

14th December, 1960.

Professor Arthur Roberts,
Argonne National Laboratory,
9700 South Cass Avenue,
Argonne,
Illinois,
U.S.A.

Dear Arthur,

Thank you for your letter of November 30 about your spark chamber symposium. The work in the U.K. which we know about is the following:

1. Rutherglen, Glasgow University

He has constructed thin foil (0.005" Al) chambers, araldited to a glass framework to give $\frac{1}{4}$ " spacing. Neon and Helium have been used, and characteristics of the chamber (e.g. sensitive time, dead-time, efficiency) have been studied.

2. Wolfendale and Thompson, Durham

They have done preliminary work with a 10 cm x 10 cm x 0.1 cm gap chamber, and aim to determine (1) the characteristics and the effects of the gases and (2) the accuracy of track direction relative to particle direction using a neon hodoscope.

3. Bird, Taylor and Walker

They have a multiplate chamber similar in design to Cronin's and Cork's for use in polarisation studies with protons and anti-protons. This is set up and counts cosmic rays but has not yet been taken to an accelerator.

4. Galbraith and Parkham (Harwell)

They are making a small matrix type of chamber to take out electrical signals in the first instance. It is hoped to use the "counter" properties to identify particular events which may also be photographed. The matrix type could also be used to locate approximately (within the element size) the direction of entry of a particle into a larger visual detector - e.g. a bubble chamber or a large "conventional" spark chamber.

5. Heymann, University College, London

Plans to build a chamber for study of recoil proton polarisation in π -p scattering.

Galbraith, who gave me this information, hopes to have more details on the feasibility and success of his chamber (4 above) by the time of your meeting, and will write to you direct if he has anything of interest to report.

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There is also work at CERN. Lipman told me there recently that he was working on spark chambers, but I have no details. Similarly I know nothing of work which may be going on at Saclay or elsewhere.

We are making reasonably good progress here. Our biggest headache is the vacuum vessel, of which the prototype octant is due to be delivered very soon.

Best wishes (and to Albert Crewe)

Yours sincerely,

T. G. Pickavance

c.c. Dr. W. Galbraith
Dr. G. H. Stafford