

SEVENTH NATIONAL SYMPOSIUM ON FRONTIERS IN PHYSICS

19-21 NOVEMBER 1998

EDITORS:

**G. MURTAZA
ZAHOOR AHMAD**

SPONSORS:

**Dr. A.Q. Khan Research Laboratories
Pakistan Atomic Energy Commission
Pakistan Science Foundation
Quaid-i-Azam University
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Management & Training Services Division
Commonwealth Secretariat, London**



**PAKISTAN PHYSICAL SOCIETY
QUAID-I-AZAM UNIVERSITY**



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PREFACE

It is a pleasure to announce the publication of the proceedings of the **Seventh National Symposium on Frontiers in Physics** held from **19th to 21st November 1998** at the Department of Physics, Quaid-i-Azam University, Islamabad. These proceedings like its predecessors cover a wide spectrum of Physics such as Atomic & Molecular Physics, Nuclear Physics, High Energy Physics, Astrophysics, Plasma Physics, Laser Physics and Condensed Matter Physics. Invited lectures were delivered by some eminent physicists of Pakistan. Seminars highlighting research contributions by individual physicists were also given. It is unfortunate that all the speakers could not provide the write-up of their contributions.

The aim of this Symposium as of others in the series was to bring the physics community of Pakistan together so as to share knowledge about the latest developments in different areas of physics as well as information on one's personal research achievements. The Symposium was attended by about 200 participants from all over Pakistan representing universities, Dr. A. Q. Khan Research Laboratories, Pakistan Atomic Energy Commission, Pakistan Council for Scientific and Industrial Research, Center of Excellence for Solid State Physics, National Institute of Electronics and National Institute of Silicon Technology.

We are thankful to the Sponsors of the Symposium – Dr. A. Q. Khan Research Laboratories, Pakistan Atomic Energy Commission, Pakistan Science Foundation, Quaid-i-Azam University, University Grants Commission and Management & Training Services Division, Commonwealth Secretariat, London, without whose generous support this academic activity would not have been possible. Thanks are also due to many colleagues and research students who gave a helping hand in the completing this task.

Finally, a word of apology for the extraordinary delay in bringing out these proceedings. And we hope the contributors will forgive us for any inconvenience caused to them.

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May, 2001

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