

CERN Courier Archive: 1970

A LOOK BACK TO CERN COURIER VOL. 8, SEPTEMBER 1970, COMPILED BY PEGGIE RIMMER

NEWS FROM ABROAD

Conference in Kiev

The XVth International Conference on High Energy Physics was held in Kiev, the lively capital of the Soviet Ukraine, from 26 August to 4 September. This series of conferences, known as the Rochester Conferences, is the most important in our field.

The Conference was sponsored by the International Union of Pure and Applied Physics, the USSR Academy of Sciences, the USSR State Committee on the Use of Atomic Energy and the Ukrainian Academy of Sciences. Dubna and the Kiev Institute of Theoretical Physics participated in the organization. It was held in the October Palace of Culture where a huge auditorium

was amply capable of absorbing the 800 participating scientists. The multitude of services so important to the smooth running of a conference, projection and sound services, catering facilities, etc., functioned very well and the Organizing Committee, chaired by N N Bogolubov with A N Tavkhelidze as Deputy Chairman, deserve special praise for their efficiency. (There was a strong feeling among many participants that the Committee could most usefully take over Intourist.)

Though there were many beautiful experiments reported, and much elegant theoretical work, there was little that crystallized out in terms of trends, highly

promising approaches, or very exciting new results. A decade ago the Rochester Conferences were the scene of high excitement as access to higher energies broke new ground in our knowledge of particles and their behaviour. Now it looks as if, with the research facilities available, the plums have been picked and we are in the hard grind of trying to understand the detail. This does not carry the glory of ten years ago, but it is nothing new in science that periods of dramatic discovery are followed by periods of much slower advance, as more detail is uncovered. High energy physics is in a complex phase at the moment.

● Compiled from text on p271.

Dubna Instrumentation Conference

As is by now traditional, the Rochester Conference was followed by an "International Conference on Instrumentation for High Energy Physics"; this year it was held from 8 to 12 September at Dubna.

The bulk of the Conference was given to reporting further refinements brought to established techniques for particle detection. On the bubble chamber side there is, in addition to the trend to much larger sensitive volumes, growing interest in rapid cycling techniques to take more pictures per accelerator pulse. At the Stanford Linear Accelerator Center (SLAC), for example, work is under way to pulse a 1 m bubble chamber at a rate as high as 20 times per second. Related topics are the ultrasonic



NN Bogolubov speaking at the opening ceremony of the Instrumentation Conference at Dubna. (Image credit: Yu Tumanov.)

bubble chamber research at CERN and Dubna, and the use of counters to fire the chambers or cameras only when an event of interest is known to have occurred (done, for example, at Argonne).

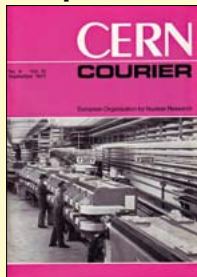


VP Dzhelepov (left), Director of the Laboratory of Nuclear Problems at Dubna and Chairman of the Organizing Committee, in conversation during the Conference with G Charpak who has led the work on multiwire proportional chambers. (Image credit: Yu Tumanov.)

On the electronics experiments side, multiwire proportional chambers developed at CERN are now an accepted choice for a wide range of applications - if you can afford them. On-line computers have, within a few years, moved from being an innovation to being something we cannot live without. A computer-controlled CAMAC system ACE, to Automatically set up and Calibrate electronics for Experiments, has been developed at Daresbury. Spectrometer systems are growing bigger, more accurate and more versatile. There is growing mastery of streamer chambers (half way between the bubble chamber and electronics techniques); there was a particularly nice report on the operation of the chamber at DESY.

● Compiled from texts on pp275-276.

Compiler's Note



By the mid-1960s, a baffling variety of so-called elementary particles, mostly hadrons, had been discovered. In 1964, Murray Gell-Mann and George Zweig independently proposed that a small number of quarks could suffice as fundamental building blocks of the hadrons, an idea that began to gain traction only after 1968, when evidence for the possible physical existence of quarks had shown up in the deep inelastic scattering of electrons on nucleons at SLAC. In fact, quarks were not mentioned in the citation of the 1969 Nobel Prize awarded to Gell-Mann "for his overall contributions and discoveries concerning the classification of elementary particles and their interactions". High-energy physics was indeed in a complex phase at the beginning of the 1970s.

For the record, the XXXVth Rochester Conference will be held in Valencia, Spain, in 2014.

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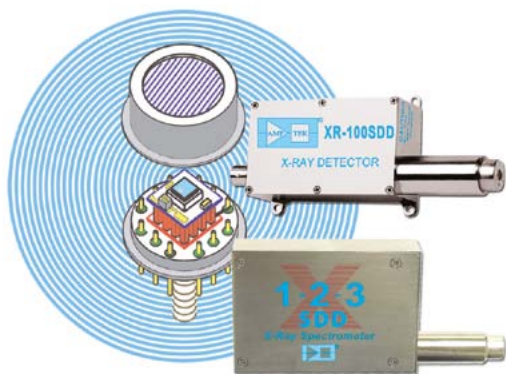
Silicon Drift Detector

No Liquid Nitrogen

Easy to Use

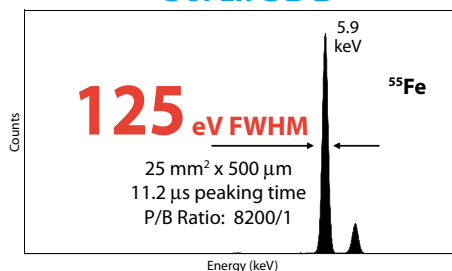
Solid State Design

Low Cost

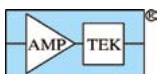


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