

INTERNATIONAL SCHOOL OF SUBNUCLEAR PHYSICS

22nd Course: *QUARKS, LEPTONS, AND THEIR CONSTITUENTS*

ERICE-TRAPANI-SICILY: 5-15 AUGUST 1984

Sponsored by the:

- European Physical Society • Italian Ministry of Education
- Italian Ministry of Scientific and Technological Research
- Sicilian Regional Government • Weizmann Institute of Science

PROGRAMME AND LECTURERS

OPENING LECTURE

The end of a myth: high- p_T physics.

- A. ZICHICHI, CERN, Geneva, Switzerland

THEORETICAL LECTURES

Supergravity at the Fermi scale.

- S. FERRARA, CERN, Geneva, Switzerland

Unified theories in more than four dimensions.

- P. VAN NIEUWENHUIZEN, SUNY, Stony Brook, NY, USA

Topological aspects of QCD (monopoles, skyrmions, etc.).

- C. CALLAN, Princeton University, Princeton, NJ, USA

What is inside quarks and leptons?

- H. FRITZSCH, MPI, Munich, FRG

Quark masses and chiral symmetry.

- H. LEUTWYLER, University of Berne, Berne, Switzerland

Recent developments in lattice QCD.

- P. HASENFRATZ, CERN, Geneva, Switzerland

SEMINARS ON SPECIALIZED TOPICS

The Einstein-Podolski-Rosen paradox without Bell's inequalities.

- O. PICCIONI, University of California, San Diego, La Jolla, CA, USA

Radiative J/ψ decays.

- C. HEUSCH, University of California, Santa Cruz, CA, USA

Stochastic cooling.

- S. VAN DER MEER, CERN, Geneva, Switzerland

A detector for very high energy (e^+e^-) and ($p\bar{p}$) accelerators.

- S.C.C. TING, DESY, Hamburg, FRG, and MIT, Cambridge, MA, USA

REVIEW LECTURES

Status of nucleon stability.

- M. KOSHIBA, University of Tokyo, Tokyo, Japan

QCD in (e^+e^-) and ($p\bar{p}$) physics.

- A. ALI, DESY, Hamburg, FRG

Recent results in (e^+e^-) interactions.

- J. BRANSON, MIT, Cambridge, MA, USA

The glueball of QCD and beyond.

- S.J. LINDENBAUM, BNL, Upton, and City College, New York, NY, USA

Toponium physics.

- A. MARTIN, CERN, Geneva, Switzerland

Electroweak physics at the CERN $p\bar{p}$ Collider.

- L. DI LELLA, CERN, Geneva, Switzerland

New flavours.

- A. ZICHICHI, CERN, Geneva, Switzerland

THE GLORIOUS DAYS OF PHYSICS

- P.A.M. DIRAC, Florida State University, Tallahassee, Fla., USA

- G.C. WICK, Scuola Normale Superiore, Pisa, Italy

- E.P. WIGNER, Princeton University, Princeton, NJ, USA

CLOSING LECTURE

- P.A.M. DIRAC, Florida State University, Tallahassee, Fla., USA

PURPOSE OF THE SCHOOL

In spite of the spectacular results obtained in recent times, subnuclear physics is still far from reaching the asymptotic limit of a field without a future. This is testified to by the large number of problems which open up at a rate at least comparable with that of new results.

This year's programme is devoted to a review of the most significant results in theoretical and experimental research work during the last twelve months.

POETIC TOUCH

According to a legend, Erice, son of Venus, founded a small town on top of a mountain (750 metres above sea level) more than three thousand years ago.

Homer (~1,000 B.C.), Theocritus (~300 B.C.), Polybius (~200 B.C.), Virgil (~50 B.C.), Horace (~20 B.C.), and others, have celebrated this magnificent spot in Sicily in their poems. Among the sights there, the castle of Venus and the Cyclopean Walls can be admired. Other masterpieces of ancient Greek civilization, such as Motya, Segesta and Selinunte, are to be found in the neighbourhood. On the Aegadian Islands, which can be reached by cable car plus hydrofoil boat in about two hours, there are prehistoric murals in the famous grotto of Levanzo, the Grotte Marine of Marettimo, and the recently discovered paleolithic grottoes of Favignana. There are splendid beaches, the farthest about 40 minutes' drive from Erice, at San Vito Lo Capo, Scopello, and Cornino, and wild beaches around Monte Cofano.

Participation by invitation only

SPECIAL SCHOLARSHIPS

The following special scholarships have been established in honour of, and named after, the late physicists

PATRICK M.S. BLACKETT JAMES CHADWICK AMOS DE-SHALIT VLADIMIR JURGO GLASER
GUNNAR KÄLLEN ANDRÉ LAGARRIGUE GIULIO RACAH JUN JOHN SAKURAI

These scholarships cover registration fees and full board and lodging in Erice.

• **PLEASE NOTE** that the special scholarships as well as any other form of financial support will be awarded in consultation with the Board of Lecturers at the end of the Course, in order to allow a more direct judgement of all the applicants.

Participants must be in Erice on 5 August, not later than 5 p.m.