

Bulletin

of the Rutherford Appleton Laboratory

8 Aug 1983 No.12

The Wraps are Off

SNS Synchrotron Dipoles

Nearly 18 months after delivery of the prototype, the first of the ten 36 gradient bending magnets for the SNS Synchrotron ring was delivered on the first of June, 1983, since when two more have arrived and another is imminent.

Measurement of centre section fields and gradients and of the effective length on the mean beam radius show that the operating values are very close to design requirements. After a short programme of measurements and tests, magnets are being transferred to the synchrotron room within a few days of their arrival, ready for the fitting of vacuum chambers and rf screens.

The photograph shows the first dipole on its transit frame during the 'unveiling' in Hall 1 just prior to its being lifted off using the two overhead cranes - the 35 tonne magnet is too much for one crane alone - after which it was set down on the air platform vehicle known as 'Hissing Sid' for the short push into the measurement bay. It will remain there for comparison of field integral on the beam equilibrium orbit with all the other magnets, the last of which is expected in November.



Vacuum

A short section of the synchrotron ring has been pumped down using the sorption roughing system and high vacuum ion pumps. The design pressure of

5×10^{-7} Torr was achieved in about 3 hours, the pressure subsequently entering the 10^{-8} Torr range after 2 days.

Sportsday '83

A lazy day of summer in Birmingham. A fiery sun; an azure cotton-wool bedecked sky; bright liveried jets streak skyward to exotic distant lands, and into this idyll at the Civil Service Sportsground, on Friday 8 July, the sporting prowess of RAL was unleashed for SERC Outdoor Sportsday 1983.

Soon, white-clad Adonis's (Adoni?) were responding to the click of leather upon willow; on the football pitches the thud of leather upon leather (or

bone upon bone) brought cries of joy(?) from strong men; an aerial ballet was being performed at the Netball courts, and style was personified down on the croquet lawns.

We were sure the bowlers, anglers and tennis players were also giving of their best somewhere - but as they had been spirited away to green oases of their own, we couldn't share their pleasures.

Magnanimity was in the air, and a feeling of generosity was abroad

amongst the RAL participants which made certain that this year the chore of cleaning all those cups and trophies should fall to members of our sister establishments.

So, at the end of the day, Central Officer were awarded the honours of the Cricket, Netball and Tug-of-war, and Daresbury the Football, Angling, Bowls and Croquet trophies. Naturally, with records at stake, the Tennis honours had to stay with RAL, and with the generous presentation by Dr Godfrey Stafford (RAL's previous Director) of a trophy for a new event, the 3000 metres, of course it had to be ours.

Professor John Kingman (Chairman of SERC) kindly attended to present the trophies, and to make a special

presentation to George Holland of Daresbury, organiser of the first Outdoor Sports, who has contributed so much to SERC sports events. Thanking all the organisers of such an enjoyable day, he paid special tribute to Henry Vinall (now returned to Central Office from RAL) for his contribution to the success of the day.

And so, after honours won and lost, renewal of friendships, much laughter and good-natured badinage, marred only for one coach-load by a recalcitrant angler and a pushy student (we're still wondering who pulled his strings), the coaches left Birmingham to sprinkle their tired but happy passengers round the Oxfordshire countryside.

Angling

Edgebaston Reservoir, Birmingham was the battleground for this years event, and after our success last year on the River Trent, the Labs Team were confident of winning again.

It was not to be! It was obvious from the start that Daresbury not only had better information on how to fish the reservoir but were in cahoots with the fish, who threw themselves abandonedly onto Daresbury hooks, making a Daresbury win easy.

Still, a good time was had by all, and the rivalry continues. Well fished Daresbury.

Bowls

The day went well at the Civil Service Bowling Club where all teams played four games. It went especially well for the Daresbury teams- they won both Pairs and Triples!

In the Triples the RAL 'A' team of George Pulling and Tudor Morgan were joined by Peter Champ, a complete novice, who had, when he arrived, no intention of taking part. Never having bowled a wood in his life, his skill was minimal-but his enthusiasm boundless. Next year Daresbury, watch out!

The B team of Robin Wastle, Roly Puffett and Ray Jones also performed well as they also were new bowlers.

Croquet

After less than a weeks practice two teams from RAL took on three teams from Daresbury and one from RGO, on two hastily prepared lawns with very different characters. One was smooth but far from level and the other was level but very bumpy. This made skilled play very difficult and the winners were those who could best adjust their game to the conditions.

Due to a long wait for the "hole making" tool to arrive from RGO, it was decided to play three one and a half hour games each in a ladder system, where the winners went up and the losers down the list. In the first round DL "A" beat RAL "A" (Charmaine West & Roy Platon), DL "B" beat RAL "B" (David Holmes & Nick Fernyhough) and RGO beat DL "C" all

by narrow margins. In the second round DL "A" beat BL "B", RGO beat RAL "A" and DL "C" beat RAL "B". Therefore in this last round RAL "B" beat RAL "A" in the battle for the bottom two places, DL "B" beat DL "C" for Third place and DL "A" beat RGO (who had the best players but were beaten by the lawn) to win the Competition.

Next year it is hoped that RAL are able to get a bit more practice and improve their rather poor performance.

Roy Platon.

Cricket

Bill Frindle informs me that the last time that a group of teams from all over the UK met in one place for a cricket tournament only to find that no-one had remembered to bring the stumps was in 1887. On that celebrated occasion - the Boy Scout Jubilee Games - participants improvised with half a dozen milk bottles and a woggle. But SERC, when faced with a similar problem at the annual Outdoor Sports Day, had no hesitation in despatching one of its number into Birmingham to buy a new set of stumps.

So it was that the 6-a-side tournament began 90 minutes late. Fate had decreed that Rutherford 'A' should meet Rutherford 'B' in the first match. The outcome of this clash was to prove absolutely crucial in determining who was to come 3rd and 4th (out of 5) in the final league table. A large crowd might have been expected, but the bar had been declared open shortly before the game began, robbing us of any potential spectators (as well as half of the 'A' team for the first five minutes). In the event, the result was an overwhelming victory for 'A' who accumulated 66 runs in their allotted 6 x 8 ball overs, only to bowl out 'B' for less than 20.

Lulled into a false sense of security, 'A' went on to defeat at the hands of Daresbury, who somehow managed to unlock the mysteries of Jehangir 'Qadir' Iqbal's leg spin bowling to devastating effect. Afterwards, Captain Neil Johnson - whose resemblance to 'the Great W.G.'* had already been commented on by some of the older locals - was heard to say: "We might have had a chance if they had played blindfolded with both hands tied behind their backs."

Meanwhile, 'B' under the guidance of Peter Blanshard were having more luck against RGO who ended the day bottom of the table with a clean sweep of defeats.

Both 'A' and 'B' had some small but insignificant success in their matches against Central Office, but not enough to gain victory over them. 'B' was the only team all day to take the wicket of the prolific Central Office batsman Yaki Hassan, when Rickie Mills failed to get his hands out of the way of a full-blooded drive. 'A's minor achievement lay in being the only team to restrict Central Office to a score under 60 (though it should be noted that Central Office declared their innings after only 5 overs, when their score was already 57).

Mention should also be made of E. Thomas who, in total for the day batted for all but three overs of 'B's' innings, scoring 54 runs over the tournament. As for Central Office, this year's clear winners, they had better watch out. Rumour has it that a Bermuda based businessman is financing a rigorous winter training programme that will enable RAL to wrest that cup back from them in 1984.

*The Great W.G. Billings, Fish Dance Champion of the Midlands, 1924-32.

Teams:	'A'	'B'
	Neil Johnson	Peter Blanshard
	Mike Yates	Eric Thomas
	Jehangir Iqbal	Richard Owen
	Andy Napper	Rickie Mills
	Arthur Dawkins	Dave Rippington
	Nick Myer	Adam Johnson
		N Myer

Football

This year once again we were forced to play an indoor game outdoors i.e. five-a-side football. Still we managed to find 10 teams so two leagues of 5 were formed.

As last years winners Daresbury had forgotten to enter, the runners-up, R2 were hopeful of winning but as the afternoon wore on it was obvious they missed their two temperamental superstars. Still they were hopeful, using such lesser mortals as, Mad Max II, Mauler Malcolm, Giant John, Derek the Drunk and the Old Man.

When RGO decided to play bowls instead, it left group B depleted. This group however contained the shock team of the day - R25. Their success rested upon a 'canny' scotsman called Gordon, and Peter (the Cat) Hemmings in goal. They convincingly beat R2 (2-0) and Daresbury B (3-0) and topped their league with a 4-0 win over HEP 'B'.

Group A however proved a much closer affair with matches being drawn or decided by the odd goal. Just a note here to mention the goal scored by Kevin Lewis of Atlas. If you haven't heard about it please ask him to tell you - (he reckons its the best goal he's ever scored).

Anyhow Central Office and Rutherford Students qualified and the league tables were as follows:

	A						B				
	P	W	D	L	PTS		P	W	D	L	PTS
CO	4	3	1	0	7	R25	3	3	0	0	6
STUDS	4	2	2	0	6	DARS B	3	2	0	1	4
DARS A	4	1	1	2	3	R2	3	1	0	2	2
ATLAS	4	1	0	3	2	HEP B	3	0	0	3	0
HEP A	4	1	0	3	2	RGO	0	0	0	0	0

Semi Finals

CO v DARS B R25 v Students

It was sad to say that the semi finals were decided by referees errors. Daresbury and CO drew 2-2 and the referee opted for extra time which Daresbury B won 6-2. R25 raced to a 2-0 lead in a physical game only to concede 3 goals in the final 3 minutes.



So Daresbury B met Students in the final.

This was played in glorious sunshine watched by a large enthusiastic audience. The Students however suffered from their tough semi final and had blistered feet and cramp. Although keen they could not match the superior fitness of Daresbury B who won easily 4-1.

So Congratulations to Daresbury B but a special note of praise for Central Office who technically won their semifinal but gracefully accepted a wrong decision.

Now we look forward to next year when we all hope we can play 6 or 7 a-side football on proper size pitches.

R Newman.

Netball

Just over two weeks before Sports Day a group of stiff-limbed ladies wandered aimlessly onto the netball pitch outside R20. At the end of the Sports Day the A team had finished 2nd and the B team 4th.

In between these two events occurred a programme of intense training (well, about half an hour anyway) which brought them to the peak of physical fitness.

The A team were first into action, looking stunning in Lab colours of yellow and black (just like RAL vans, someone remarked) and after a hesitant start, found their confidence and eventually won 10-0. Crawling off the playing area they were told that further matches would last 10 minutes each way and not 15 as they had just endured! Nobody argued.

The B team's opening match found them up against Central Office A, a slick outfit who concentrated too much on winning (how boring of them!). B played well but could not halt the scoring rate, although in their next match only lost by a narrow margin to CO B.

After a short break, what turned out to be the final was contested between RAL A and CO A. Taking an early lead RAL A soon realised that the opposition benefited from playing netball regularly. However A did not give in and held on to only go down 5-14.

On completion of the matches our ladies deservedly relaxed in the sun and watched the rest of the day's sport, pausing only to attend to blisters and other sore bits!

To mention individual players would be unfair; the main point being that everybody played well and enjoyed themselves, proving that winning is not always everything.

TEAMS:

RAL A

GK Pam Coulthard
GD Shelley Deegan
WD Jane Warren
C Lesley Yearling
WA Julie Surch
GA Helen Dorsett
GS Margaret Haddock

RAL B - the following all played

Tracy Cox
Janet Weekes
Susan Fuller
Rhian Parker
Caroline Moneypenny
Janice Brown
Heather Teale
Tracy Morton
Janet Kewley

Tennis

In marked contrast to the previous year, the weather excelled itself to produce a day where everyone involved could hardly do anything but enjoy themselves, even if at times, playing in it looked hard work.

The competitions were played as 'round-robins', each team playing all others. Seven pairs entered the Mixed Doubles, 2 from Atlas, 1 from Rutherford, 1 from Daresbury, 1 from RGO and 2 from Central Office. Tim Pett and Lorna Claringbold won convincingly against all comers, but found the Daresbury pair very worthy opponents. This was their fourth successive year for carrying away the trophy.

The Men's Doubles was a very close run contest, not resolved until the last game of the day when the Rutherford pair, Richard Lawrence and Bill Pulford, overcame a two game deficit to win against the eventual runners-up, RGO.

RAL Angling Championship

After the success of last years championship format - a series of matches instead of just one main event - this year's is following the same lines but with more matches.

The first match was fished on the 16 July and the result was;

1. Ray Rolfe - 17lb 5oz
2. Peter Craske - 5lb 6oz
3. Brian Harrow - 2lb 12oz

This was a great start by Ray Rolfe and, in fact, a record catch for a site competition.

Farewell

Frank Willis has retired. To the majority of the readers this may not mean too much but those limited (and privileged!) few who have been to Chilbolton will realise that his happy personality is missing. Always ready with a joke and ever willing Frank enjoyed his work here and was a source of fun, goodwill and generosity to all his workmates. At a send off ceremony he was presented with suitable gifts to mark his retirement and left us with the good wishes of all his friends ringing in his ears.

Thanks

Tom Clements writes to thank "all my friends for the generous farewell gifts. Cheerio to all those I failed to see before I left. Any of you visiting Goring are very welcome to call and test the garden seat."

Sales to Employees

The sale of scrap metal and plastics will take place, subject to the usual conditions on 12 and 26 August in the R40 scrap compound from 12 - 12.30 pm.

Film Badge Notice

It is Period 8. Colour strip PURPLE. Please check that you are wearing the correct dosimeter and all old ones are returned.

Next Film Issue
Monday 15 August.

Netball Club

There will be a meeting at 12.15 pm on Monday 15 August in the R20 Conference Room to discuss the setting up of a Netball Club.
Any enquiries to Julie Surch Ext.5637.

Rutherglen Prize

The award for 1983 will be made to Mr C P Bee of Lancaster University.

The fund, which was set up in memory of the late Professor J.G. Rutherglen, is used to finance an annual award to a postgraduate student in experimental particle physics, from one of the universities associated with the electron synchrotron NINA.

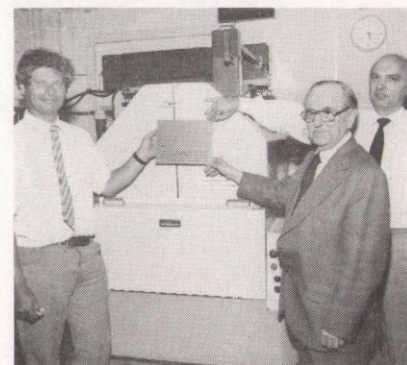
On this spot --

Over a hundred people gathered in the R22 Coffee Lounge on Tuesday 12 July to mourn the passing of the HPD (Haugh-Powell Device) the machine that had for sixteen years been instrumental in helping particle physicists to unravel the truth about the fundamental nature of the Universe, measuring more than 3 million events taken on about 2000 kilometres of bubble chamber film, involving some 13 experiments.

Using concepts proposed by Paul Haugh (Brookhaven) and Brian Powell (CERN), RAL physicists David Lord (now at CERN) and Ron Lawes were deeply involved in producing the advanced machine design of the HPD of which the mechanical assembly was made by 'Sogenique' Newport Pagnell and eventually sold throughout the world including the USA and USSR.

The HPD was in its time an outstanding technical challenge and the solutions created an advanced technology which bears favourable comparison with that of today. With this machine the Laboratory won a leading place in the world league table for bubble chamber data analysis. "It took us a bit of time solving some of the problems," explained one of its creators, Ron Lawes, "but we knew we were creating a good technology to do some really good physics".

George Kalmus, present leader of the group, also praised the HPD and the team that had created it and expressed his sadness at its demise. The question it was designed to answer had now either largely been answered or needed other techniques capable of higher data rates, he explained.



George Kalmus, Harry Jaye (Solgenique) and Ron Lawes holding the plaque which will be placed on the wall of the measuring lab, at RAL in memory of a "faithful friend".

Bulletin

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Deadline for insertions: