

The European Organization for Nuclear Research (CERN) came into being in 1954 as a co-operative enterprise among European governments in order to regain a first-rank position in nuclear science. At present it is supported by 13 Member States, with contributions according to their national revenues: Austria (1.90%), Belgium (4.07), Denmark (1.95), Federal Republic of Germany (19.15), France (20.81), Greece (0.60), Italy (9.90), Netherlands (3.77), Norway (1.58), Spain (4.21), Sweden (4.15), Switzerland (3.23), United Kingdom (24.68). The budget for 1962 is 78 million Swiss francs.

The character and aims of the Organization are defined in its Convention as follows:

'The Organization shall provide for collaboration among European States in nuclear research of a pure scientific and fundamental character, and in research essentially related thereto. The Organization shall have no concern with work for military requirements and the results of its experimental and theoretical work shall be published or otherwise made generally available.'

Last month at CERN

On 20 September, CERN was honoured by its second Royal visit this year, when **H.M. Queen Frederika of Greece** and her daughter, Princess Irène, spent the whole day at Meyrin (see p. 3). 'I have learned a great deal', Queen Frederika wrote in a letter of thanks to S.A. ff. Dakin, CERN's Directorate Member for Administration. 'I was very much impressed by the co-operative spirit among all the

scientists, no matter what the nationality. What a wonderful example to be studied and learned by all of us!'

At the **proton synchrotron** the first full month of the shut-down period saw many changes. At the East junction, the first pneumatic drill penetrated the tunnel wall on 4 September, while on the other side of the ring two major jobs were being carried out in preparation for next year's **neutrino** experiments. The careful alignment of the accelerator ring magnets was disturbed for the first time, when magnet unit no. 1 was removed so that the vacuum chamber in the adjacent magnet could be replaced. The new chamber, which has a larger radial aperture, is required for the **fast ejected-beam system** which will be installed in the next shut-down. All existing shielding over a large area of the South hall was removed, and installation begun of more than 4000 tons of iron ingots, to provide the dense shielding necessary to stop all particles except neutrinos from reaching the bubble-chamber and spark-chamber detectors which will be used in the experiments. Preparatory work was also being done in the target area for the installation of beam-transport equipment needed for the ejected proton beam.

Most of the existing **beams** were dismantled, and work begun on setting up the new ones. In the beam k_2 (see CERN COURIER 2 No. 7, p. 2) the Cresti electrostatic separator was replaced by a new 3-metre separator made by NPA Division. The separated antiproton beam (m_1) was being rebuilt to include two of the CERN 10-metre separators — one inside the ring shielding as well as the existing one outside. This new beam, which will be known as m_2 , is designed to produce separated beams of K-mesons as well as of antiprotons or pions.

Both the 81-cm Saclay/École Polytechnique **hydrogen bubble chamber** and the CERN/E.T.H. **cloud chamber** were moved to the North hall.

These are only a few of the many jobs carried out, but we hope to give further details in a later issue.

During September also, work progressed rapidly on the new hall, 120 m long, 42 m wide and 20 m high, being erected on the apron in the **East experimental area**, which is now expected to come into limited use next year. Installation was completed of the generators for supplying power to the bubble-chamber magnets and beam-transport equipment in this area, and tests were carried out using the newly completed magnet for the CERN 2-m chamber as load.

Building work continued also on many other parts of the site (see pages 6 and 7 of this issue), and excavations were begun for Laboratory 4, adjoining the Library wing.

Among other activities at the **synchrocyclotron**, a visiting team from the University of Durham carried out an experiment on the scattering of 300-MeV negative pions by various nuclei. Nuclear emulsions placed in a magnetic field were used to deflect the scattered particles and to provide information on their energies.

Many members of the CERN staff attended **conferences** or gave **lectures** in various countries during the month, and the following notes are representative rather than comprehensive:

Four members of the MPS Division (**J. Geibel, P. Germain, H.G. Hereward, G. Munday**) and two nuclear physicists (**R. Armenteros, B.J. Hyams**) visited Brookhaven National Laboratory from 9 to 14 September. There they had informal discussions with their colleagues of the alternating gradient synchrotron on problems of common interest connected with the future exploitation and development of the two machines (AGS and CPS). Much of the talk centred on plans for ejected beams and neutrino experiments; the AGS people hope to have their fast ejection system in operation in July 1963. Although nothing strikingly new emerged, a lot of interesting information was exchanged at first hand, and they hope

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The cover photograph was taken at the entrance to the Administration building on 20 September, just after the arrival of H.M. Queen Frederika of Greece for a day's visit to our Organization. From left to right are Prof. V.F. Weisskopf, Director-general, H.R.H. Princess Irène, H.M. Queen Frederika, and Mr. J. Willems, President of the CERN Council.

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