
Rutherford Appleton Laboratory Bulletin

Acting Editor Jacky Hutchinson

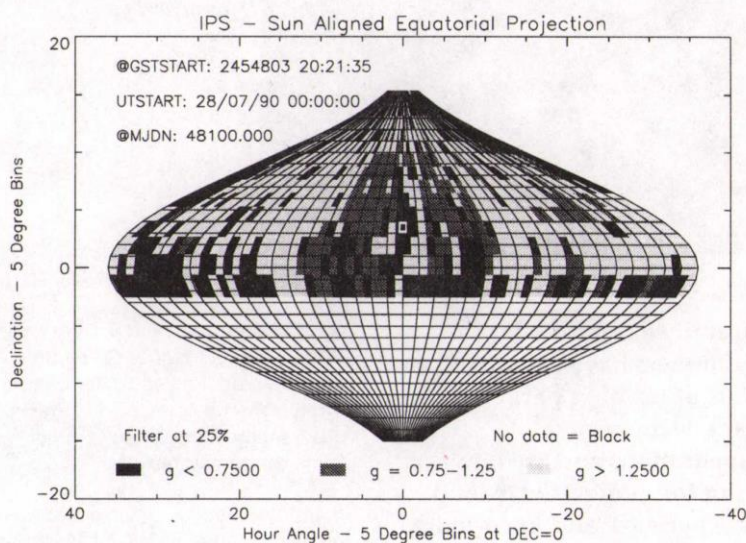
March 1991

Detection in a twinkling

Have you ever noticed that stars near the horizon twinkle more than stars high in the sky? This is because stars low in the sky are seen through a greater amount of moving atmospheric matter, causing them to twinkle.

By detecting the scintillation (twinkling) of over 1,000 radio stars across the sky the passage of solar generated clouds of matter can be determined as they pass through the solar system. Some knowledge of the density of these clouds can also be inferred from the data.

This work uses the IPS (InterPlanetary Scintillation) telescope in Cambridge which detects the scintillation of 81.5 MHz extragalactic radio sources. The telescope was operational between 1978 and 1981 and has been recently repaired and upgraded by a consortium including the Mullard Radio Astronomy Observatory, the US National Oceanic and Atmospheric Administration in Boulder, Colorado, the British Antarctic Survey and RAL. One of RAL's tasks is the acquisition, storage and distribution of data to universities and other institutes through the World Data Centre.



Above is a map of the sky as on 28 July 1990. The Sun is located at the black and white square in the centre. The lighter blocks show regions of excess scintillation - ie excess matter in interplanetary space. In this example much of the sky shows this

phenomenon as a dense interplanetary cloud passes over the Earth. This event was associated with significant flare activity on the Sun and some disruption of the Earth's magnetic field. Please contact Richard Harrison ext 6497 for more information.

RAL in new European Consortium

RAL has been accepted as the UK representative in a new European initiative for information technology and mathematics. ERCIM (European Research Consortium for Informatics and Mathematics) now has four member countries, with a premier laboratory from

each country interacting and cooperating on a range of topics including image processing, graphics and visualisation, computer modelling and many others. The three other partners are Holland (CWI), Germany (GMD) and France (INRIA). Italy and Portugal are

expected to join later this year.

A newsletter containing articles from each partner is produced regularly (copies from John Kalmus, ext 6481, who would welcome contributions) and other initiatives include the appointment of fellows who will work for six months at three of the four laboratories (details in the latest newsletter).

Wanted: computer projects for Trainees



Six of the eight trainees: standing left to right - Roger May, "Dhiru" Patel, Simon Greenaway and Chris Robey; seated left to right - Stuart Martin and Brian Coan. Alexis Haines and Niall Downie were camera shy!

Eight trainee computer programmers have completed six months of training packed with courses, lectures and demonstrations and are now looking for projects to extend their experience and knowledge.

Their training has introduced them to a variety of operating systems, languages

and facilities as well as system design and testing techniques. To complete their training, they will each complete three 6-month projects - ideally on different machines using a range of packages and systems.

If you think you may have a suitable project, starting on 2 April 1991, please contact Garry Williams in Central Computing Department (ext 6104, Profs id RCGW).

Boost for RAL Fund

On 29 January 1991 the Director received a cheque for £2,500 donated to the RAL Fund by members of the Council Works Unit. Roy Tolcher, the Head of CWU, had received this sum from the recipients of the MacRobert Award in recognition of the contribution played by CWU to the success of the James Clerk Maxwell Telescope.

Accepting the award, Paul Williams said that it would enable the RAL Fund to support a wider range of projects including schemes to encourage local school children to follow careers in science and engineering.

The fund will continue to give emphasis to earlier schemes including those to encourage charitable activities by young RAL staff.



A large press conference was held recently at ESTEC (European Space Agency's Technology Centre) in Noordwijk, Holland. ERS-1 (Earth Resource Satellite) was on show for the last time in Europe before being shipped to French Guiana for launch on 14 May. On board ERS-1 is ATSR, an advanced infrared sensor which will measure global surface sea temperature extremely accurately. It was designed and built by a consortium led by RAL.

Out and About

Professor Sir William Mitchell former Chairman of the SERC, has been elected president of the Council of CERN the European Particle Physics laboratory in Geneva.

SERC has appointed Dr Paul Murdin from RGO as Acting Director of ROE. This follows the resignation of Professor Malcome Longair to take up the prestigious position of Jacksonian Professor of Natural Philosophy at the University of Cambridge.

Chairman of SERC's Astronomy and Planetary Science Board, Professor Arnold Wolfendale of Durham University, has been appointed Britain's Astronomer Royal.

HERA is now in the final stages of commissioning at the DESY Laboratory in Hamburg. The electron ring was completed in 1988 and with the recent completion of the proton ring, the machine is ready to be tested. Electrons or protons will collide head on with a proton beam at two intersection points observed by the H1 and ZEUS experiments.

Philatelists amongst you might be interested in the Royal Mail commemorative stamps to be issued in March and April. Following the astronomy stamps last year the scientific theme is continued in March and April with 'Science Discoveries' and 'Space'.

RecSoc News

Message from the Chairman of RecSoc

On behalf of the RecSoc I would like to thank everyone for the support given to the Children in Need Appeal. We collected £1000, which was a grand effort by everyone.

I would like to thank all the collectors on site. Thank you all for a good effort.

Tudor Morgan.

Football Club Christmas Meat Draw

As a result of the generosity of all the staff at RAL, we were able to send £250 to the International Stoke Mandeville Games Federation Appeal.

Thank you to everyone who sold and bought the tickets. The area organiser for the Appeal is very pleased with your efforts.

RAL Snooker Tournament

The final of the RAL Snooker Singles Tournament took place on Friday, 1 February. It was played to the best of 5 frames, and was contested by Steve Hancock and Mike Perkins.

Both the Chairman and the Treasurer relinquished their responsibilities (the former claiming he was too old) so Martin Rudman was elected referee. Although very few spectators turned up it was a very enjoyable match and much closer than the final result suggested.

Steve won the toss and elected to break. The first frame was very tense with both players showing their nerves. Mike potted the first red but it was Steve who took a comfortable lead with a couple of good breaks. Mike fought back however, and was unlucky to lose on the black, with the final score being 45-43.

Steve also won the second frame, which again was tightly fought. Nerves had settled down by now, and the safety play by both players was particularly impressive. This frame again finished on the black, with Mike potting brown, blue and pink, only to leave Steve the black over a pocket. The score was 42-41.

The third frame went to Mike whose consistent potting and safety play gradually wore Steve down and resulted in a convincing score of 38-61. The fourth frame started very tensely with both players obviously keen to fill the Paul Williams Tankard and treat the spectators to a drop of bubbly. Several mistakes were made before Steve put together a couple of good breaks, from which Mike, although pulling off two good snookers, could not recover. The score finished 51-21.

The Paul Williams Tankard and a similar replica were presented to Steve by Peter Craske, who congratulated both players on an entertaining match.

Aiming High



Intrepid photographer, Stephen Kill donned a hard hat and joined the workman on the roof of the new R71 building to capture this stunning shot. Work is on schedule for completion of this building by the end of October 1991.

Barry Brett's 100th

When Barry Brett played for Rutherford Appleton Laboratory Reserves against Cliffords Foods, in the Autotype Upper Thames Valley League on 18 November 1990, he became the first player to reach 100 appearances for the Football Club.

The occasion was marked by the presentation, thanks to Pat from the bar, of a splendid cake with suitable decoration, while a memento from the Club will be given at the end of season dinner.

Barry was one of the originals, who helped start the Club and appeared 'between the sticks' throughout the Club's rise to the First Division of the League in three successive seasons. He played in every first team game as the Club won the Championship of the Second Division in 1988-89 and was deservedly voted 'Player of the Year'. Even in the twilight of his career in amateur football and in a struggling team, he is still producing star performances that have acted as an example to the rest of the players.

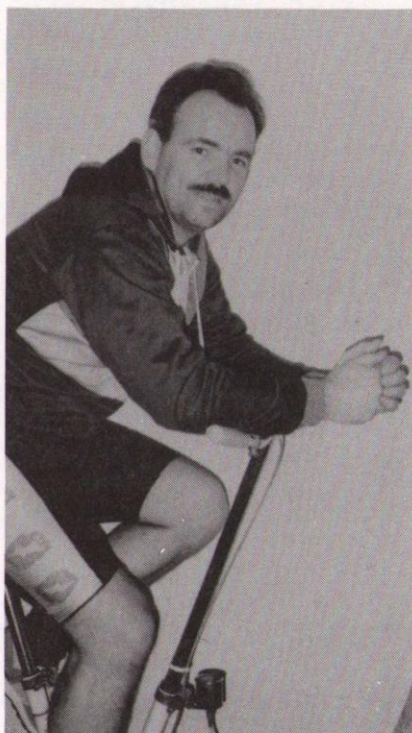


Photo: Brian Harrow
Barry Brett taking a breather during training

Rubberfoot Applefur

Laboratory names this month include:

Rutherford Applied Lab
Rutherford Appleton Laboratory
Rotherston & Appleton Lab
North London Appleton Laboratories
Ruthelford Appleton Laboratory
Ruberford Appleton Cabs
(ring for a taxi??)
Racal Automation Ltd (who??)

However you don't seem to need any of this:

Moody RA
Building R32
OX11 0QX Didcot
Grande Bretagne

was successfully delivered from Switzerland.

A Chair in China

Peking University has conferred an honorary professorship on Dr Mike Russell in recognition of his contribution to the physics of particle track detectors, particle accelerators and HEP targets.

He has also been appointed Visiting Professor of Physics and Technology at Peking University, to research layered structures, phase-change in the solid-state and surface phenomena. The University ceremonies will take place in early summer this year.

Wind at Westminster

On Wednesday 23 January, Dr Jim Halliday of RAL's Energy Research Unit was invited in his capacity as the current chairman of the British Wind Energy Association, to address a meeting in the House of Lords. He and his vice-Chairman, Dr Andrew Garrad a leading wind energy consultant, gave a presentation of the current state of UK Wind Energy.

Since they were the guests of the All Party Conservation Group of both

Houses of Parliament, the presentation concentrated on describing the environmental effects of wind energy.

The 15 Peers and MPs present were keen to support BWEA in its efforts to promote the use of wind energy in the UK and were impressed to hear that Denmark currently generates 2% of its electricity with wind turbines and plans to increase this amount to 10%. Jim was asked to prepare a precis of the talk for distribution to over two hundred MPs and Peers.

Particle Physics News

Annual Particle Theory meeting

Some 180 UK researchers gathered in December for the annual particle theory meeting at RAL. The programme consisted of review talks on various topical issues.

A popular theme was to consider what might be learnt from new experimental facilities coming on stream very soon: e - p collisions at DESY, heavy-ion collisions at CERN and elsewhere and, looking further ahead, how exotic multi - W and Z events might materialise at the Superconducting Super Collider.

New frontiers are explored not only by new facilities but also by improved precision and the next round of experiments at LEP and Fermi-Lab should furnish a powerful probe for new physics. Other topics discussed were anyons, strings, neural networks dark-matter and lattice calculations.

Visitors from



...Germany

John Finney showing the ISIS model to His Excellency Baron Herman Von Richthofen Ambassador to the New Germany, while Baroness Richthofen and Ian Gardner look on.



...the Soviet Union

Ron Lawes explaining the work of EBLF to Yurii Vasil'evich Gulyaev and other members of the USSR Academy of Sciences.

Rogerfest

To celebrate the 60th birthday of Roger Phillips, head of Theoretical Physics Division at RAL, a one-day physics meeting chaired by former Director, Godfrey Stafford was held at the Laboratory on 4 January.

A large number of Roger's colleagues both past and present joined in a warm and informal tribute to him and his achievements. The programme included talks by Vernon Barger, Francis Halzen and David Cline from the USA, Chris Llewellyn-Smith, Hong-Mo Chan, Graham Ross and an especially entertaining historical perspective by John Polkinghorne. The topics presented reflected not only Roger's well known past scientific contributions but also highlighted his present day research which is as active now as at any time.

At a dinner in the evening at The Cosener's House, the tributes continued with a sparkling speech from Frank Close and a witty and entertaining response from Roger himself.

Training News

Staff Appraisal

"Take the time to talk to staff; give praise for jobs well done and agree jointly the action required if performance is unsatisfactory. Staff Appraisal is a continual process, not a once a year event. It should certainly not be regarded as a chore to be tackled only when other work has been completed."

This was the message given to the 70 people who attended three Reporting Officer courses at RAL in November and December. The courses were presented by Dave Goss from Training Section and Julia Gilling from Personnel. If you are interested in attending a

future course on Staff Appraisal, please contact Natalie Barrett ext 6285 Profs id NDB) or Dave Goss (ext 5361 Profs id DPG).

Seminars

Lectures from the RAL Induction Course are being offered to Staff as seminars:

- Origins & structure of Research Councils & SERC
- Where does the money come from/go to
- The work of Swindon Office & other establishments
- Staff welfare
- Conditions of employment career development



...and St George's House, Windsor

Clergy attending a course at St George's House gather around the ISIS model while Richard Heenan explains the mysteries of neutrons.

- Whitley negotiating system/Trade Unions
- Training

If you would like to attend seminars on any of these topics, please contact Dave Goss.

Notice Board

RAL Christian Fellowship

God is our refuge and strength, a very present help in trouble Psalm 46:1

March 7

Prayer meeting Trevor Lucas

March 14

Quiz Meyrick Wyard

March 21

Jesus' Journey to the Cross Part 3
Frank Smith

March 28

Easter Meditation

Meetings are held in Conference Room 6 (4th Floor) in R2 at 12:30 pm every Thursday. Visitors are always welcome.

Enquiries: John Hogston ext 5183

Film Badges

Period	From	To	Colour code
03	25.2.91	24.3.91	Purple
04	25.3.91	21.4.91	Orange

Sales of Scrap

Sales of scrap to employees will take place from 12 noon to 12:30 pm in the R24 Scrap Compound on 8 and 22 March.

Missing

A Pulse Generator type V1242 (EH Research Labs). Loan Pool No: 1690. Please contact John Moir ext 5460 with any information.

A Hoover suction cleaner model S3710. Engraved on top of the case is 'Electronic NID'. This is missing from G49 R3. Please contact M J Hodges ext 5807 with any information.

A pearl and gold brooch was lost at RAL on Monday 11 February. Please contact Mary Beackon ext 5789 with any information.

Red Nose Day

This is Friday 15 March, please let the Bulletin know about your Fund Raising Events.

April Bulletin

Please send articles, notices or any other contributions to Jacky Hutchinson, R1, Profs id JJCH, by Monday 11 March at the latest.

RAL Astrophysics Seminars

These seminars have been arranged for the Spring 91 series. They will take place in Conference Room 3, R61 at 2 pm. Anyone is welcome to attend. Enquiries: Bruce Swinyard (ext 6405) or Richard Harrison (ext 6497).

March 6

Dr Randii Wessen (JPL California)
'The CRAF/Cassini Mission'

March 20

Dr Prab Gonhalekar (RAL)
'ROSAT'

March 27

Dr Richard Harrison (RAL)
'The Cambridge Interplanetary Scintillation Array'

Nimrod Lectures

These take place on Mondays at 2 pm in R61 Conference Room 3, except where otherwise stated.
Enquiries: Dick Roberts (ext 5259) or Robert Sekulin (ext 6632)

4 March

P Litchfield (RAL)
'Prospects for high energy neutrino astronomy'

5 March (Tuesday)

K Igi (Tokyo)
'Strongly interacting Higgs sector'

11 March

R Brown (RAL)
'Recent results from OPAL'

18 March

I Shipyay (Syracuse)
'Recent results from CLEO Detector at CESR'

25 March at 11am

K Hagiwara (Durham)
'Physics at the (future) Japan linear collider'

Conference Announcement

'Recent Development in the Physics of Fluids'.

An International symposium on the structure and dynamics of liquids and gases in honour of the 65th birthday of Peter Egelstaff.
3-5 April at Wadham College, Oxford.

Further details from Dr Alan Soper (ext 5543).

Perticle Physics Meetings

Particle Physics Experiments

Selection Panel

Friday 5 April

Open Session in R22 Lecture Theatre
10:00 - 13:00

Status Reports on LEP Experiments
ALEPH, DELPHI and OPAL.

All Welcome.

Thanks

Dennis Tredgett would like to convey his sincere thanks to everyone for the generous presents that were given to him on his retirement, and to add that he was sorry that he was unable to say goodbye personally to all friends in the Lab.

Dave McAndrew would like to thank all friends at the Lab for their donations to his Christmas present. He also sends his best wishes for a happy and prosperous 1991.

A Boy for Esther

Regular readers will be pleased to hear that Esther Peacock is now the mother of a son, David, who arrived at 5.34.am on Friday 18 January weighing 7lb 5oz. Mother and Baby are doing well.

Want to Learn Bridge?

The RAL Bridge Club welcomes new members and will provide expert tuition for beginners who wish to learn the basics of the game. A beginners class will start early in March 1991. If you are interested in joining the class, please contact Marc Gorman on ext 5688.