Preface

The traditional purpose of the Adriatic Meeting is to present most advanced scientific research conducted by the lecturers who take part in the development of their fields and, in addition, to provide a school-like atmosphere for young scientists.

Dubrovnik, as a geographical centre of this region of Europe, provided a most adequate location for this conference. Having very agreeable surroundings, the conference site nevertheless gave a focus for very strong scientific interaction.

The subjects chosen for the 8th meeting, in September 2001, were gauge theories, particle phenomenology, string theories and cosmology.

We were able to bring together a very good cross section of outstanding scientists who gave extraorinarily good presentations. Certainely one reason for this success is that most of us feel obliged to help the scientific life in South East Europe return to its former level. However, there are very exciting new scientific developments as well.

Part of the meeting was dominated by neutrino physics which has just seen exciting progress by establishing neutrino masses experimentally. This was discussed within neutrino masses and grand unified theories (GUTs). General aspects of neutrino physics and CP violation, neutrino mixing and the bayron asymmetry were presented along the same lines.

On the theoretical side the idea of the construction of gauge theories on non-commutative spaces and their phenomenological implications is accepted worldwide within the particle physics community.

Both status of CP violation and heavy meason decay were discussed at a moment when the recent experimental results became available. A remarkable achievement of heavy quark physics in general and CP violation within the framework of heavy quark effective field theory (HQEFT) was made on the basis of nonperturbative QCD.

For an outlook on Large Hadron Collider (LHC) and the physics to be done there, the meeting took place at just the right time. We are especially proud that at this 8th Adriatic Meeting there were a number of representatives from huge experimental collaborations ranging from ATLAS and CMS at CERN to CLEO at Cornel. It is a pleasure to note here the excellent contact that was established with particle physicists from South America, in particular from Brazil.

Cosmology with its new estimate of dark matter was another subject of huge interest.

Finally, there was a number of extremely interesting presentations concerning the theoretical and experimental problems in: SUSY, magnetic monopoles in QCD, the perturbative QCD approach, hot matter in QCD and physics beyond the standard model at new accelerators.

All of this gave an impressive overview of the present activities and the progress in those areas of physics represented at the meeting. At the same time it created an active atmosphere which drew many of the young scientists into these fields.

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List of Contributors

Guido ALTARELLI
CERN, Geneva

Gilvan A. ALVES
Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro

Neven BILIĆ
Rudjer Bošković Institute, Zagreb

Loriano BONORA
SISSA, Trieste

Wilfried BUCHMULLER
DESY, Hamburg

Daniel DENEGRI
CERN, Geneva

N. G. DESHPANDE
University of Oregon, Eugene

John ELLIS
CERN, Geneva

Yitzhak FRISHMAN
Weizmann Institute, Rehovot

Harald GROSSE
University of Vienna

Roman JACKIW
MIT, Cambridge

Konrad KLEINKNECHT
Johannes-Gutenberg Universitaet, Mainz

Antonio MASIERO
SISSA, Trieste

Holger B. NIELSEN
Niels Bohr Institute, Copenhagen

Sandip PAKVASA
University of Hawaii, Honolulu

Yoram ROZEN
Technion, Haifa

Paolo SALUCCI
SISSA, Trieste

A. I. SANDA
Nagoya University

Helmut SATZ
University of Bielefeld

Peter SCHUPP
University of Munich

Dmitry SHIRKOV
Bogoliubov Lab at JINR, Dubna

Nikolaos G. STEFANIS
Ruhr-University Bochum

Claudio VERZEGNASSI
University of Trieste

Roland WALDI
University of Rostock

Julius WESS
University of Munich

Valentine ZAKHAROV
Max-Planck Institute, Munich