



Die Grenzen meiner Sprache bedeuten die Grenzen meiner Welt.
Ludwig Wittgenstein (1889-1951), *Tractatus logico-philosophicus* (5.6)
Es ist dafür gesorgt, dass die Baume nicht in den Himmel wachsen.
Johann Wolfgang von Goethe (1749-1832), *Wahrheit und Dichtung*

EDITORIAL

The highest energy proton-antiproton collider so far, the Tevatron at Fermilab, is currently running after the increase in machine energy with upgraded experiments in order to maximize its discovery potential. The HERA e-p facility at DESY is also running after an improvement in the machine in view of increasing the luminosity. The next large accelerator on the high-energy frontier, the LHC p-p and ion-ion collider at CERN, will be ready for experiments in 2007. The large R&D programme for constructing the detectors, initiated already several years ago, is now finished, and in almost all cases the final production has already started. The construction of the multipurpose detectors, ATLAS and CMS, is advancing rapidly, as is that of ALICE and LHC-b. Several e^+e^- factories at lower energy (DAFNE, PEP-II, KEK), with detectors designed for the study of CP violation in the $K-\bar{K}$ and in the $B-\bar{B}$ systems, are now in the production phase. Concerning e^+e^- at high-energy, a design with a superconducting technology for the International Linear Collider, a truly global machine, has been recommended in the summer 2004.

High-energy physicists are showing more and more interest in underground physics, solar ν 's and ν astrophysics, cosmic γ -rays detection, and experiments in space, where fundamental questions concerning the existence of antimatter in the universe, the identification of dark matter and the existence and origin of dark energy, remain still unanswered. Present neutrino detectors will continue to be operated, and hopefully a new generation of detectors will significantly improve our knowledge of ν -oscillations. In this respect large detectors are being commissioned or being built, at the Soudan mine and in the Gran Sasso tunnel, to operate with high-energy neutrino beams over a long baseline from FNAL and CERN, respectively.

The 9th Topical Seminar on Innovative Particle and Radiation Detectors focused on advanced technologies in particle physics at collider experiments and in cosmic ray astrophysics experiments, with the emphasis on their increasing applications in other fields, in particular medicine and biology, and on the need for detailed detector simulation and new computing strategies. The main topics covered by the conference were: tracking detectors; calorimeters; detectors for X and γ -ray astrophysics; cosmic ray experiments in space, on the earth's surface, and underground; neutrino experiments; radiation-hard detectors and electronics; detectors for medicine and biology; large X-ray systems for security control; simulations and new computing methods. The four-day Seminar took place in May 2004 in the Aula Magna of the University of Siena. The conference programme, addressing most of the topics, comprised more than 90 talks and 10 posters. Several review talks summarized the progress of complex projects and major facilities, shorter talks, partially organized into parallel sessions, and posters covered contributions on specific items. The meeting was attended by about 120 physicists, representing more than 60 laboratories and coming from 16 different countries, and also by several representatives from european industry.

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