

# Comment

The last few weeks at CERN have been lived in a state of unaccustomed euphoria. At the end of January came the first operation of the Intersecting Storage Rings. Three weeks later came the go-ahead for construction of the 300 GeV accelerator. Both events had many years of hard work and keen anticipation behind them and arriving so close together, they have set up a resonance. Our more stable readers will have to excuse us letting our hair down and projecting some of the excitement we have experienced.

In the early afternoon of 27 January the ISR construction team knew that they had in the bag the success of the ISR as a machine where colliding proton beam physics can be done. Months ahead of schedule, they have stacked and stored high intensity beams with very low decay rates. They have seen the last major hurdle (the possibility of serious beam loss resulting from the effect of one beam on the other) pass beneath them. They then knew that in a few month's time they will be able to provide the high energy physicists with colliding beams of a quality entirely adequate for the first series of experiments.

Never before in accelerator history has commissioning of a machine gone so smoothly, despite the fact that the ISR is the most complex machine ever built and, in the sense of doing something entirely new whose successful operation could not be guaranteed, is among the most adventurous ever built.

To be with the jubilant physicists that day when they were clocking up particles coming from interactions in the colliding beams was a rare experience. Not every day does excitement break through the surface so openly. They were the first people ever to see particle interactions, produced in a controlled fashion, involving an interaction energy of about 30 GeV (equivalent to observing interactions

at a 500 GeV conventional accelerator). A few weeks later, with beams of 22.5 GeV in each ring, interactions at an energy equivalent to over 1000 GeV were detected. Only in rare, unpredictable, observations of cosmic rays has this sort of phenomenon been seen before. Now we can produce them in the laboratory.

Hats have been raised all round to a great achievement involving mastery of accelerator physics, superb engineering, meticulous planning and organization, top quality work from manufacturers throughout Europe, and another shining example of European collaboration.

On 19 February, European collaboration was again manifest when the large majority of the Member States expressed their continued faith in CERN in approving construction of the 300 GeV accelerator. To reach this decision has been an uphill struggle for a complex mesh of reasons but now it is through and the work can really begin.

With the 300 GeV as well as the ISR European high energy physics is now guaranteed world-class instruments for its research through to the end of the century. CERN, in the process, has taken on no small weight of responsibility. First, of course, there is the responsibility to the Member States to provide the research facilities within the conditions laid down. Then there is the responsibility to European physicists.

The high energy physicists throughout Europe have for many years given top priority to the 300 GeV project in many cases with the realization that this would severely limit the development of their national resources. This faith in CERN must be justified in ensuring that, with the incredible range of research facilities concentrated in this one place, we draw out the maximum in top quality physics.