



APPLETON LABORATORY

NEWSLETTER

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SKYLARK SL 1305

The Skylark rocket experiment to study the physics of the solar corona was successfully launched from Woomera at 06.01 hours BST on Friday 12 May 1978. This round, the twenty-seventh Skylark to be launched carrying this Division's experiments, was a collaborative project with the Mullard Space Science Laboratory of University College London.

The prime objective of the experiment was to measure accurately the relative abundance of helium to hydrogen in the corona. This quantity is important not only for solar physics but also for cosmology, since the helium is believed to be primeval in origin, dating from the birth of the Universe. Additional objectives of the experiment include the determination of a range of other physical properties in the corona. The SL 1305 experiment forms the basis of CHASE, an experiment planned for the Second Spacelab payload. For Spacelab, the capabilities will be enhanced in order to carry out a more extensive programme of coronal measurements. It is therefore of crucial importance for us to secure some data from SL 1305 in order to effectively plan the Spacelab experiment.

The launch appears to have behaved well, with the payload reaching a height of 280 km. The recovery parachute failed to open, so that the payload was severely damaged on impact. However, on this occasion the prime data was telemetered and therefore not lost. It is too soon to assess the extent to which the scientific objectives have been accomplished. Inspection of the quick-look telemetry tapes is showing signals in all channels, so that at the very least we should have secured the vital information important for designing our Spacelab experiment.

Congratulations are due to all those, at both the Appleton Laboratory and MSSSL, who under the leadership of Bernard Jones contributed to this very complex experiment. The launch team under Ray Hardcastle had a specially difficult task, with many of the final payload procedures having to be carried out actually at the range. This success is a fitting tribute to the work of Carey Lewis, who acted as Project Engineer on this experiment.

(From ARD News Sheet)

A H Gabriel

Royal Society Discussion Meeting - X-Ray Astronomy

A two day discussion meeting entitled "Some Recent Results in X-Ray Astronomy" was held at the Royal Society on April 25th and 26th. Of the 15 papers given two were theoretical, one was about the HEAO-1 results, and all the rest used, or indeed were based on, results obtained from Ariel 5. Two papers also involved Copernicus results as well.

The Ariel 5 experimenters gave considerable credit to the Ariel 5 Control Centre operations in the presentation of their papers, and were very appreciative of the efforts made on their behalf by the Control Centre staff.

In his concluding remarks Professor Boyd, after being rather optimistic about future prospects, was also very appreciative about the work of the AL Ariel 5 project and control centre staff, and also of the AL Copernicus staff.

J F Smith

Alert !

For many years now the U.S. Government and industry have operated a joint system of reporting equipment failures to a central organisation. This is known as the Government Industry Data Exchange Program (GIDEP), information gained being disseminated in the form of Alerts or Briefs.

Alerts generally cover failures through faulty manufacture or deviations from the manufacturers specification for reasons varying from negligence to forgery. When circulated the Alert usually has an accompanying comment from the manufacturer explaining why it happened and how they will ensure that it doesn't happen again.

SAF Alerts deal with hazards to the health and safety of personnel.

Product Assurance Brief is in the form of a newsletter and contains general information, parts reliability failure analysis reports and quality assurance surveys e.g.

'Can A Project Afford Commercial Parts?'

A previous study performed by the Parts and Processes Technology Branch showed that 20% of JANTX, 34% of JAN, and 64% of commercial transistors were rejected during in-house screening, which was indicative of the relative incoming quality levels of the transistor. Another study showed that the average cost of repair and retest of hardware parts failures was \$200 at the subassembly (board) level, \$1,400 at the component (black box) level, \$11,000 at the system level, and \$70,000 at the spacecraft level. In view of these studies, when deciding on part quality level for a project, considerations other than initial, part acquisition cost should be considered. The choice of commercial parts with low initial acquisition cost can, during the life of the equipment, result in a higher life cycle cost due to the higher expected number of failures and the relatively high cost of repair and retest which can be orders of magnitude more costly than the original acquisition cost of the commercial parts or even the acquisition cost of higher quality parts. For further information on some of the referred to studies, contact W Smith (Ext.2339).

All of the above are now available in the library and will be updated at frequent intervals.

G Douglas

Staff News

Congratulations to:

John and Stella Macdougall on the birth of their daughter, Jennifer Elizabeth, on 23 May.

Wendy Willard and John Dane who were married on 6 May at St Andrew's Church, Slough.

Mrs L M Brindle	now S.D.P.
Mr R L Halton	" Cfn.I.
Mr A F Lee	" Cfn.I. C/H.
Mr A J Hall	" Principal Scientific Officer
Dr D T Llewellyn-Jones	" Principal Scientific Officer
Dr G E Bromage	" Senior Scientific Officer
Mr T Edwards	" Senior Scientific Officer
Mr B E Patchett	" Senior Scientific Officer
Dr J C Sherman	" Senior Scientific Officer
Mr D R Vizard	" Senior Scientific Officer
Mr M J Smith	" Higher Scientific Officer
Mr C L Wrench	" Higher Scientific Officer
Mr J F R Braby	" Scientific Officer
Mr D R Pennell	" Scientific Officer

Welcome to:

Mr V Patel	S.C.S.
Mr S D Crossley	"
Miss A V Shrimpton	"
Mr S J Martin	"
Mr E S Stoneham	"
Mr A Weston	"
Miss P Burt	"
Mr R Isherwood	"
Mr M L Fair	"
Mrs A Hammel	Typist (P/T)
Mr A E Davies	S/S Lab. (P/T) (Ind.)
Mr R Pickard	S/S Lab. (P/T) (Ind.)
Mr Z Yab	ASO
Mr B Bienkowski	S/S Labr.
Mr T Holding	S/S Labr. (P/T)
Mr C K Low	S.C.S.

Resignations etc.

Mrs P G Willmott	Spec. Typist
Mr B Benson	P.T.O.III
Mr A Mrwowka	S.O.
Mr J A Crawford	H.S.O.
Mr P P Clarke	S/S Lab.
Mr A E Lawder	S/S Lab.
Dr H A Gebbie	D.C.S.O. (I.M.)
Mr A R Buxton	P.T.O.III
Miss E Bishop	A.S.O.

Obituary

Carey Lewis

Staff will probably have heard of the tragic death of Carey Lewis at Woomera, Australia. Carey joined A.E.R.E. at Harwell in 1959, and transferred to Spectroscopy, the forerunner of this Division, in 1966. He had subsequently worked on the engineering aspects of a wide range of payloads for our space experiments. His recent activities included a major participation in the SL 1305 Skylark rocket payload, and it was to support the launch of this rocket that he was at Woomera at the time of his death. Carey was greatly respected by his colleagues, both within the Laboratory, and in the various other organisations with which he had occasion to liaise. He will be greatly missed, and his death will be a great loss to all his friends. Our deepest sympathies go to his wife and family at this time.

A H Gabriel

Former Staff

Chris and Veronica Boulton have written to say that they will be very pleased to see old acquaintances from Appleton Laboratory. Their new address is:

15 Adel Towers Close
Long Causeway
Adel
Leeds
LS16 8ES
Leeds (0532) 672929

Congratulations to:

Ariel V and all concerned. During May the 20,000th orbit was achieved.

May Day Debunked

(see previous issue in which the ancient origin of the day is revealed)

Oh, shame, Brother M**LLISH, for daring to publish
The myth of the first day of May!
For we thought, on your banner, you'd sickle and hammer,
But obviously that was hearsay!
So the march in Hyde Park, far from honouring Karl Marx,
Lauds the legions from Rome (who went home).
And the parade at the Kremlin is simply resemblin'
The Druids at their circles of stone!
So remember, Hugh Scanlon, what plaform you stand on
When haranguing the lads in the hall.
Forget their poor payroll! Come dance round the maypole!
For it's not really your day at all'.

Peter Simple

Alas Peter Simple (is it not Simple Peter?)
From signing your name you refrain
You wished to assume
A smart nom-de-plume
That you read the D-T- is quite plain
Anonymity's cloak your vision's obscured
You're obviously very confused
You've looked under your bed
And there wasn't a Red
It's left you extremely bemused.

P Muzlish

Is your writing all right?

A senior officer of my acquaintance was approached by the Supervisor of Typists who asked if she could have some of his old drafts. Flattered, he asked why they were required and she explained that she wished to give some new typists practice in reading atrocious handwriting. Instead of feeling humiliated, he used to boast of this incident.

Unfortunately, he is not alone and there are too many people with poor handwriting who expect typists to interpret their drafts and their colleagues to suffer the frustration of trying to decipher what has been written. The result is a waste of time.

Could I plead that we should all try and make our handwriting clear and readable?

The above was contributed by Mr. A.B. Rees of Department of Health and Social Security, and was written freehand with a fountain pen using an italic nib.

- Editor.

Sports and Social Club News

Indoor Sports Day

The first ever SRC Indoor Sports Day was held on Friday 31 March 1978 at Norton Recreation Centre, not far from Daresbury Laboratory.

Over the years it had become apparent that insufficient outdoor facilities were available at Chiswick, especially for Badminton and Table Tennis. With the increasing cost of hiring a marquee for Bridge and Chess it was not long before SRC Sports and Social Association decided to have an Indoor Sports Day, especially when Daresbury Laboratory volunteered to find a suitable venue and also to contribute £70 towards the expenditure.

So it came to pass that a very successful inaugural Indoor Sports Day was held at Norton followed by a Hot-Pot supper and Disco at Daresbury Laboratory.

A coachload of enthusiastic participants and supporters left Appleton Laboratory just after 07.45 on a dull Friday morning which turned into a clear day, after an almost continuous downpour on the way. Things were just a bit hectic when we got there but pretty soon everything was sorted out and the Indoor Sports Day started just after mid-day.

Unfortunately the swimming pool was out of action which it is hoped would not be the case next year.

Snack facilities and bar were open throughout the day but due to the Centre rules of not allowing drinks to be taken outside, many people were disappointed, especially the Darts and Bridge teams.

The Sports day ended after presentation of trophies by Professor Allen and the scene of action moved to Daresbury Laboratory.

We left at 22.30, during the Disco, and arrived back at 02.25 on Saturday morning. It was a good day out for sporting activities.

Although we did not win any trophies we came very close in Mixed Badminton, Bridge and Darts. Due to difficulties in raising teams we did not enter Chess or Dominoes. Next time it is hoped that we would not only participate in all the events but also win several trophies.

I should like to thank AL management for paying for the coach hire and also all the participants and spectators for their support and to look forward to their continued participation at the next Indoor Sports Day to be held at the same place on Friday 20 April 1979.

Outdoor Sports Day

This year, the Sports Day is on Tuesday 18 July 1978 at Chiswick. With Bridge and Chess having been transferred to the Indoor Sports Day, this leaves us with Bowls

Cricket
Football
Netball
Tennis and
Tug of War

We have proposed mixed Hockey which has been accepted.

A Disco would be organised to follow the sporting activities.

Note: With two Sports Days in a year it is necessary to realise that, though participation in sports events would be classified as Special Leave and travelling expenses and subsistence at the permissive rate could be claimed, each staff member could have only one day's Special Leave a year for participating in Sports Day or an approved alternative. Spectators would only be entitled to Special Leave.

Hari Shah

Bridge

Unfortunately none of our ace first team players, and most of our second team players could not participate due to various commitments and reasons. So Gus and Kitty Gordon-Smith (regular second team players) together with two pairs from the third team comprising Hari Shah, Bob Ely, Dave Boys and John MacDougall and two newcomers to Bridge - Barbara Rathbone and Paul Springate represented Appleton. Other pairs were from Daresbury and London Office.

Appleton organised and acted as Tournament Director, which is quite hard work.

In the gym, surrounded by weightlifting, judo and other paraphernalia and just across from the bar (no drinks to be taken in that room) we started at 14.00 while Chess and Dominoes were still going on. This was a pairs competition; playing three boards as either North-South or East-West on a particular table (there were 4) and moving on to a different table and playing 3 more boards. Each pair played 18 boards in a very friendly but competitive spirit. With final results being worked out on points basis (6, 4, 2, 0 for North-South and also for best East-West pairs) the results worked out a very narrow win (4 points) for Daresbury. Appleton teams came second, third, fourth and seventh.

Just out of interest, later on, results were worked out on IMP basis, and surprisingly Appleton came out winner. Alas! Better luck next time.

Hari Shah

Darts

Appleton Laboratory entered two teams in the darts section at the indoor sports day. Each team comprised five players.

The matches were arranged in leagues, the idea being that the top two teams from each league played in a quarter final, going through to a semi-final and then a final to decide an outright winner. So that the games each team played, 4 each, did not take all afternoon, the organisers decided that 301 double start double finish singles would be the quickest. Unfortunately those doubles can be elusive, and frequent trips to the bar don't help, so those quick matches were not so quick, and the clock beat us.

The winner was eventually decided on leg average, which should have gone to AL 'A' team, but due to a technical hitch it went to a Rutherford team.

Despite elusive doubles and being pipped to the pot, I mean rose bowl, it was a good day out.

Tony Thomas

Volleyball

The fact that only one identifiable member of staff, viz. Graham Thomas, had played volleyball before, (there may have been others who preferred not to divulge this particular talent), did not deter a small band of would-be players from assembling on the car park behind F-block one or two evenings each week during March to practice in readiness for Daresbury.

It was unfortunate that Graham could not be in the AL team as he had to leave for the USA immediately after Easter. The team would, however, like to record their thanks to him for the coaching he was able to provide prior to his departure.

The volleyball competition at Daresbury was run in two leagues, AL being one of 4 teams in League 1. For our first match, we were drawn against Daresbury A, the eventual winners; this turned out to be a somewhat disastrous baptism, AL losing 15-1, 15-0, 15-1. This was, however, the first time we had been able to play together as a complete team and we consoled ourselves with the fact that the result could have been worse, if only slightly! We showed some improvement in our next match, with Daresbury C, losing one of the 3 games by only 15-12, a great morale booster! Although this improvement continued through the 3rd match, against the combined Observatories, we did not manage to win any of the 3 games and we ended up bottom of the League. Despite this, everyone enjoyed the matches, and the day as a whole, very much.

Hopefully, with more practice, we will improve our performance next year.

The team was as follows:

John Cathrew, Mike Farman, Dave Parker, Alan Smith, Mary Thrift, Jim Foster (captain).

Our special thanks are due to Alan Smith who stepped in at literally 2 minutes notice, due to the indisposition of Joan Scislowski

Our thanks also to the other members of staff and, on occasions, their offspring, who turned out to help us practice.

J E Foster

Table Tennis

Appleton table tennis representatives at the SRC indoor Sports Day managed to field 2 teams, one containing Peter Smith, Charlie Wrench and John Delury were drawn to play the Rutherford 'A' team in the first round of the knockout tournament. Each match was decided by the 1st team to reach 5 sets and unfortunately we found the Rutherford 'A' team a little too strong; we lost 5-1 with the one game being won by John Delury. Our other team of very enthusiastic players comprised Pierre Neirinck, John MacDougall and Bob Young and they met Daresbury 'B' team who played well on the day. Although rumour has it that one of Pierre's games was very close, our team lost the first 5 sets.

The Rutherford 'A' team was quite strong and nobody could dispute their all round ability, they ran out eventual winners of the table tennis tournament.

John Delury

Badminton

We entered two mixed and three men's pairs in the recent Indoor Sports. Janet Deviny and Charles Sethna reached the final of the mixed doubles, where they were beaten but not disgraced by the number one Rutherford pair. None of our men's pairs got past the first round, which was an American style tournament, but two were runners up in their respective "leagues". The eventual winners were also from Rutherford.

There was plenty of time after the tournament for everyone to get their fill of badminton in "friendlies".

While the disco was a great success, we could have done with more ladies, so let's have a few more mixed doubles pairs next year.

Roger Burdett

Squash

The Appleton Laboratory was represented in the squash tournament, at Daresbury, by John Kitt, Norman Ferguson, Paul Springate and Christine Thorburn (R.G.O.). The opposition proved to be far too strong for our team and we were defeated 4-1 in the opening round of a knockout competition, our only winner being the lady guest from R.G.O. Putting this result down to good experience we managed to recover sufficiently to enjoy the meal and disco in the evening.

John Kitt

Tennis News

After the postponement of our first fixture of the season because of heavy rain the near perfect weather of Saturday 3 June was most welcome for our match against Road Research at Crowthorne. We were without two of our regulars, but Pam Burt and Richard Brazier proved worthy substitutes, as reflected in the final score of $7\frac{1}{2}$ to $1\frac{1}{2}$ in our favour. The highlight of the day was, without doubt, the final match in which Joan Scislowski and Paul Gardner summoned up that last ounce of energy to win the tie-breaker at 10 all in their three-set marathon. A really splendid effort from one who was contemplating retiring from the game last season! This win brought their total to 3, closely followed by $2\frac{1}{2}$ from Pam Burt and Richard Smith, and 2 from Wendy Dane and Richard Brazier.

Richard Smith

MAY/JUNE 1978 REPRINT LIST

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INTERNAL MEMORANDUM

NIL