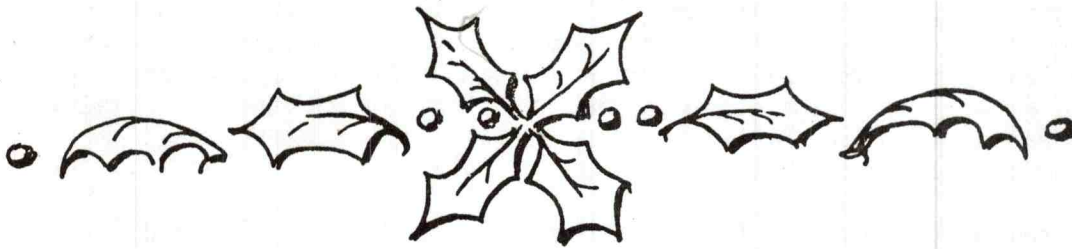




APPLETON LABORATORY NEWSLETTER

No. 197

December, 1977



1977 has been a year of adaptation to change in the financial situation of the Council and in the Laboratory's major programmes. The way ahead is now clearer for the next few years, and more hopeful than it was last year. The IUE satellite is expected to be launched soon and the Laboratory's contribution will then be nearly complete apart from some participation in the observational programme. The IRAS project has received financial approval and it is hoped that the provision of a millimetre-wave telescope will be approved soon. The Laboratory is negotiating contracts under which it will carry out substantial work on image processing for the ESA contribution to the Space Telescope project. The cancellation of Skylark will necessitate significant changes to the research of the Laboratory, but a good future programme is envisaged in collaboration with Universities.

The programme for the Engineering Board is under review and decisions are expected soon. It is likely that there will continue to be a substantial effort on radio propagation studies, but probably with a better definition of specific communications problems for which data are needed.

So there is no shortage of work for the Laboratory to do over the next few years, but it may need to be done by a slightly decreasing staff complement. This is a challenging situation and will call for enthusiastic efforts by everyone. It is hoped that these efforts will not be unduly affected by uncertainties about the future location of the Laboratory, although these must be a source of concern to many members of staff. The next few months should see these questions being resolved. In the meantime, it is pleasing to see that sporting and social activities are thriving; I believe that these make a significant contribution to effective teamwork in our official duties.

The social life of the Laboratory has always been especially evident at this time of the year. I hope that Christmas 1977 will be no exception and that 1978 will be a successful year for the Laboratory, for present and former members of the staff, and for their families.

L. Karan



British Interplanetary Society Conference

The British Interplanetary Society 2nd Conference on "Computer Techniques for Satellite Control and Data Processing" was held at the Appleton Laboratory on 11th and 12th October. Over 80 delegates attended from 8 countries. Sessions were held on Data Links, Onboard Computers, Image Processing, Data Processing, Satellite Experimentation and Satellite Support.

The Conference was opened on the Tuesday morning by the Director, Dr. Horner, who welcomed the delegates and gave a brief history of the work of the Laboratory. The opening session was followed over the two days by a presentation of 22 papers, including operational aspects of SPACELAB and the satellites ARIEL 5, UK6, IRAS, IUE, ANS, GEOS, HELIOS, TIP and LANDSAT.

One of the more unusual presentations was by Professor Breakwell of Stanford University who gave a paper proposing the use of two drag-free satellites in counter orbit to test the theory of relativistic precession. Closer to home, Alan Buck and Ted Golton gave excellent papers on the UK6 Command System and IUE Image Processing, and Barry Martin gave a paper on the major part the IRAS team at Appleton is playing in providing the Operations Control Centre and the software to drive the IRAS Ground Operations (IGO) and Preliminary Analysis Facility (PAF).

All papers are to be published in a Conference Proceedings. The 3rd Conference will be held in London in the autumn of 1979.

R. Holdaway
Conference Chairman

IUE, AVE ATQUE VALE

When you think of IUE -
Remember me.
Remember drawings by the score,
Technotes, logbooks, lists galore -
Lines of boxes filled with Specs
All noted down in three indexes -
Pages full of awful writing
(Some typed by me. with much nail-biting)
Cabinets with files distended
(In the Dead File many ended)
"De Mortuis" - but such their habits
They really seemed to breed like rabbits.
NCRs and MRBs
Faults and failures both of these -
Defects, too, in great profusion
Occurred to add to the confusion.
Critical Path Analyses,
Schedules, slip charts, things like these -
The papers mounted by the ton,
All annotated, every one.

We've done our bit in England now
With sweat and toil and furrowed brow -
America, its up to you
To carry the last stages thru.
Come Jan : the message will be nigh
From the Great Scientist in the sky
"All Heaven is ablaze with glee,
We're waiting here for IUE" !

SEC & UV & E-H-T-, QE & QUAL & D-C-P-,
CH'M & CEM & C-E-B-, L-T-O-F- & C-O-G-,
R-S-M-, C-D-I-B-

How these initials baffled me ! *

Phyl Taylor, X-C/A, P/T.

* They still do.

STAFF NEWS

Welcome to :

P.K. Green
N.J. Myer
Mrs. B.A. Fensom
K.A. Buckland

P.T.O. II
Ex.O.
C.O.
S/S. Labourer

Resignations, etc. :

P.F. Shutie
Mrs. A. Boakes

H.S.O.
Tele. Op.

Other changes, etc. :

| | | | |
|-----------|-----------------|------------------|--------------------------|
| S.S.O. | R.L.T. Street | Transferred from | D1 G4 to D3 G2 |
| H.S.O. | D.R. Lepine | " | " D2 G3 to D4 G5 |
| S.S.O. | P.G. Davies | " | " D1 G2 to D6 G5 |
| A.S.O. | Mrs. J. Coombes | " | " D4 G5 to D5 G2 |
| S.S.O. | D.J. MacKinnon | " | " IUE(A) to D4 G1 |
| S.S.O. | H.C. Bevan | " | " IUE(A) to D6 G1 (IRAS) |
| S.S.O. | R. Holdaway | " | " G5 to G6 in D2 |
| P.T.O. I. | R. Downton | " | " D3 G2 to D6 G1 |
| H.S.O. | G. Douglas | " | " IUE(A) to D6 G1 |

SPORTS & SOCIAL CLUB CHILDRENS' CHRISTMAS PARTY

The annual party was held on Saturday, December 3rd and was greatly enjoyed by the adult helpers as well as by the fifty-one children who came.

The magician held the attention of all (spellbound ?) with a dazzling display of tricks followed by the picaresque adventures of Mr. Punch. It was a joy to watch the audience responses !

The splendid tea provided by many volunteers was quickly demolished and we all then sat back to enjoy a film show (Tony Thomas at the projector).

The climax of the afternoon was, of course, the entrance of Father Christmas (As usual by kind permission of Ernie Coles) with his delightful helpers Jackie Willmott and Renee Thomas. Presents were handed out and the children received balloons and chocolates as they left. The organisers then breathed sighs of relief that all had gone smoothly. Our grateful thanks for this to all those who supplied and prepared food, to those who came to help and to the many people who helped in various ways to make the party such a success.

Mike Farman

LETTER TO THE OUTSTATIONS

Dear Colleagues,

The Laboratory has had several names over the years. The other day it seemed to some that we were about to change yet again. 'LOOSE CHIPPINGS' proclaimed the neat but not gaudy sign near the entrance.

Not a bad title, all-in-all. It suggested a vaguely aristocratic past, pitched somewhere between Blandings and those Chippings from Norton to Sodbury ; coupled with intimations of a vaster time span from flint artefact to solid state circuit. Are we but the latest on site in a long line of scientific centres reaching back to some Arrowhead Research Unit. If so, would signs of other days be revealed.

The answer appeared to be 'Yes'. There they were, attached to the huts, fresh offerings, to Roman household gods, seemingly made by our Works staff. I mean, hasn't anyone told them - or, perhaps, as with the Mithraic altar in a certain Kent church, is it a case of 'politeness costs little and anyway, you never know.'

The offerings are still there ; little bags of food hanging from the gutters. (The Safety Officer's not all that keen on hearths).

Truth to tell our Works and Bricks people are having a bit of bird trouble. Well that's the way of the world and it must be owned that their solution is as direct as the Iron Duke's. He, for one form of the problem, devised the forty-eight hour leave pass ; for the other, reputedly, uttered the single word 'Sparrowhawks'.

Our chaps are even more succinct ; 'NUTS' is their cry. The idea is that avian attention will be distracted by these trifles from the all-too-tasty putty which keeps the windows in place. Let's hope it works. It smells a bit of the protection racket, though nobody admits to having been approached by a flash sparrow or magpie, with razor edged grin, saying 'Pity, squire, if all them nice winders was to fall out'.

Explanation detracts from mystery ? A bit, perhaps, still Ceremony and Utility often march hand in hand. The current merry chime of the cash register derives, in some cases at least, from Good Wishes for Christmas and the New Year as well-meant and uncomplicated as those offered to you all by,

Yours sincerely,

The Editor.

DECEMBER 1977 REPRINT LIST

- A1269 P F Shutie, E C Mackenzie and J E Allnutt
'Depolarisation measurements at 30 GHz using transmissions from ATS-6'
ESTEC Colloquium, Noordwijk, 6-7 Sept. 1977, ESA SP-131, 127-134.
- A1199 J T Delury
'Future british sounding rocket programme in the auroral zone'
Proc. of Symposium at Schloss Elmau, Germany 1976 3-7 May, ESA SP115, 49-52.
- A1200 J T Delury, G W Luscombe, D Ramsden and R E Baker
'Transatlantic balloon facility'
Proc. of Symposium at Schloss Elmau, Germany 1976 3-7 May, ESA SP115, 265-278.
- A1188 M P M Hall
'Variability of atmospheric water-vapour concentration and its implications
for microwave-radio-link planning'
Electronics Letters, 1977, Vol. 13, 650-651.
- A1252 J E Allnutt and P F Shutie
'Slant-path attenuation and space diversity results at 30 GHz using radiometer
and satellite-beacon receivers'
Proc. ATS-6 Meeting, ESTEC, Noordwijk 6-7 Sept. 1977, ESA SP-131, 69-77.
- A1243 P H Moffat, R A Bohlander, W R Macrae and H A Gebbie
'Atmospheric absorption between 4 and 30 cm⁻¹ measured above Mauna Kea'
Nature, 1977, Vol. 269, 676-677.
- A1127 K Burrows, T S G Sastry, S Sampath, J D Stolarik and M J Usher
'Rocket measurements of the equatorial electrojet during the early main phase
of a magnetic storm'
Cospar Space Research, 1977, Vol. XVII, 411-415.
- A1209 T S G Sastry, K Burrows, S Sampath, J D Stolarik and M J Usher
'Day-to-day variability of the equatorial electrojet as observed by rocket-
borne magnetometers'
Cospar Space Research 1977, Vol. XVII, 409-410.
- A1246 B N Harden, J R Norbury and W J K White
'Measurements of rainfall for studies of millimetric radio attenuation'
Microwaves Optics & Acoustics 1977, Vol. 1, No. 6, 197-202.

INTERNAL MEMORANDUM

N I L