

CERN Courier Archive: 1968

A LOOK BACK TO CERN COURIER VOL. 8, SEPTEMBER 1968, COMPILED BY PEGGIE RIMMER

CERN

The Central Library and its 'satellites'

The CERN Library is part of the Scientific Information Service, under Dr. A Günther, which is part of the Data Handling Division. The most intensive use of the service is, of course, made in high-energy physics and accelerator technology. Here, the Library aim is clear: to collect everything available. In more marginal fields (for example medium- and low-energy physics, electronics, computers, etc.), the proportion of literature collected is smaller, depending on the subject, and in some areas the emphasis is more on bibliographies, abstract bulletins and the like. In administrative and similar "support" fields, hardly anything is collected without a request from the person interested.

Overall Library policy, and particularly subscriptions to periodicals, is in the hands of a Library Committee, appointed by the Director General, on which all departments of CERN, as well as the library, are represented. The present chairman is Dr. L. Kowarski.

The major part of the library collection is housed in the Central Library, close to the Main Auditorium, Council Chamber, etc.; a subsidiary collection, containing many documents on accelerator design and use, is housed in the Proton Synchrotron library. Both reading rooms are open permanently and books and reports are thus available at any time of day or night, weekends included. Since 1965, a small reference collection of important periodicals, conference proceedings and handbooks has been housed in the Track Chambers Division.

Of particular historical interest is the Salle Pauli, near the Council Chamber. This houses the private library of the late



Part of the collection in the Central Library.

Professor Wolfgang Pauli, presented to CERN in 1960. It contains over 700 books and a few periodicals, but the major part of the collection is made up of some 10 500 reprints of papers on physics and mathematics, particularly quantum theory, published during the period 1920–1959.

The present library catalogue exists in the form of two identical collections of cards (one kept in the Central Library, the other in the PS Library), each composed of two separate files: the Alphabetic Catalogue and the Subject Catalogue.

Although much of the work in cataloguing is routine copying and sorting, the necessity for strict accuracy means that it has to be checked by people with full library training. With the continued growth in the number of documents to be handled, the prospect of a third card catalogue in some future satellite library is daunting indeed.

Copying and sorting, however, are ideal tasks for a computer. A logical answer

to the problem was thus seen to be the use of CERN's administrative computer (IBM 360/30). Briefly, the idea is to put the basic bibliographical information for all documents into a standard, computer-readable form. Once the error-free main entries are stored, lists, indexes, etc., can be produced in various formats automatically, with little or no further checking.

One of the most attractive and challenging aspects of a computerized cataloguing system is the opportunity for future development, not only within CERN but also in a wider field, as easier methods of "communicating" with computers are being developed. The exchange of catalogue files on magnetic tape is already quite common between libraries. The printing of many scientific periodicals by computer could lead to the automatic provision of standardized catalogue entries on magnetic tape.

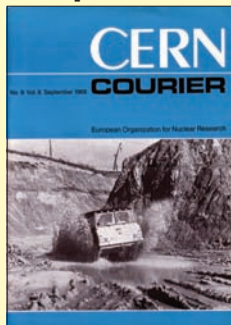
● Compiled from texts on pp215–219.

Quadrupole success

On 22 August, first tests were carried out on a completed pole of the superconducting quadrupole being built for CERN at the Oxford Instrument Company, UK, using niobium-titanium composite superconductor produced by Imperial Metal Industries. A full-scale copper-wound pole produced at CERN had been sent to Oxford to be used as a model in the winding of the first pole, and a current of 1000 A was passed through the completed coil without difficulty and without any quenching, indicating that the design specifications of 825 A for the quadrupole will be easily exceeded.

● Compiled from texts on pp204–205.

Compiler's Note



Apart from the archival Salle Pauli, CERN's popular satellite libraries are no more; the "LHC library" in Building 30 was the last to close in 2010. Thanks to electronic publishing and "World Wide Webbing", the only papers accumulated by the library these days are glossy browsables, such as *Science*, *Nature* and, of course, the *CERN Courier*.

As for computerized cataloguing, the latest, state-of-the-art digital-library system, INSPIRE, was released in October 2010. Produced jointly by specialists from DESY, Fermilab, CERN and SLAC, it provides "readers" with advanced tools to find and assess the most relevant literature in high-energy physics (*CERN Courier* April 2010 p19). And so the venerable CERN card collection has been laid to rest, in an impressive

oak and brass filing cabinet; to paraphrase Hamlet, we shall not look upon its like again.



A full-scale copper-wound model of a pole produced at CERN to develop the coil-winding technique.

RENEWABLE ENERGY

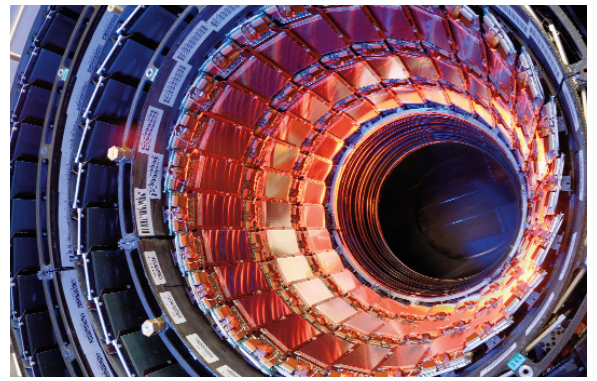


Thermonuclear fusion is one of the few truly sustainable forms of energy for the planet that will probably be available in the mid to long term. It is a technology that offers the prospect of safe, environment-friendly operation, combined with excellent fuel availability and procurement security.

ITER (originally an acronym for the International Thermonuclear Experimental Reactor, now used in the Latin sense of "itinerary") is an international project that will demonstrate the feasibility of a nuclear fusion reactor able to reproduce the physical phenomenon that occurs in stars in controlled conditions, for the purposes of generating clean energy in the future without the collateral effects typical of current fission technology (waste, contamination risk).

FUSION SUPERCONDUCTIVITY

A typical physical feature of certain materials, called superconductors, which offer zero resistance to an electrical current when cooled below a certain temperature.



LHC HIGH ENERGY PHYSICS

Conventional and superconducting magnets are key components in the particle accelerators and detectors that allow us to study collisions and better understand what matter is made of.

Large Hadron Collider - CERN

The mission of the most powerful particle accelerator in the world is to uncover some of the mysteries that still shroud the origin, creation and future of the universe, reproducing in the laboratory conditions close to those occurring during the Big Bang.



HADRON THERAPY

In this medical treatment cancer cells are irradiated with heavy hadron particles (carbon protons or ions), which have less impact on healthy tissue than other techniques.

ASG

We have been working for more than fifty years in a field that brings together high technology, research and industry. Our specialist engineers contribute to international projects and develop new products, drawing on experience gained working in high energy physics and thermonuclear fusion. Building the world of tomorrow, today.

MAGNETIC RESONANCE

An imaging technique used mainly in the field of medical diagnosis, based on the physical principle of nuclear magnetic resonance.



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Superconductors

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