

Foreword

In the second half of this year *Acta Physica Polonica A* (APP A) is publishing its consecutive volume marked by the round number of **100**. Of course, it has nothing to do with the hundred years of *Acta Physica Polonica* (APP) itself, although as you will find in the brief historical sketch “The first 50 years of *Acta Physica Polonica*” by Wiesław Czyż (for two decades the Editor of APP and at present the Honorary Editor of *Acta Physica Polonica B*) we are not that far from celebration of the centenary.

The publication of volume **100** of APP A comes by the end of the first year of XXI century, which as many physicists believe may change the physical concepts and understanding of nature (in all its scales — from the Universe to subatomic) — and (by the same token) thus should change our technologies, devices and everyday life of our society. Such changes are signalled very clearly by the development of new concepts in quantum mechanics, which have almost immediate impact on the development of new fields (e.g. quantum information, quantum computing, etc.) and new practical technologies and devices (electronic, spintronic and optoelectronic solid state low-dimensional structures, e.g. quantum wells, dots, etc.).

Many of these new concepts and newly-developing fields of research and technologies are within the scopes of *Acta Physica Polonica A*. The Editorial Committee recognized the edition of volume **100** as an important and special event in the activities of our journal and has taken the opportunity to commemorate this event by the publication of special **Supplement to volume 100**. It contains original research papers and review articles treating about the most actual and frontier topics covered by the APP A. Thanks to the effort of the Authors who had responded to our invitation to participate in this initiative we can present this **Supplement** to our Readers.

Warsaw, December 2001

J. Prochorow, Editor