement during 2004 was the Observatory's involvement in arrangements for the first joint meeting of the Astronomical Science Group of Ireland (ASGI) and the Institute of Physics in Ireland (IoPI). The meeting "Astronomy and Astrophysics in Ireland" was held in St Patrick's Triam, Armagh, from 1-4 April 2004. With more than 140 participants this was the largest astronomy meeting ever held in Armagh.

The Observatory continues to present a strong, positive image of Armagh and Northern Ireland on the world stage. It also maintains a significant programme of education and public outreach. The Observatory's principal web-sites, namely <http://star.arm.ac.uk/>, <http://climate.arm.ac.uk/> and <http://arpc65.arm.ac.uk/~spm/>, have attracted growing interest by members of the general public, evidenced by the very high number of recorded 'hits' and Distinct e-Visitors (DeVs), and by the growing amount of data transferred from the web-site to external users. During 2004 these indicators of web-site activity were recorded as 9.4 million hits, 576,000 DeVs (an average of two estimates), and 920 GB data exported.

Staff have devoted considerable effort towards the programme of restoration of several historic telescopes and telescope domes, so improving the fabric of the main Grade A listed building and building a foundation for continued observing operations at the Observatory. They have also undertaken various other innovative projects in the Observatory Grounds and Astropark, including construction of the Human Orrery and inauguration of the new Phenology Garden. These activities have improved both the scientific and cultural heritage of the region and have been carried out in addition to pursuing a high-volume programme of astronomical research.

Objectives for 2005/2006

The Observatory's principal objectives during 2005 and the coming financial year 2005/2006 are to:

- maintain existing high-quality research programmes;
- obtain grants and additional external funding to support new research projects;
- strengthen the Observatory's research capability in solar system and stellar astrophysics in readiness for the next Research Assessment Exercise (RAE 2008; census date 31 October 2007). The Observatory has achieved a Grade 4 in the 1992, 1996 and 2001 UK Research Assessment Exercises, corresponding to "Quality that equates to attainable levels of national excellence in virtually all of the research activity submitted, showing some evidence of international excellence.";
- enhance the Observatory's access to and use of necessary research infrastructure, such as CosmoGrid, the Southern African Large Telescope (SALT), and the NIRAN;
- widen access to the heritage material in its possession; and
- progress plans for a new Library, Archive and Historic Scientific Instruments Building.

The key task for the year is to obtain a stable and sustainable level of core funding and to gain access to additional funds for the recruitment of additional research staff. This is to maintain current activity and to lay a strong foundation for the forthcoming Research Assessment Exercise (2002 - 2007).

The Armagh Planetarium — Operating Review

The following review of educational activities and the objectives for 2005/2006 are extracted from the Armagh Planetarium Annual Report 2004/2005 and Business and Operational Plan 2005/2006. The full Report and Plan are available by contacting the Administrator at the Armagh Planetarium, College Hill, Armagh, BT61 9DB, tel. +44-(0) 28-3752-4725.

Educational activities

The Planetarium's main building has been closed to the public, apart from limited summer opening, since November 2000 pending the award of additional Government funding for either a rebuild or refurbishment of the building. The Planetarium can now see light at the end of what has been a long and very dark tunnel. The organisation has successfully lobbied the Department of Culture, Arts & Leisure to invest £2.7 million to upgrade and modernize the Planetarium. The upgrade encompasses a completely revamped Space Theatre, including new seating, lighting, sound system and new Digistar 3 all-dome projection equipment. This will bring the Planetarium into line with recent developments in digital theatre design in the world-wide planetarium community.

Although closure of the main building has disrupted normal activities at the Planetarium, the Planetarium staff have developed a very successful outreach programme, delivering numerous presentations on astronomy and related sciences to schools and other groups and at science events throughout Ireland. The total persons reached through the outreach service for 2004/2005 was 16,300 compared with 11,564 in the previous year.

The Planetarium has also been successful in developing collaboration with various European and international bodies promoting space research and innovation through education. The Planetarium is one of a number of European academic partners in the EC-funded "Hands on Universe, Europe" project. The purpose of the project is to re-awaken interest for science in the young generation through real observations, possibly acquired by schoolchildren themselves, from the worldwide network of automatic telescopes operated via the internet or other electronic tools developed within the project. The total budget for the project is Euro 847,669. The Armagh Planetarium is the development partner for the Dill Faulkes Robotic Telescope project in Ireland. The project will provide schools with observing time on research-grade telescopes in Hawaii and Australia. The Planetarium is the only planetarium in Europe to have an official link with the human spaceflight activities at the European Space Agency. In January 2005, the Planetarium organised the visit to Northern Ireland of Dr Andre Kuipers, a member of the European Space Agency astronaut team to talk to schoolchildren and amateur astronomers.

The Planetarium has established the Astrogazers project to promote astronomy as a worthwhile educational and leisure activity amongst young people. The project provides a network of school astronomy clubs which allows the clubs to interact with and receive advice and support from each other. A total of 50 clubs have now been registered for the project from various schools in Northern Ireland.

Objectives for 2005/2006

In 2005/2006, as well as maintaining the programme of outreach activities, we will prepare for the re-opening of the main building in mid 2006. This will involve: working with the DCAL and the Central Procurement Directorate to progress the building work (building work on the Administration building was substantially completed in 2004/2005); developing a range of shows and presentations for visitors of all ages; preparing a comprehensive marketing plan; seeking funding for a major refit of the exhibit area; and recruiting additional education staff necessary to sustain normal operations. Work has already commenced on the production of new Digistar material for the visitors, and the US-based Digistar Users Group has awarded the Planetarium a prize for the first publicly shown results of this work. Good progress has been made in learning how to work with the numerous computer programs that generate content for the Digistar 3 projection equipment.

We will continue to develop our educational collaborations in Europe. We have continued to successfully nurture our working relationship with the European Space Agency along with other bodies promoting space research and innovation in presenting these topics through education. We have been successful in joining an EC-funded Socrates/Minerva project with seven other European agencies from France, Greece, Italy, Poland, Portugal, Spain and Sweden. We are already working with partner institutions in Holland and Germany as well as the Republic of Ireland.

Armagh Observatory — Financial Review for the Year Ended 31 March 2005

Unrestricted Funds

Unrestricted funds are those funds received for the general purposes of the Observatory. The Observatory received £754,000 in recurrent grant from the DCAL for general operating costs, comprising £660,000 grant-in-aid announced by the Department for the year and a further £94,000 from the June 2004 Northern Ireland Government Monitoring round. In addition, £44,979 was received from research grants as a contribution towards the unrestricted costs of the Observatory and a total of £10,986 was received for bank interest, rents and miscellaneous income. Unrestricted funds totalled £809,965 for the year.

Total expenditure from unrestricted funds amounted to £795,677 resulting in a net surplus on unrestricted funds of £14,288 for the year. The surplus was transferred to unrestricted reserves leaving a balance on unrestricted reserves of £135,335 at 31 March 2005. The major variances in expenditure compared with the previous year were:

Salaries and wages: Spending increased because of salary inflation arising from the 2004 pay settlement for staff paid in accordance with the Northern Ireland Civil Service pay scales and increased student costs.

Library and publications: Additional costs were incurred in archiving antique books and journals. In addition, the previous year's costs were lower than normal because of a change in the accounting treatment of subscriptions for periodicals.

Northern Ireland Regional Area Network: A new arrangement for the provision of Internet access for the Armagh Observatory and Planetarium through the Northern Ireland Regional Area Network (NIRAN) was agreed in the year. The NIRAN connection provides an expanded 10 Mbps connection at an annual cost of £25,820. The NIRAN annual subscription runs from 1 August 2004 and the enhanced bandwidth was provided to the Observatory from 1 November 2004.

BT telephone link and JANET access service: The cost of the BT telephone link, £11,088, and the JANET access service, £1,625, were the costs of the previous arrangement for the provision of Internet access (1Mbps) up to the introduction of the NIRAN arrangement.

Heat, light and power: Electricity consumption increased with the installation during the year of a 30-node computer cluster funded jointly from Cosmogrid and PPARC grants.

Property and grounds maintenance: Additional costs were incurred in the refurbishment of the fabric of the main building to improve access for those with a disability and for health and safety reasons.

Release of taxation provision: A provision for taxation of £21,064 included in other creditors at 31 March 2004 is no longer required and has been released in the statement of financial activities.

Restricted Funds

Restricted funds are those funds received for specific purposes. The DCAL provided £129,777 for technical equipment, the Human Orrery project, alterations to the buildings and grounds to improve access for those with a disability in accordance with the requirements of the Disability Discrimination Act 1995 (DDA), and for other capital projects. Funding of £239,427 was received from other bodies for research projects and for the project for the restoration of the Observatory's historic buildings and domes. The contribution of £44,979 for the year from research grants towards the Observatory's general operating costs was transferred from Restricted to Unrestricted Funds. Restricted income of £87,061 from previous years was released from deferred income to be matched against expenditure in the year and £26,029 was transferred to deferred income for expenditure which will be incurred in subsequent years. Total restricted funds were £385,257 for the year.

Total expenditure from restricted funds amounted to £381,183 resulting in a net surplus on restricted funds of £4,074 for the year. The surplus was transferred to restricted reserves leaving a balance on restricted reserves of £11,864 at 31 March 2005. The major variances in expenditure compared with the previous year were:

Salaries and wages: Costs increased due to the appointment of additional fixed-term research staff.

Property and grounds maintenance: DDA-compliance alterations to the buildings and grounds amounted to £50,118.

Buildings, domes and telescopes restoration project: The project building work, the major part of which took place in the previous year, was completed in the year at a cost of £26,719.

Depreciation: Depreciation is calculated so as to write off the cost, or valuation, of tangible fixed assets, less their estimated residual values, on a straight-line basis over the expected useful economic lives of the assets concerned. The previous year's

depreciation contained additional charges to write off two buildings, the old Schmidt dome and the garage, which were demolished in that year. Grants received for the purchase of tangible fixed assets are amortised over the useful economic lives of the assets concerned and credited against the cost of depreciation.

Cost of capital: Cost of capital of £33,750 has been charged at a rate of 3.5% on the average net assets, excluding the net book value of donated assets. Cost of capital is a notional charge and represents an appropriate return, set by Government accounting guidance, on the investment of public funds in the corporation. As this is a notional charge the cost is reversed in the Statement of Financial Activities.

Factors which will Influence Future Financing Requirements

Recurrent grant from the DCAL is anticipated to be £660,000 for the year ending 31 March 2006, the same level of funding announced by the DCAL for the previous year and 2003/2004. This level of funding is insufficient to maintain the current planned programmes of research, outreach and public understanding of science for the year and if no additional funding is obtained it will be necessary to fund the shortfall in income from the Observatory's unrestricted reserves. In addition, the Observatory needs access to additional funds for the recruitment of additional research staff in order to compete effectively with growing university groups in the next Research Assessment Exercise (RAE 2008; census date 31 October 2007).

Armagh Planetarium — Financial Review for the Year Ended 31 March 2005

Unrestricted Funds

The Planetarium received recurrent grant of £390,000 from the DCAL for general operating costs. Earned income and other receipts less the shop and mail order loss amounted to £8,860 giving total unrestricted funds of £398,860 for the year.

Total expenditure from unrestricted funds amounted to £382,502 resulting in a net surplus on unrestricted funds of £16,358 for the year. The surplus was transferred to unrestricted reserves leaving a balance on unrestricted reserves of £16,392 at 31 March 2005. The major variances in expenditure compared with the previous year were:

Salaries and wages: Inflationary increases arising from the Northern Ireland Civil Service pay settlement were offset by a reduction in overtime costs and a charge to the Observatory for part of the salary costs of the Planetarium cleaner for time spent on Observatory cleaning.

Travelling and subsistence: Additional travel expenditure to the U.S.A. in connection with training on the new Digistar 3 projection equipment and travel in Europe in connection with European Space Agency educational events.

Technical maintenance: The previous year's expenditure included maintenance costs for the Digistar 2 projection equipment and air conditioning plant which did not occur in the current year.

Production expenses: A new show "Big" was purchased for development in readiness for the re-opening of the main Planetarium building in 2006.

Advertising and brochures: Lower levels of promotional expenditure in the year.

Restricted Funds

The DCAL provided in-year funding of £492,477 for the project for the refurbishment of the buildings and for new equipment. This included notional grant income amounting to £65,666 in respect of professional fees for the project which were paid by the DCAL on behalf of the Planetarium. Income from the previous year for the first instalment of expenditure on the projection equipment and for other project equipment was released from deferred income, giving total project funds of £695,038 for the year. The Planetarium also received £894 from the DCAL for capital purposes and a total of £4,972 from other bodies for travel and for specific educational purposes, the Astrogazers project and the Dill Faulkes Robotic Telescope project, £3,139 of which was transferred to deferred income to be matched against expenditure in future years. Total restricted income amounted to £697,765.

Total expenditure from restricted funds was £697,765 for the year resulting in a nil net movement on restricted funds for the year. Expenditure comprised:

Refurbishment of the buildings: Expenditure of £247,089 on the refurbishment of the Administration building, the first phase of the buildings refurbishment project, professional fees relating to the project and equipment storage costs.

Capital expenditure: Expenditure on new equipment funded by the refurbishment project amounted to £447,949 and a further £894 was incurred on other capital equipment.

Travel and events: £1,833 expenditure was incurred on travel funded by the E.S.A. and other costs of the Dill Faulkes Robotic Telescope project.

Cost of capital: Cost of capital of £61,122 has been charged at a rate of 3.5% on the average net assets. Cost of capital is a notional charge and represents an appropriate return, set by Government accounting guidance, on the investment of public funds in the corporation. As this is a notional charge the cost is reversed in the Statement of Financial Activities.

Mail order and shop: Mail order sales have been declining over recent years due to a market decline for slide sets which are now readily available through the Internet. Shop sales are at a very low level due to the closure of the main building to the public for the greater part of the year and will only recover when the Planetarium is fully open to the public in 2006.

Factors which will Influence Future Financing Requirements

Recurrent grant from the DCAL is anticipated to be £390,000 for the year ending 31 March 2006, the same level of funding as the previous year. Additional funds will be required to recruit new staff for the vacant positions in the education team in

readiness for the re-opening of the main building in 2006 and for advertising and other promotional activities leading up to the re-opening. If no additional funds are received in the year the shortfall in income will be funded from the Planetarium's unrestricted reserves and by curtailing expenditure on promotional activities. Capital funds will also be required for new interactive models and other displays for the exhibit area and for sound and other equipment for the theatre.

Important events which have occurred since the financial year end

The contract for the refurbishment of the Planetarium's main building was let by the Central Procurement Directorate on 20 April 2005 for the sum of £1,895,685.

Statement of the Responsibilities of the Governors and Accounting Officers

Under the Audit and Accountability (Northern Ireland) Order 2003 the Governors are responsible for keeping proper accounts and proper records in relation to the accounts, and for preparing a statement of accounts in respect of each financial year in such form and containing such information as the DCAL, with the approval of the Department of Finance and Personnel, shall direct. The Accounting Officer of the DCAL has designated the respective Directors of the Armagh Observatory and Planetarium as the corporation's Accounting Officers. As Accounting Officers the Directors take personal responsibility for the propriety and regularity of the public finances for which they are answerable and for the keeping of proper accounts. They are required to sign the accounts thereby accepting personal responsibility for their proper presentation and to sign the Statement of Internal Control. Their relevant responsibilities as Accounting Officers, including their responsibilities for the propriety and regularity of the public finances and for the keeping of proper records, are set out in the Non-Departmental Accounting Officer Memorandum issued by the Department of Finance and Personnel.

The accounts are prepared on an accruals basis and give a true and fair view of the corporation's state of affairs at the end of the financial year and of its income and expenditure, total recognised gains and losses and cash flows for the financial year. The accounts have been prepared in accordance with the Statement of Recommended Practice "Accounting and Reporting by Charities" issued in October 2000 (SORP 2000). The financial statements comply with the guidance issued by the Department of Finance and Personnel on the form and contents of the Annual Reports and Accounts of Executive Non-Departmental Public Bodies and in particular:

- suitable accounting policies have been selected and applied consistently (subject to changes arising on the adoption of new accounting standards);
- reasonable and prudent judgements and estimates have been made;
- applicable accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements;
- the financial statements have been prepared on the going concern basis, unless it is inappropriate to presume that the corporation will continue in business.

The Accounting Officers are also responsible for safeguarding the assets of the corporation and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Armagh Observatory — Statement on Internal Control

As Accounting Officer for the Armagh Observatory I have responsibility for maintaining a sound system of internal control that supports the achievement of the policies, aims and objectives of the Armagh Observatory, whilst safeguarding public funds and the assets of the Armagh Observatory for which I am personally responsible in accordance with the responsibilities assigned to me by the Governors of the Armagh Observatory and Planetarium and in Government Accounting Northern Ireland.

The system of internal control is designed to manage risk to a reasonable level, rather than to eliminate all risk of failure to achieve policies, aims and objectives; it can therefore only provide reasonable and not absolute assurance of effectiveness. The system of internal control is based on an ongoing process designed to identify and prioritise the risks to the achievement of the Armagh Observatory's policies, aims and objectives, to assess the likelihood of the events occurring and the impact should they be realised, and to manage the risks effectively, efficiently and economically. The system of internal control has been in place in the Armagh Observatory for the year ended 31 March 2005 and up to the date of approval of the annual accounts, and accords with Departmental of Finance and Personnel guidance. The main procedures in place to monitor the effectiveness of the system of internal control are as follows:

- Regular meetings with officials from the DCAL to consider both operational and strategic issues and matters relating to the system of internal control.
- Continuous assessment of the quality of research through peer review of grant applications, applications for telescope time, and the submission of scientific papers to academic journals of national and international standing.
- Peer review of the research quality, capability and output of the Observatory through participation in the periodic Research Assessment Exercise.
- Regular reports by administrative staff on progress against principal financial targets and the projected financial outcome for the year and progress reports by staff responsible for major projects.
- Detailed progress reports to the Management Committee and Board of Governors at their regular meetings, and inclusion of performance measures in the annual operating plan.
- Annual reports from internal auditors to the Internal Audit Committee on the system of internal control, which provide an opinion on the adequacy and effectiveness of the system and contain recommendations for improvement.
- Annual reports from external auditors to the Management Committee and the Board of Governors on the material issues relating to the annual accounts, which provide an opinion on whether the accounts give a true and fair view of the affairs of the organisation and of its incoming resources and application of resources.
- Periodic review of the Armagh Observatory Risk Register by the Director and the Administrator and by the Armagh Observatory and Planetarium Internal Audit Committee. The principal risks to the achievement of the Armagh Observatory's policies, aims and objectives have been identified and recorded in the Armagh Observatory Risk Register together with the controls in place and any further controls required to manage the risk effectively, efficiently and economically. Reports on emerging issues and strategies to deal with any associated risks are made to the Management Committee and Board of Governors of the Armagh Observatory and Planetarium at their regular meetings.

As Accounting Officer, I have responsibility for reviewing the effectiveness of the system of internal control. My assessment is informed by the work of the internal auditors and the senior staff within the Armagh Observatory who have responsibility for the development and maintenance of the internal control framework, and by the comments made by the external auditors in their management letter and other reports. I have been advised on the effectiveness of the system of internal control and a plan to address weaknesses and ensure continuous improvement of the system is in place.

A number of minor internal control weaknesses were identified during the financial year 2004/2005 as part of the annual internal audit and appropriate action has been taken to resolve them.

Signed:



Director: Professor Mark Bailey

Date: 22 August 2005

Armagh Planetarium — Statement on Internal Control

As Accounting Officer for the Armagh Planetarium I have responsibility for maintaining a sound system of internal control that supports the achievement of the policies, aims and objectives of the Armagh Planetarium, whilst safeguarding public funds and the assets of the Armagh Planetarium for which I am personally responsible in accordance with the responsibilities assigned to me by the Governors of the Armagh Observatory and Planetarium and in Government Accounting Northern Ireland.

The system of internal control is designed to manage risk to a reasonable level rather than to eliminate all risk of failure to achieve policies, aims and objectives; it can therefore only provide reasonable and not absolute assurance of effectiveness. The system of internal control is based on an ongoing process designed to identify and prioritise the risks to the achievement of the Armagh Planetarium's policies, aims and objectives, to assess the likelihood of the events occurring and the impact should they be realised, and to manage them effectively, efficiently and economically. The system of internal control has been in place in the Armagh Planetarium for the year ended 31 March 2005 and up to the date of approval of the annual accounts, and accords with Departmental of Finance and Personnel guidance. The main procedures in place to monitor the effectiveness of the system of internal control are as follows:

- Periodic review of the Armagh Planetarium Risk Register by the Director and the Administrator and by the Armagh Observatory and Planetarium Internal Audit Committee. The principal risks to the achievement of the Armagh Planetarium's policies, aims and objectives have been identified and recorded in the Armagh Planetarium Risk Register together with the controls in place and any further controls required to manage the risk effectively, efficiently and economically. Reports on emerging issues and strategies to deal with any associated risks are made to the Management Committee and Board of Governors of the Armagh Observatory and Planetarium at their regular meetings.
- Detailed progress reports to the Management Committee and Board of Governors at their regular meetings, and inclusion of performance measures in the annual operating plan.
- Regular meetings with officials from the DCAL to consider both operational and strategic issues and matters relating to the system of internal control.
- Annual reports from the internal auditors to the Internal Audit Committee on the system of internal control, which provide an opinion on the adequacy and effectiveness of the system and contain recommendations for improvement.
- Annual reports from external auditors to the Management Committee and the Board of Governors on the material issues relating to the annual accounts, which provide an opinion on whether the accounts give a true and fair view of the affairs of the organisation and of its incoming resources and application of resources.
- Regular reports by administrative staff on progress against principal financial targets and the projected financial outcome for the year and progress reports provided by staff responsible for major projects.

As Accounting Officer, I have responsibility for reviewing the effectiveness of the system of internal control. My assessment is informed by the work of the internal auditors and the senior staff within the Armagh Planetarium who have responsibility for the development and maintenance of the internal control framework, and by the comments made by external auditors in their management letter and other reports. I have been advised on the effectiveness of the system of internal control and a plan to address weaknesses and ensure continuous improvement of the system is in place.

A number of minor internal control weaknesses were identified as part of the annual internal audit for the 2004/2005 financial year and appropriate action has been taken to resolve them.

Signed:



DIRECTOR: DR TOM MASON

Date: 22 August 2005

The Certificate and Report of the Comptroller and Auditor General to the House of Commons

I certify that I have audited the financial statements on pages 16 to 43 under the Audit and Accountability (Northern Ireland) Order 2003. These financial statements have been prepared under the historical cost convention as modified by the revaluation of certain fixed assets and the accounting policies set out on pages 19 and 34 to 35.

Respective responsibilities of the Accounting Officer and Auditor

As described on page 12, the Governors are responsible for the preparation of the financial statements in accordance with the Audit and Accountability (Northern Ireland) Order 2003 and Department of Finance and Personnel directions made thereunder and for ensuring the regularity of financial transactions. The Governors are also responsible for the preparation of the other contents of the Annual Report. My responsibilities, as independent auditor, are established by statute and guided by the Auditing Practices Board and the auditing profession's ethical guidance.

I report my opinion as to whether the financial statements give a true and fair view and are properly prepared in accordance with the Audit and Accountability (Northern Ireland) Order 2003 and Department of Finance and Personnel directions made thereunder, and whether in all material respects the expenditure and income have been applied to the purposes intended by the Northern Ireland Assembly and Parliament and the financial transactions conform to the authorities which govern them. I also report if, in my opinion, the Annual Report is not consistent with the financial statements, if the Department has not kept proper accounting records, or if I have not received all the information and explanations I require for my audit.

I read the other information contained in the Annual Report, and consider whether it is consistent with the audited financial statements. I consider the implications for my certificate if I become aware of any apparent misstatements or material inconsistencies with the financial statements.

I review whether the statements on pages 13 and 14 reflect the corporation's compliance with the Department of Finance and Personnel's guidance 'Corporate Governance: Statement on Internal Control'. I report if it does not meet the requirements specified by the Department of Finance and Personnel, or if the statements are misleading or inconsistent with other information I am aware of from my audit of the financial statements.

Basis of audit opinion

I conducted my audit in accordance with United Kingdom Auditing Standards issued by the Auditing Practices Board. An audit includes examination, on a test basis, of evidence relevant to the amounts, disclosures and regularity of financial transactions included in the financial statements. It also includes an assessment of the significant estimates and judgements made by the corporation in the preparation of the financial statements, and of whether the accounting policies are appropriate to the corporation's circumstances, consistently applied and adequately disclosed.

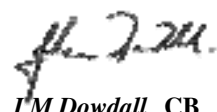
I planned and performed my audit so as to obtain all the information and explanations which I considered necessary in order to provide me with sufficient evidence to give reasonable assurance that the financial statements are free from material misstatement, whether caused by error, or by fraud or other irregularity and that, in all material respects, the expenditure and income have been applied to the purposes intended by the Northern Ireland Assembly and Parliament and the financial transactions conform to the authorities which govern them. In forming my opinion I have also evaluated the overall adequacy of the presentation of information in the financial statements.

Opinion

In my opinion:

- the financial statements give a true and fair view of the state of affairs of the Governors of the Armagh Observatory and Planetarium at 31 March 2005 and of the net cost of operations, recognised gains and losses and cash flows for the year then ended and have been properly prepared in accordance with the Audit and Accountability (Northern Ireland) Order 2003 and directions made thereunder by the Department of Finance and Personnel; and
- in all material respects the expenditure and income have been applied to the purposes intended by the Northern Ireland Assembly and Parliament and the financial transactions conform to the authorities which govern them.

I have no observations to make on these financial statements.



J.M. Dowdall CB
Comptroller and Auditor General
Date: 8 September 2005

Northern Ireland Audit Office
106 University Street, Belfast BT7 1EU

Armagh Observatory and Planetarium Accounts for 2004/2005

Armagh Observatory

Statement of financial activities for the year ended 31 March 2005

	Notes	Unrestricted funds 2005 £	Restricted funds 2005 £	Total funds 2005 £	Total funds 2004 £
Incoming resources					
DCAL grants	2	754,000	129,777	883,777	748,504
Other grants and receipts	2	-	239,427	239,427	270,383
Interest receivable		6,054	-	6,054	7,364
Rents		3,707	-	3,707	5,334
Miscellaneous income		1,225	-	1,225	805
Donations		-	-	-	-
Proceeds from sale of assets		-	-	-	500
Transfer to deferred income	12	-	(26,029)	(26,029)	(78,699)
Transfer from deferred income	12	-	87,061	87,061	223,926
Transfer between funds		44,979	(44,979)	-	-
Total incoming resources		809,965	385,257	1,195,222	1,178,117
Resources expended					
Direct expenditure of the corporation	3	674,514	173,709	848,223	740,082
Fundraising and publicity	4	-	-	-	-
Management and administration of the corporation	6	121,111	80,789	201,900	252,519
Capital expenditure		52	126,685	126,737	183,808
Total resources expended		795,677	381,183	1,176,860	1,176,409
Net incoming resources for the year before cost of capital					
		14,288	4,074	18,362	1,708
Cost of capital		-	(33,750)	(33,750)	-
Net movement in funds after cost of capital		14,288	(29,676)	(15,388)	1,708
Cost of capital reversed		-	33,750	33,750	-
Net movement in funds		14,288	4,074	18,362	1,708
Balances brought forward at 1 April		121,047	7,790	128,837	127,129
Balances carried forward at 31 March	14,15	135,335	11,864	147,199	128,837

All amounts above relate to continuing operations of the corporation.

The income and expenditure summary is included at Note 9.

Cost of capital at 3.5% has been charged on the average net assets of the corporation, excluding the net book value of donated assets. As this is a notional charge the cost of capital is reversed in the Statement of Financial Activities.

Statement of total recognised gains and losses for the year ended 31 March 2005

There have been no gains or losses other than those recognised in the statement of financial activities.

Armagh Observatory

Balance sheet at 31 March 2005

	Notes	2005 £	2004 £
Tangible assets	10	1,506,864	1,464,644
Current assets			
Debtors	11	66,978	145,961
Cash at bank and in hand	19,20	250,208	180,316
		317,186	326,277
Creditors: amounts falling due within one year	12	(185,707)	(213,160)
Net current assets		131,479	113,117
Total assets less current liabilities		1,638,343	1,577,761
Creditors: amounts falling due after more than one year		-	-
Net assets		1,638,343	1,577,761
Funds			
Unrestricted	14	135,335	121,047
Restricted	15	11,864	7,790
Government grant reserve	13	808,400	752,380
Designated	17	682,744	696,544
		1,638,343	1,577,761

The financial statements on pages 16 to 31 were approved on 22 August 2005 and were signed by:



Professor Mark Bailey, Director of the Armagh Observatory

Armagh Observatory

Cash flow statement for the year ended 31 March 2005

	Notes	2005 £	2004 £
Net cashflow from operating activities		63,838	(201,137)
Returns on investments and servicing of finance			
Interest received		6,054	7,364
Interest paid and similar charges		-	-
		6,054	7,364
Capital expenditure			
Purchase of tangible assets		(126,737)	(183,808)
Capital grants received		126,737	183,808
Proceeds from the disposal of fixed assets		-	500
		-	500
Net cash (outflow)/inflow before financing and management of liquid resources		69,892	(193,273)
Management of liquid resources			
Movement in First Trust deposit account		(50,895)	107,805
Net cash (outflow)/inflow from management of liquid resources		(50,895)	107,805
(Decrease)/increase in cash in the year	19, 20	18,997	(85,468)

Reconciliation of operating result to net cash flow

	2005 £	2004 £
Net incoming resources per statement of financial activities	18,362	1,708
Proceeds from sale of asset	-	(500)
Interest received	(6,054)	(7,364)
Interest paid and similar charges	-	-
Depreciation	84,517	115,630
Release of deferred credit - Government grant reserve	(70,717)	(115,630)
Release of deferred credit - donated asset reserve	(13,800)	-
(Increase)/decrease in debtors	78,983	(90,932)
(Decrease)/increase in creditors	(27,453)	(104,049)
Net cash (outflow)/inflow from operating activities	63,838	(201,137)

Armagh Observatory

Notes to the financial statements for the year ended 31 March 2005

1 Accounting policies

These financial statements are prepared on the going concern basis under the historical cost convention, as modified by the revaluation of certain tangible fixed assets, and in accordance with The Audit and Accountability (Northern Ireland) Order 2003, directions made thereunder by the Department of Culture, Arts and Leisure and applicable accounting standards. The principal accounting policies are set out below.

Tangible fixed assets

The cost of tangible fixed assets is their replacement or purchase cost, together with any incidental costs of acquisition. Depreciation is calculated so as to write off the cost, or valuation, of tangible fixed assets, less their estimated residual values, on a straight-line basis over the expected useful economic lives of the assets concerned. The principal annual rates used are as follows:

	%
Furniture and fittings	10 - 15
Office equipment	15 - 25
Scientific equipment and other equipment	15 - 25
Land and buildings	2
Astropark	5

Land and buildings are included in the balance sheet at depreciated replacement cost or, where lower, the estimated value in use.

Government grants

Grants that relate to specific capital expenditure are treated as deferred income which is then credited to the income and expenditure account over the related asset's useful life. Other grants are credited to the statement of financial activities when received.

Pension costs

The corporation participates in the Northern Ireland Local Government Officers' Superannuation Committee Pension Scheme (NILGOSC) which provides benefits based on final pensionable pay. The assets of the scheme are held separately from those of the corporation. The corporation is unable to identify its share of the underlying assets and liabilities of the scheme on a consistent and reasonable basis and therefore, as required by FRS 17 'Retirement benefits', accounts for the scheme as if it were a defined contribution scheme. As a result, the amount charged to the statement of financial activities represents the contributions payable to the scheme in respect of the accounting period.

Fund accounting

The corporation has various types of funds for which it is responsible, and which require separate disclosure. These are as follows:

Restricted funds

Grants or donations received which are earmarked by the donor for specific purposes. Such purposes are within the overall aims of the organisation.

Unrestricted funds

Funds which are expendable at the discretion of the Governors in furtherance of the objectives of the corporation. In addition to expenditure on the provision of services, such funds may be held in order to finance capital investment and working capital.

Armagh Observatory

2 Incoming Resources

Department of Culture, Arts and Leisure

The accounts reflect the receipt of the following grants from the Department of Culture, Arts and Leisure (DCAL):

	2005	2004
	£	£
Recurrent (unrestricted)	754,000	627,000
Capital (restricted)	6,000	6,500
Astronomy Infrastructure (restricted)	-	75,000
Human Orrery (restricted)	20,000	40,004
Capital for DDA and other capital projects (restricted)	103,777	-
Transfer to Deferred Income	(3,468)	(69,154)
Transfer from Deferred Income	77,516	160,186
Transfer between funds	44,979	30,659

Other grants and receipts

	Unrestricted	Restricted	Total	Total
	funds 2005	funds 2005	funds 2005	funds 2004
	£	£	£	£
PPARC Research, Visitor and Travel grants	-	89,445	89,445	67,334
PPARC System Manager Support grant	-	11,844	11,844	9,747
PPARC rolling travel grant	-	6,919	6,919	6,283
Programme for Research in Third Level				
Institutions - Cosmogrid project	-	97,684	97,684	4,407
Miscellaneous travel grants	-	2,186	2,186	5,458
Heritage Lottery Fund	-	-	-	160,222
Environment and Heritage Service	-	28,250	28,250	14,700
INTAS	-	-	-	1,602
The Royal Society	-	2,746	2,746	-
Meteorological Office grant	-	175	175	175
Other grants and receipts	-	178	178	455
	-	239,427	239,427	270,383

Armagh Observatory

3 Direct expenditure of the corporation

	Unrestricted funds 2005 £	Restricted funds 2005 £	Total funds 2005 £	Total funds 2004 £
Salaries and wages	568,701	116,314	685,015	585,225
Release of provision for taxation	(21,064)	-	(21,064)	-
Meteorology data input agency costs	2,677	-	2,677	637
Scholarship and training	9,433	1,015	10,448	10,019
Travelling and subsistence	23,447	10,667	34,114	44,077
Technical maintenance and computer consumables	18,485	639	19,124	16,420
Library and publications	35,726	-	35,726	13,105
BT phone link	11,088	-	11,088	10,448
JANET access service	1,625	-	1,625	3,061
Northern Ireland Regional Area Network	17,233	-	17,233	-
Southern African Large Telescope contribution	-	37,000	37,000	37,000
National Astronomy Meeting	-	-	-	7,963
Conferences	1,347	4,660	6,007	-
Historic books and instruments	-	-	-	1,306
Visitor programme expenses	5,816	3,414	9,230	10,821
	674,514	173,709	848,223	740,082

4 Fundraising and publicity

	Unrestricted funds 2005 £	Restricted funds 2005 £	Total funds 2005 £	Total funds 2004 £
	-	-	-	-

5 Travel and subsistence

Restricted travel and subsistence is funded in the main from external grant aid from the Particle Physics and Astronomy Research Council (PPARC).

Armagh Observatory

6 Management and administration of the corporation

	Unrestricted funds 2005 £	Restricted funds 2005 £	Total funds 2005 £	Total funds 2004 £
Insurance	13,594	-	13,594	16,460
Heat, light and power	19,788	-	19,788	12,914
Rates	280	-	280	241
Property and grounds maintenance	52,941	50,118	103,059	37,131
Buildings, Domes and Telescopes restoration project - building refurbishment	-	26,719	26,719	146,739
Postage and telephone	5,593	-	5,593	6,141
General expenses	5,411	-	5,411	6,655
Cleaning costs	4,474	-	4,474	8,034
Management Committee and meetings	1,878	-	1,878	3,347
Office equipment	1,794	-	1,794	2,103
Bank charges	-	-	-	-
Audit costs	5,459	-	5,459	3,891
Other professional fees	6,174	3,952	10,126	5,090
Stationery and advertising	3,725	-	3,725	3,773
Depreciation	-	84,517	84,517	115,630
Release from grants reserve	-	(70,717)	(70,717)	(115,630)
Release from donated asset reserve	-	(13,800)	(13,800)	-
	121,111	80,789	201,900	252,519

7 Employee information

	2005 £	2004 £
Staff costs		
Wages and salaries	620,682	529,819
Social security costs	42,901	36,390
Pension costs	21,432	19,016
	685,015	585,225

Average staff numbers by major category:

	Number 2005	Number 2004
Directors	1	1
Astronomers	5	5
Research and research related staff	17	14
Administration and librarian	3	4
Computer support and grounds staff	3	3
	29	27

Included within administration staff numbers is the corporation's Administrator whose salary is apportioned on a 50:50 basis between the Observatory and Planetarium.

Armagh Observatory

8 Director's emoluments

	2005	2004
	£	£
Aggregate emoluments	50,097	47,556
Corporation pension contributions to defined benefit scheme	2,293	2,181
	52,390	49,737

Retirement benefits are accruing to the director under a defined benefit scheme for each of the financial years.

9 Income and expenditure summary

	2005	2004
	£	£
Gross income	1,068,485	994,309
Expenditure		
Direct charitable expenditure (note 3)	848,223	740,082
Fund raising and publicity (note 4)	-	-
Management and administration of the corporation (note 6)	201,900	252,519
	1,050,123	992,601
Surplus for the year	18,362	1,708

Armagh Observatory

10 Tangible fixed assets

	Land & buildings £	Exhibits and grounds £	Astropark £	Furniture Fittings £	Office Eqpt. £	Equipment & Historic telescopes £	Total £
Cost or valuation							
At 1/4/04	2,115,852	37,628	367,490	80,413	97,253	654,827	3,353,463
Additions	-	55,509	-	4,289	-	66,939	126,737
Disposals	-	-	-	-	-	-	-
At 31 March 2005	2,115,852	93,137	367,490	84,702	97,253	721,766	3,480,200
Depreciation							
At 1/4/03	1,048,818	-	165,372	74,076	71,278	529,275	1,888,819
Charge for year	27,570	2,530	18,375	1,139	3,711	31,192	84,517
Disposals	-	-	-	-	-	-	-
At 31 March 2005	1,076,388	2,530	183,747	75,215	74,989	560,467	1,973,336
Net book value							
At 31 March 2005	1,039,464	90,607	183,743	9,487	22,264	161,299	1,506,864
Net book value							
At 31 March 2004	1,067,034	37,628	202,118	6,337	25,975	125,552	1,464,644

Tangible fixed asset additions of £126,737 as shown above were funded as follows:

	£
DCAL grant	
Buildings, domes and telescopes restoration project	15,598
Astronomy infrastructure and Human Orrery project	17,258
Capital grant	5,865
Recurrent grant	52
DDA and other capital projects	46,374
Human Orrery phase 2	20,000
Research grants	21,590
	126,737

The corporation's Buildings were valued at 31 March 2002 on the basis of depreciated replacement cost by Leighton Johnston Associates, Chartered Architects. If the Buildings had not been valued, they would have been included at the following amounts:

	2005 £	2004 £
Cost	580,345	580,345
Aggregate depreciation	(104,470)	(92,863)
Net book value based on historic cost	475,875	487,482

Depreciation on fixed assets for the year was £84,517 (2004: £115,630).

Land and buildings include grounds and buildings with a net book value of £636,850 at 31 March 2005 which were donated to the corporation in 1790 by Archbishop Richard Robinson, the founder of the corporation.

Armagh Observatory

11 Debtors

	2005 £	2004 £
Grant debtors	39,256	83,763
Sundry debtors and prepayments	27,722	62,198
	66,978	145,961

12 Creditors: amounts falling due within one year

	2005 £	2004 £
Trade creditors	98,849	67,165
Accruals	29,191	6,232
Deferred income	57,667	118,699
Other creditors	-	21,064
	185,707	213,160

A provision for taxation of £21,064 included in other creditors at 31 March 2004 is no longer required and has been released in the statement of financial activities

Analysis of deferred income

	2005 £	2004 £
Balance at 1 April	118,699	263,926
Transfer to statement of financial activities	(87,061)	(223,926)
Transfer from statement of financial activities	26,029	78,699
Balance at 31 March	57,667	118,699

13 Government grants reserve

	Land and buildings £	Exhibits and grounds £	Astropark £	Furniture Fittings £	Equipment Office & Historic Eqpt. telescopes £	Total £	
Balance at 1 April 2004	354,766	37,628	202,118	6,337	25,979	125,552	752,380
Additions	-	55,509	-	4,289	-	66,939	126,737
Amortised	(13,770)	(2,530)	(18,375)	(1,139)	(3,711)	(31,192)	(70,717)
Balance at 31 March 2005	340,996	90,607	183,743	9,487	22,268	161,299	808,400

Armagh Observatory

14 Unrestricted funds

	Balance 1/4/2004	Incoming resources	Resources expended	Transfer from defrd. income	Transfer to defrd. income	Balance 31/3/2005
	£	£	£	£	£	£
Unrestricted funds	121,047	809,965	(795,677)	-	-	135,335

It is the policy of the Armagh Observatory to retain a sufficient level of unrestricted cash reserves based on a realistic assessment of future cash needs and other contingencies.

Grants for research purposes together with other grants for specific purposes are normally received in arrears. During the period between the expenditure being incurred and receipt of the corresponding grants, such projects must be funded from unrestricted funds. It is therefore necessary to retain an amount of cash reserves from such funds. A prudent level for such reserves is roughly 1/12th the annual DCAL income, approximately £63,000. In addition a contingency, currently estimated at £70,000, is required to provide a fund for development opportunities and possible exceptional expenditure not anticipated in the annual budget.

The total cash reserves represents approximately 10% of the total annual grant income of the Observatory.

This policy will be reviewed by the Director on an annual basis at the end of the financial year.

Armagh Observatory

15 Restricted funds

	Balance 1/4/2004	Incoming resources	Resources expended	Transfer between funds	Transfer from defrd. income	Transfer to defrd. income	Balance 31/3/2005
	£	£	£	£	£	£	£
DCAL grants							
Buildings, Domes and Telescopes restoration project	-	-	(15,598)	-	15,598	-	-
SALT	4,178	-	(37,456)	-	40,000	-	6,722
Capital	-	6,000	(6,000)	-	-	-	-
Astron. infrastructure/Human Orrery	-	-	(21,918)	-	21,918	-	-
National Astronomy Meeting	2,037	-	-	-	-	-	2,037
DDA and other capital projects	-	103,777	(100,309)	-	-	(3,468)	-
Human Orrery phase 2	-	20,000	(20,000)	-	-	-	-
	6,215	129,777	(201,281)	0	77,516	(3,468)	8,759
Other grants							
Environment and Heritage Service	-	28,250	(26,719)	-	-	-	1,531
PPARC grants	1,350	108,208	(59,882)	(34,411)	8,645	(22,561)	1,349
Programme for Research in Third Level Institutions - Cosmogrid project	-	97,684	(88,005)	(10,579)	900	-	-
Miscellaneous travel grants	-	2,186	(2,186)	-	-	-	-
Miscellaneous grants	-	3,099	(3,110)	11	-	-	-
	1,350	239,427	(179,902)	(44,979)	9,545	(22,561)	2,880
Donations							
	225	-	-	-	-	-	225
	7,790	369,204	(381,183)	(44,979)	87,061	(26,029)	11,864

Armagh Observatory

DCAL grants

The Observatory received £129,777 from the DCAL during the year for the following restricted purposes.

Capital

Funding of £6,000 was provided for expenditure on equipment.

DDA and other capital projects

Funding of £103,777 was provided for the cost of alterations to buildings and grounds, the purchase of electronic display equipment to improve access for visitors to the Observatory with a disability and for the cost of other capital projects.

The Human Orrery

Funding of £20,000 was provided for phase 2 of the construction of a Human Orrery, a unique and innovative outdoor exhibit located in the Observatory grounds. The Human Orrery is an accurate scale model of the solar system including the positions and orbits of the six naked-eye planets, two comets and an asteroid. It seeks to engage visitors to the Observatory grounds in an involving and inspiring open-air exhibit and to introduce fundamental ideas about the Earth's position in space to new audiences.

Other Grants and Receipts

PPARC research and visitor grants

The Observatory received funding from the Particle Physics and Astronomy Research Council (PPARC) to fund a number of research projects during the year:

- The Origin and Evolution of Protostars: Tracking with Magnetohydrodynamic Numerical Simulations.
- Solar Transient Events and their importance for Coronal Heating and Solar Wind Acceleration.
- The Origin of Hot Stellar Remnants.

These grants fund salary, travel and other direct costs of the research project and provide a contribution towards certain indirect running costs of the Observatory based on 46% of grant-aided salary costs.

PPARC system manager support grant

The PPARC provided a grant of £11,844 towards the salary and other costs of the computer systems manager.

Programme for Research in Third Level Institutions – Cosmogrid project

The aim of the project, led by the Dublin Institute for Advanced Studies, is to study natural phenomena occurring in the cosmos using powerful computers connected by modern Grid technology. The project is funded by the Irish Higher Education Authority under the National Development Plan as part of the Programme for Research in Third Level Institutions. The Armagh Observatory is one of a number of collaborating institutions in this programme and will receive €370,180 over five years for staff and equipment to support its contribution to the project. During the year £97,684 was received for the project costs.

Environment and Heritage Service

During the year £28,250 was received from the Environment and Heritage Service towards the cost of the project for the restoration of the historic buildings and domes.

Armagh Observatory

16 Analysis of transfer between funds

The transfer from restricted to unrestricted funds represent amounts received from the PPARC and Cosmogrid project which are to be used as a contribution to the general running costs of the Observatory.

17 Designated funds

	2005 £	2004 £
Revaluation of land and buildings		
Balance at 1 April	696,544	696,544
Transfer to donated assets reserve	(650,650)	-
Balance at 31 March	45,894	696,544
Donated assets reserve		
Balance at 1 April	-	-
Transfer from revaluation of land and buildings	650,650	-
Amortised	(13,800)	-
Balance at 31 March	636,850	-
Total designated funds at 31 March 2005	682,744	696,544

Buildings and grounds with a net book value at 31 March 2005 of £636,850 (2004: £650,650) were donated to the corporation in 1790 by Archbishop Richard Robinson, the founder of the corporation. The net book value of the donated assets at 1 April 2004 was transferred from revaluation reserve to donated assets reserve and the depreciation on the donated assets for the year was amortised against donated assets reserve.

18 Analysis of net assets between funds

	Designated Funds £	Unrestricted Funds £	Restricted Funds £	Total Funds £
Tangible assets	1,491,144	3,856	11,864	1,506,864
Current assets	-	317,186	-	317,186
Current liabilities	-	(185,707)	-	(185,707)
Net assets	1,491,144	135,335	11,864	1,638,343

19 Analysis of net funds

	1 April 2004 £	Cash Flow £	31 March 2005 £
Cash at bank and in hand	45,653	18,997	64,650
Liquid resources	134,663	50,895	185,558
Net funds	180,316	69,892	250,208

Liquid resources comprise short term deposits held at the bank.

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20 Reconciliation of net cash flow to movement in net funds

	2005	2004
	£	£
(Decrease)/increase in cash in financial year	18,997	(85,468)
(Decrease)/increase in deposits	50,895	(107,805)
(Decrease)/increase in net funds in the year	69,892	(193,273)
Net funds at 1 April	180,316	373,589
Net funds at 31 March	250,208	180,316

21 Pension Costs

The corporation participates in the Northern Ireland Local Government Officers' Superannuation Committee Pension Scheme (NILGOSC). This is a defined benefit scheme but the corporation is unable to identify its share of the underlying assets and liabilities. In accordance with the provisions of FRS 17, the contributions to the scheme are accounted for on a defined contribution basis.

An Actuarial valuation of the scheme was carried out as at 31 March 2004. At this date there was a deficit in the scheme, which will have to be recovered by increasing employers' contribution rates. Since the date of the last valuation in 2001, the scheme has suffered from reduced investment returns arising from the fall in the global stock market and the return on the scheme's assets since 2001 has been significantly lower than the long-term returns anticipated in valuing the liabilities in 2001. The funding level (ratio of assets to past service liabilities) as at 31 March 2004 is 85% compared to 121% at 31 March 2001. This corresponds to a past service deficit of £392.1 million.

Employers' contribution rates will increase from the current rate of 4.6% to 8.5% in the year ending 31 March 2006, 11% in the year ending 31 March 2007 and 13% in the year ending 31 March 2008.

	2005	2004
	£	£
The charge for the year in respect of this scheme amounted to:	21,432	19,016

22 Commitments

There were outstanding capital commitments of £3,468 at 31 March 2005 (2004: £37,000).

23 Investment in Southern African Large Telescope Project

	2005	2004
	£	£
Total investment at 1 April	148,096	111,096
Additions	37,000	37,000
Total investment at 31 March	185,096	148,096
	2005	2004
	£	£
Provision for impairment at 1 April	148,096	111,096
Provision in current year	37,000	37,000
Provision for impairment at 31 March	185,096	148,096
Net book value at 31 March	-	-

The Southern African Large Telescope project involves the construction of a 10-metre class telescope with related buildings at the Sutherland Outstation of the South African Astronomical Observatory in Northern Cape Province. The main objective is to advance science and education in South Africa through the promotion of deep-sky astronomy, and by participating in the project the Armagh Observatory will attain rights to use the telescope in the future. The DCAL has provided funding of £200,000 to meet the Armagh Observatory's financial commitment to the project.

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24 Related-Party Transactions

None of the members of the Board of Governors, the Management Committee, the Director or other related parties have undertaken any material transactions with the Armagh Observatory during the year. The Armagh Observatory has had various material transactions with a number of Government Departments, Executive Agencies and Non-Departmental Public Bodies in Northern Ireland and the UK. Most of these transactions have been with the Department of Culture, Arts and Leisure, the Central Procurement Directorate, the Particle Physics and Astronomy Research Council and the Department of the Environment (DOE) Environment and Heritage Service.

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Statement of financial activities for the year ended 31 March 2005

	Notes	Unrestricted funds 2005 £	Restricted funds 2005 £	Total funds 2005 £	Total funds 2004 £
Incoming resources					
DCAL grants	2	390,000	493,371	883,371	593,448
Other grants and receipts	3	499	4,972	5,471	4,677
Admissions		2,908	-	2,908	12,892
Rents		3,812	-	3,812	4,532
Interest receivable		44	-	44	68
Miscellaneous income		-	-	0	3,379
Outreach income		17,898	-	17,898	16,966
Shop and mail order loss	26	(16,301)	-	(16,301)	(9,895)
Transfer to deferred income	2	-	(3,139)	(3,139)	(208,345)
Transfer from deferred income	2	-	202,561	202,561	60,250
Total incoming resources		398,860	697,765	1,096,625	477,972
Resources expended					
Direct expenditure of the corporation	4	289,629	1,833	291,462	297,099
Fundraising and publicity	5	4,914	-	4,914	16,574
Management and administration of the corporation	6	83,961	247,089	331,050	182,690
Capital expenditure		3,998	448,843	452,841	11,307
Total resources expended		382,502	697,765	1,080,267	507,670
Net incoming/(outgoing) resources for the year before cost of capital					
		16,358	-	16,358	(29,698)
Cost of capital		-	(61,122)	(61,122)	-
Net movement in funds after cost of capital		16,358	(61,122)	(44,764)	(29,698)
Cost of capital reversed		-	61,122	61,122	-
Net movement in funds		16,358	-	16,358	(29,698)
Balances brought forward at 1 April		34	-	34	29,732
Balances carried forward at 31 March	17,18	16,392	-	16,392	34

All amounts above relate to continuing operations of the corporation.

The income and expenditure summary is included at Note 9.

Cost of capital at 3.5% has been charged on the average net assets of the corporation.

As this is a notional charge the cost of capital is reversed in the Statement of Financial Activities.

Statement of total recognised gains and losses for the year ended 31 March 2005

There have been no gains or losses other than those recognised in the statement of financial activities.

Armagh Planetarium

Balance sheet at 31 March 2005

	Notes	2005 £	2004 £
Tangible assets	10	1,914,636	1,569,391
Current assets			
Stock	11	14,330	13,385
Debtors and prepayments	12	15,642	22,098
Cash at bank and in hand		29,331	191,616
		59,303	227,099
Creditors: amounts falling due within one year	13	(45,498)	(232,240)
Net current assets/liabilities		13,805	(5,141)
Total assets less current liabilities		1,928,441	1,564,250
Creditors: amounts falling due after more than one year	14	-	-
Net assets		1,928,441	1,564,250
Funds			
Unrestricted reserves	17	16,392	34
Government grant reserve	16	1,032,692	684,859
Designated	19	879,357	879,357
		1,928,441	1,564,250

The financial statements on pages 32 to 44 were approved on 22 August 2005 and were signed by:



Dr Tom Mason, Director of the Armagh Planetarium

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Cash flow statement for the year ended 31 March 2005

	Notes	2005 £	2004 £
Net cashflow from operating activities		(157,907)	135,005
Returns on investments and servicing of finance			
Interest received		44	68
Interest paid and similar charges		(1,610)	(1,646)
		(1,566)	(1,578)
Capital expenditure			
Purchase of tangible assets		(452,841)	(11,307)
Capital grants received		452,841	11,307
		-	-
Net cash inflow/(outflow) before financing		(159,473)	133,427
Financing			
Repayment of principal under hire purchase agreements		(2,812)	(9,215)
Increase in cash	21, 22	(162,285)	124,212

Net cash flow from operating activities

	2005 £	2004 £
Net outgoing/incoming resources per statement of financial activities	16,358	(29,698)
Interest received	(44)	(68)
Interest paid and similar charges	1,610	1,646
Operating (deficit)/surplus for the year	17,924	(28,120)
Depreciation	107,596	130,183
Deferred credit release	(105,008)	(125,507)
(Increase)/decrease in stock	(945)	-
(Increase)/decrease in debtors	6,456	-
Increase/(decrease) in creditors (excluding hire purchase)	(183,930)	158,449
Net cash inflow from operating activities	(157,907)	135,005

Armagh Planetarium

Notes to the financial statements for the year ended 31 March 2005

1 Accounting policies

These financial statements are prepared on the going concern basis under the historical cost convention, as modified by the revaluation of certain tangible fixed assets, and in accordance with The Audit and Accountability (Northern Ireland) Order 2003, directions made thereunder by the Department of Culture, Arts and Leisure and applicable accounting standards. The principal accounting policies are set out below.

Tangible fixed assets

The cost of tangible fixed assets is their replacement or purchase cost, together with any incidental costs of acquisition. Depreciation is calculated so as to write off the cost, or valuation, of tangible fixed assets, less their estimated residual values, on a straight-line basis over the expected useful economic lives of the assets concerned. The principal annual rates used are as follows:

	%
Digistar	10
Furniture and fittings	10 - 15
Office equipment	15 - 25
Scientific equipment	15 - 25
Land and buildings	2
Exhibits	15
Vehicles	25

Land and buildings are included in the balance sheet at depreciated replacement cost or, where lower, the estimated value in use.

Government grants

Grants that relate to specific capital expenditure are treated as deferred income which is then credited to the income and expenditure account over the related asset's useful life. Other grants are credited to the statement of financial activities when received.

Pension costs

The corporation participates in the Northern Ireland Local Government Officers' Superannuation Committee Pension Scheme (NILGOSC) which provides benefits based on final pensionable pay. The assets of the scheme are held separately from those of the corporation. The corporation is unable to identify its share of the underlying assets and liabilities of the scheme on a consistent and reasonable basis and therefore, as required by FRS 17 'Retirement benefits', accounts for the scheme as if it were a defined contribution scheme. As a result, the amount charged to the statement of financial activities represents the contributions payable to the scheme in respect of the accounting period.

Leased assets

Where assets are financed by leasing agreements that give rights approximating to ownership ('finance leases') the assets are treated as if they had been purchased outright. The corresponding leasing commitments are shown as obligations to the lessor. Depreciation is charged to the profit and loss account on a straight-line basis over the shorter of the lease terms and the useful lives of equivalent owned assets. Lease payments are treated as consisting of capital and interest elements and the interest is charged to revenue in proportion to the reducing capital element outstanding.

Fund accounting

The corporation has various types of funds for which it is responsible, and which require separate disclosure. These are as follows:

Restricted funds

Grants or donations received which are earmarked by the donor for specific purposes. Such purposes are within the overall aims of the organisation.

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Unrestricted funds

Funds which are expendable at the discretion of the Governors in furtherance of the objects of the corporation. In addition to expenditure on the provision of services, such funds may be held in order to finance capital investment and working capital.

Stocks

Stocks are stated at the lower of cost and net realisable value. In general, cost is determined on a first in first out basis. Provision is made, where necessary for obsolete, slow moving and defective stocks.

2 Grants from the Department of Culture, Arts and Leisure (DCAL)

The accounts reflect the receipt of the following grants from the DCAL:-

	2005	2004
	£	£
Capital (restricted)	894	6,448
Refurbishment of buildings and purchase of equipment (restricted)	492,477	217,000
Recurrent (unrestricted)	390,000	370,000
Transfer to deferred income	(3,139)	(208,345)
Transfer from deferred income	202,561	60,250
Transfer between funds	-	33,868

Grant income for the refurbishment of buildings and purchase of equipment includes notional grant income in respect of professional fees for the project paid by the DCAL. The notional grant income was included to show the full cost of the project for the year.

3 Other grants and receipts

	2005	2004
	£	£
Friends of the Planetarium (unrestricted)	399	1,812
Donation (unrestricted)	100	-
Travel grant from the European Space Agency (restricted)	873	-
British Nation Space Centre - Astrogazers project (restricted)	1,999	800
The Association for Science Education - Dill-Faulkes Project (restricted)	2,100	65
NIE "Astrogazers" project (restricted)	-	2,000
	5,471	4,677

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4 Direct expenditure of the corporation

	Unrestricted funds 2005 £	Restricted funds 2005 £	Total funds 2005 £	Total funds 2004 £
Salaries and wages	224,624	-	224,624	222,356
Equipment leasing	6,060	-	6,060	7,325
Travelling and subsistence	16,043	873	16,916	12,531
Technical maintenance	13,827	-	13,827	32,475
Library	3,908	-	3,908	3,674
Production expenses	15,000	-	15,000	2,500
Exhibitions and events	4,366	960	5,326	16,870
Training	1,115	-	1,115	850
Motor expenses	4,686	-	4,686	(1,482)
	289,629	1,833	291,462	297,099

5 Fundraising and publicity

	Unrestricted funds 2005 £	Restricted funds 2005 £	Total funds 2005 £	Total funds 2004 £
Advertising and brochures	4,506	-	4,506	14,424
Hospitality	408	-	408	2,150
	4,914	-	4,914	16,574

6 Management and administration of the corporation

	Unrestricted funds 2005 £	Restricted funds 2005 £	Total funds 2005 £	Total funds 2004 £
Insurance	20,475	-	20,475	24,186
Heat, light and power	13,324	-	13,324	13,582
General property repairs	3,486	-	3,486	4,498
Theatre refurbishment	4,586	-	4,586	82,398
Refurbishment of buildings		247,089	247,089	-
Postage and telephone	10,699	-	10,699	7,767
General expenses	539	-	539	686
Bank charges	866	-	866	868
Audit and accountancy	5,219	-	5,219	5,186
Other administrative costs	1,788	-	1,788	9,116
Management Committee and meetings	706	-	706	1,839
Rates	258	-	258	241
Stationery	4,721	-	4,721	8,198
Agency staff costs	14,706	-	14,706	19,449
Depreciation	2,588	105,008	107,596	130,183
Release from grants reserve	-	(105,008)	(105,008)	(125,507)
	83,961	247,089	331,050	182,690

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7 Employee information

	2005	2004
	£	£
Staff costs		
Wages and salaries	213,059	211,893
Social security costs	16,532	16,116
Pension costs	13,556	13,090
	243,147	241,099

Average staff numbers by major category:

	Number 2005	Number 2004
Directors	1	1
Education staff	3	3
Mail order and shop	1	1
Front desk and shop	1	1
Administration	1	1
Technical/Caretaker/Cleaner	3	3
	10	10

Staff costs relating to the corporation's Administrator are apportioned on a 50:50 basis between the Observatory and Planetarium. The post of Administrator is included within the administration staff numbers in the Observatory.

8 Director's emoluments

	2005	2004
	£	£
Aggregate emoluments	50,062	47,556
Corporation pension contributions to defined benefit scheme	2,293	2,181
	52,355	49,737

Retirement benefits are accruing to the director under a defined benefit scheme for both financial years.

9 Income and expenditure summary

	2005	2004
	£	£
Gross income	643,784	466,665
Expenditure		
Direct charitable expenditure	291,462	297,099
Fund raising and publicity	4,914	16,574
Management and administration of the corporation	331,050	182,690
	627,426	496,363
(Deficit)/surplus for the year	16,358	(29,698)

Armagh Planetarium

10 Tangible fixed assets

	Digistar £	Buildings and grounds £	Café £	Equipment £	Exhibits £	Vehicle £	Total £
Cost or valuation							
At 1/4/04	535,376	2,751,050	14,081	450,268	164,901	14,202	3,929,878
Additions	370,678	-	-	55,692	26,471	-	452,841
Disposals	-	-	-	-	-	-	-
At 31 March 2005	906,054	2,751,050	14,081	505,960	191,372	14,202	4,382,719
Depreciation							
At 1/4/04	535,376	1,225,562	14,081	414,383	162,058	9,027	2,360,487
Charge for year	30,890	55,117	-	16,104	2,897	2,588	107,596
Disposals	-	-	-	-	-	-	-
At 31 March 2005	566,266	1,280,679	14,081	430,487	164,955	11,615	2,468,083
Net book value							
At 31 March 2005	339,788	1,470,371	-	75,473	26,417	2,587	1,914,636
Net book value							
At 31 March 2004	-	1,525,488	-	35,885	2,843	5,175	1,569,391

The net book value of fixed assets includes £2,587 (2004: £5,175) in respect of assets held under hire purchase agreements.

Depreciation on these assets for the year was £2,588 (2004: £4,676).

Tangible fixed asset additions of £452,841 as shown above were funded as follows:

	£
DCAL buildings refurbishment and equipment grant	447,949
DCAL capital grant	894
Transfer from recurrent (unrestricted) grants	3,998
	452,841

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The corporation's land and property were revalued at 31 March 2002 on the basis of depreciated replacement cost by Leighton Johnston Associates, Chartered Architects. If land and property had not been revalued, they would have been included at the following amounts:

	2005	2004
	£	£
Cost	879,239	879,239
Aggregate depreciation	(266,625)	(249,040)
Net book value based on historic cost	612,614	630,199

11 Stocks

	2005	2004
	£	£
Finished goods and goods for resale	14,330	13,385

12 Debtors

	2005	2004
	£	£
Trade and grant debtors	6,030	5,379
Prepayments	4,557	5,386
VAT	5,055	11,333
	15,642	22,098

13 Creditors: amounts falling due within one year

	2005	2004
	£	£
Obligations under hire purchase agreements	-	2,812
Trade creditors	30,597	8,492
Accruals	5,978	12,591
Deferred income	8,923	208,345
	45,498	232,240

Analysis of deferred income

	2005	2004
	£	£
Balance at 1 April	208,345	60,250
Transfer to statement of financial activities	(202,561)	(60,250)
Transfer from statement of financial activities	3,139	208,345
Balance at 31 March	8,923	208,345

14 Creditors: amounts falling due after more than one year

	2005	2004
	£	£
	-	-

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15 Obligations under hire purchase agreements

	2005	2004
	£	£
Net hire purchase obligations fall due as follows		
In one year or less, or on demand	-	2,812
In more than one year, but not more than two years	-	-
In more than two years, but not more than five years	-	-
	-	2,812

16 Government grants reserve

	Digistar	Buildings and grounds	Equipment	Exhibits	Total
	£	£	£	£	£
Balance at 1 April 2004	-	646,131	35,885	2,843	684,859
Additions	370,678	-	55,692	26,471	452,841
Disposals	-	-	-	-	-
Amortised	(30,890)	(55,117)	(16,104)	(2,897)	(105,008)
					-
Balance at 31 March 2005	339,788	591,014	75,473	26,417	1,032,692

17 Unrestricted funds

	Balance 1/4/2004	Incoming resources	Resources expended	Transfer from defrd. income	Transfer to defrd. income	Balance 31/3/2005
	£	£	£	£	£	£
Unrestricted funds	34	398,860	(382,502)	-	-	16,392

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18 Restricted funds

	Balance 1/4/2004	Incoming resources	Resources expended	Transfer between funds	Transfer from defrd. income	Transfer to defrd. income	Balance 31/3/2005
	£	£	£	£	£	£	£
DCAL grants	-						
Capital	-	894	(894)	-	-	-	-
Building refurbishment and equipment	-	492,477	(695,038)	-	202,561	-	-
Total DCAL grants	-	493,371	(695,932)	-	202,561	-	-
Other grants and receipts							
European Space Agency travel grant	-	873	(873)	-	-	-	-
Astrogazers project	-	1,999	-	-	-	(1,999)	-
Dill Faulkes project	-	2,100	(960)	-	-	(1,140)	-
Total other grants and receipts	-	4,972	(1,833)	-	-	(3,139)	-
	-	498,343	(697,765)	-	202,561	(3,139)	-

DCAL capital grant

Funding for the purchase of capital equipment.

DCAL grant for the refurbishment of the buildings and for new equipment

Funding for the refurbishment of the Planetarium's administration building, professional fees for the project, costs of temporary storage of equipment and for the purchase of projection and other equipment.

Dill-Faulkes Robotic Telescope and Astrogazers projects

The European Space Agency provided funds of £873 for travel costs associated with educational projects in Europe.

Astrogazers provides support for school Astronomy clubs and allows pupils to work on projects and to promote their own school and other schools throughout Europe and Ireland. In the year funding of £1,999 was received for the project from the British National Space Centre, Leicester.

The Dill Faulkes Robotic Telescope project will provide schools with observing time on research-grade telescopes in Hawaii and Australia. Funds amounting to £2,100 were received for the project in the year from the Association for Science Education.

19 Designated funds

	2005 £	2004 £
Land and buildings revaluation	879,357	879,357

20 Analysis of net assets between funds

	Designated funds £	Unrestricted funds £	Restricted funds £	Total funds £
Tangible fixed assets	1,912,049	2,587	-	1,914,636
Current assets	-	59,303	-	59,303
Creditors: amounts falling due within one year	-	(45,498)	-	(45,498)
Net current assets	-	13,805	-	13,805
Creditors: amounts falling due after more than one year	-	-	-	-
Net assets	1,912,049	16,392	-	1,928,441

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21 Analysis of net cash funds

	1 April 2004	Cashflow	Non cash movement	31 March 2005
	£	£	£	£
Cash at bank and in hand	191,616	(162,285)		29,331
Hire purchase	(2,812)	2,812	-	-
Net funds	188,804	(159,473)	-	29,331

22 Reconciliation of net cashflow to movement in net cash funds

	2005	2004
	£	£
Increase/(decrease) in cash in financial year	(162,285)	110,155
Decrease in debt	2,812	9,215
Change in net debt resulting from cash flows	(159,473)	119,370
Non cash changes		
New hire purchase obligations	-	(5,500)
Movement in net funds in the year	(159,473)	113,870
Net funds at 1 April	188,804	74,934
Net funds at 31 March	29,331	188,804

23 Pension Costs

The corporation participates in the Northern Ireland Local Government Officers' Superannuation Committee Pension Scheme (NILGOSC). This is a defined benefit scheme but the corporation is unable to identify its share of the underlying assets and liabilities. In accordance with the provisions of FRS 17, the contributions to the scheme are accounted for on a defined contribution basis.

An Actuarial valuation of the scheme was carried out as at 31 March 2004. At this date there was a deficit in the scheme, which will have to be recovered by increasing employers' contribution rates. Since the date of the last valuation in 2001, the scheme has suffered from reduced investment returns arising from the fall in the global stock market and the return on the scheme's assets since 2001 has been significantly lower than the long-term returns anticipated in valuing the liabilities in 2001. The funding level (ratio of assets to past service liabilities) as at 31 March 2004 is 85% compared to 121% at 31 March 2001. This corresponds to a past service deficit of £392 million.

Employers' contribution rates will increase from the current rate of 10.4% to approximately 10.6% in the year ending 31 March 2006, 13.1% in the year ending 31 March 2007 and 15.0% in the year ending 31 March 2008.

	2005	2004
	£	£
The charge for the year in respect of this scheme amounted to:	13,556	13,090

24 Commitments

There were no capital commitments at the 31 March 2005.

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25 Related-Party Transactions

None of the members of the Board of Governors, the Management Committee, the Director or other related parties have undertaken any material transactions with the Armagh Planetarium during the year. The Armagh Planetarium has had various material transactions with a number of Government Departments, Executive Agencies and Non-Departmental Public Bodies in Northern Ireland and the UK. Most of these transactions have been with the Department of Culture, Arts and Leisure and the Central Procurement Directorate.

26 Shop and mail order trading and profit and loss account

	2005 £	2004 £
Sales	20,262	42,451
Less: cost of sales		
Opening stock	13,385	5,548
Add: Purchases	13,536	35,037
	26,921	40,585
Less: closing stock	(14,330)	(13,385)
	12,591	27,200
Gross profit	7,671	15,251
Gross profit %	37.9	35.9
Less direct expenses:		
Wages and salaries	18,523	18,743
Travelling and subsistence	376	1,648
Telephone and postage	1,943	2,603
Advertising	1,600	400
Stationery	141	192
Bad debts	-	-
Exhibitions and events	645	741
Bank interest and charges	744	778
Production	-	-
General expenses	-	41
Total expenses	23,972	25,146
Net loss for the year	(16,301)	(9,895)

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