

REPORT ON MY VISIT TO SACLAY,

6th and 7th April 1961.

The main purpose of this visit was to see the installations of the new experimental (south) site of Saturne and to discuss relevant questions with the designers and users.

1. Introduction.

After the creation of the experimental area in the main Saturne hall and the extension to the east hall (where the Wilson chamber was installed), the third stage of the building programme under way at present aims at extending the experimental facilities to the south. At the same time the counting rooms are being moved to the new area, also because the radiation level in the old rooms has become uncomfortably high. The new rooms are located below the floor of the new experimental area and have just come into use. The building work for the new south hall is supposed to be finished this autumn.

2. General Layout of Services.

Most of the services run along tunnels located under the experimental floor, the connections being made through holes in the ceiling of the tunnel.

The counting rooms are adjacent to this tunnel. There are three of them, each of about 50 m² floor area. A fourth room has been set aside tentatively for machine operation. (Drawing of the new area in my office) The new area including all services, cable patch panels etc. was designed by an outside consultant firm, who did this work already for Saturne.

3. Installations for Counter Experiments.

As all the installations are planned and run by the Saturne Apparatus Layout Group (GEDAP), counter cables and beam transport controls are dealt with jointly. Thus each junction box in the experimental area (located in the un-

derground tunnels) is equipped with the following sockets :

| Number | Type | Make | Purpose |
|--------|------------------|-------------------|----------------------------|
| 30 | coaxial 100 Ω | Lemo (Fischer) | Counter signals |
| 20 | 75 Aere HT | " | HT for PM |
| 5 | multicore 7 pins | Sogapey | misc. e.g. Candy Bar |
| 3 | " 13 " | " | beam transport information |
| 1 | " 19 " | " | spare |

The cables from these boxes, a total of about 1200, end up on the wall of a room of about 2 x 3 m wide and 2 m high. The roughly 600 departures for the counting room are located on the ceiling of this room. The jumpers from the walls to the ceiling do not hang down freely but are clamped to a frame running around the room along the upper part of the wall. The clamping itself is done by means of a rubber strip fitted with braces shaped similarly to the ones holding the microphones in our C.C. Intercom.system.

The counting rooms are equipped with racks in a way similar to ours, the differences being that all racks are on wheels and some of them fitted with a variable stabilised a.c. power supply. It is claimed that this variable supply is necessary for supplying certain more delicate American apparatus. In order not to heat up the room unduly, the fan exhaust on top of each rack is directly connected to the general exhaust by means of a connecting tube which can be removed or put into place very easily. They have made good experience with this system. The refrigeration and air conditioning unit is located in an adjacent room. No special comment on the patch panels in the counting rooms. (No controls for beam transport gear, which is dealt with exclusively by CEDAP operators.)

4. Installations for Beam Transport.

On account of the experience with the present bus bar system, it is foreseen to change over to a cable system for supplying the beam transport gear in the new area. In order to save cost aluminium conductors with a steel core

will be used provided a type of sufficient flexibility can be obtained. The general layout is similar to the one proposed for our East Area, however only one generator may be replaced by any of the others (and not two as in our case).

In view of the good experiences with the water cooling system the same system will be extended to the new area. It comprises a 25 kg/cm^2 network for cooling b.c. magnets and a 15 kg/cm^2 network for cooling beam transport gear. Each of these separate systems is fed from several pumps in parallel, up to 3 for the 15 kg/cm^2 circuit. All manifold outlets in the experimental area can be controlled by electromagnetic valves. This whole set-up makes for a flexible, reliable system.

5. Intercommunications.

Besides the public address system and an internal telephone system (using the same apparatus as the postal system) two systems of intercom are in use. On the machine side a system similar to our portable telephone system is being used mainly by machine group people. CEDAP has an intercom system similar to our CC intercom except that all stations but the one in the power house for beam transport supplies are portable. The system made by Soprano, which is used in the French navy, is said to be very rugged, meaning that people may stand on the microphone or the amplifiers, which apparently happens occasionally in the experimental halls.

6. Barriers.

There is no new problem of barriers etc. as people are allowed to go freely into the outer part of the Saturne Hall onto which the new area will be joined.

7. News from the Accelerator.

Saturne is running normally with about 8×10^{10} p/p. A separated K^+ beam (0.7 to 1.3 GeV/c) is just being set up, featuring an electrostatic separator 6m long, $U_{\text{max op}} = 400 \text{ kV}$. The ejection scheme is ready and will be installed in the summer 1961.

Distribution : (open)
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C.I.Z.E.

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