

# **Progress Report**

**1997-1999**

**Department of Physics  
Comisión Nacional de Energía Atómica**

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Buenos Aires – Argentina  
2000

## Introduction

This report describes the activities of the Physics Department for the three-year period 1997-99. It includes basic and applied research, both experimental and theoretical, in areas of nuclear and condensed matter physics and solar energy, technical developments, services and teaching activities at all levels. Other areas of interest are chaos, complex systems, high-Tc superconductivity, astrophysics, intermediate energies and surface physics.

The Department maintains strong research ties with the international scientific community and a great part of its research is conducted in collaboration with scientists from all over the world. It is worthwhile to mention the participation of several of our staff researchers in the Pierre Auger Project, an international project involving scientists from many countries, led by Dr. James W. Cronin. Its objective is the installation of two observatories for studying the highest-energy cosmic rays observed on earth, one in the United States and the other in Argentina. Other experimental research activities are carried out at the National Laboratory of Legnaro, Italy, in themes of nuclear spectroscopy and reactions, at the Physics Department of Chile University in X-ray diffraction, at the National Laboratory of Synchrotron Radiation, Brazil, in condensed matter and at the LAMEL Institute, Italy, in the development of solar cells and gas sensors.

We also collaborate with many other argentine scientific groups. An important highlight was the design and construction of solar cells incorporated to the argentine satellite SAC-A, launched in December 1998.

Several of our researchers work in the development and application of high-precision nuclear techniques useful in other scientific disciplines and a relevant contribution is made in the framework of interdisciplinary groups.

The Department maintains its strong involvement in teaching programs at all levels both encouraging formal teaching by its staff at local universities and engaging in activities of its own. Many graduate and undergraduate theses are conducted in its laboratories.

Besides the support from the Argentine Atomic Energy Commission (CNEA), we wish to acknowledge the essential support from other agencies and institutions, Fundación Antorchas, the Argentine National Research Council (CONICET), the Argentine National Agency for Science and Technology and the International Centre for Theoretical Physics (ICTP), without which the normal functioning of the Department would have been impossible. I want to thank the commitment of all the staff for maintaining a good level of scientific activity, in spite of the very difficult budgetary situation. Finally the efforts of the editors of this progress report, Drs. Elena Godfrin and Rubén Weht, are greatly appreciated.

María Cristina Cambiaggio  
March 2000