



**PROCEEDINGS
OF THE ELEVENTH
NATIONAL SYMPOSIUM
ON FRONTIERS IN
PHYSICS**

29-31 January 2009

Editors:

G. Murtaza, H.A. Shah

Sponsors:

National Centre for Physics, Islamabad

Pakistan Academy of Sciences, Islamabad

COMSATS Institute of Science & Technology, Islamabad



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Preface

It is a great pleasure to announce the publication of the Proceedings of the **Eleventh National Symposium on Frontiers in Physics** held at Government College University, Lahore from **29-31 January 2009**. These Proceedings cover a wide spectrum of Physics areas such as Condensed Matter Physics, Nuclear and High Energy Physics, Laser, Atomic & Molecular Physics, Quantum Optics/Lasers, Plasma Physics and Cosmology. The Symposium was jointly organized by the National Centre for Physics, Pakistan Physical Society and the GC University Lahore.

The aim of this Symposium as of the 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 about individual research achievements. The Symposium was attended by over 200 registered participants from all over Pakistan representing several universities and R & D organizations. Invited lectures were delivered by eminent physicists of the country. Seminars highlighting research contributions by individual physicists were also given. A special session was held on January 29 – Salam's birthday in which the contributions of Professor Abdus Salam were highlighted.

We take this opportunity to thank the sponsors of the Symposium – National Centre for Physics, Pakistan Academy of Sciences and COMSATS Institute of Science and Technology, without whose generous support this academic activity would not have been possible. We also acknowledge contributions from various private enterprises.

Dr. Pervez Hoodbhoy gave the inaugural lecture while Prof. Riazuddin was the Chief Guest at the opening Ceremony. Dr. Khalid Aftab, the Vice Chancellor presided the Ceremony.

This is the fourth consecutive time that the Symposium on Frontiers in Physics has been held at Government College University, Lahore and we are thankful to the Vice Chancellor for his enthusiastic support.

G. Murtaza
Salam Chair
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