Topics:
- From the atom to the stars: astrophysics at school. Some educational considerations about an astrophysical laboratory for undergraduate students in Italy
- A proposal about Rutherford Backscattering Spectrometry for a second level master in Physics Education
- Physics of high-energy particle detectors
- On the Track of Modern Physics
- Supercomet – superconductivity made easy
- Schools coming to Science Centres

DWD TITLE:
PHYSICS RESEARCH COMING INTO SCHOOL

Leader and reporter: G. Karwasz

University Nicolaus Copernicus, Torun, Poland


1 Dipartimento di Fisica, Universita' di Udine, Italy
2 Dipartimento di Fisica, Universita' di Udine, Italy
3 Istituto di Fisica Generale Applicata, Università degli Studi di Milano, Italy
4 Faculty of Education, University of Modena and Reggio Emilia, Italy
5 Simplicatus AS, Postboks 27, Løvenstad, Norway
6 Institute of Physics, Pomeranian Academy, Slupsk, Poland
7 Instytut Pedagogiki, Uniwersytet Gdanski, Gdansk, Poland
8 Institute of Fluid Flow Machine, Polish Academy of Sciences, IMP-PAN, Gdansk, Poland

1 INTRODUCTION
In many countries, this is for example the case of Poland, the shifting of intellectual interests towards “not-strictly-science” sciences leads to shrinkage of physics programmes in secondary schools. Obviously, it does not seem reasonable to eliminate from school programmes Galileo’s laws of kinematics or Newton’s laws of dynamics. At this point, teaching Physics risks to become a kind of “mental

---

a) Corresponding author’s email: karwasz@fizyka.umk.pl
exercise” – more as exemplification of mathematics than introducing into richness of problems of Physics itself.

A possible recipe for this dilemma is introducing element of “live”, i.e. Modern Physics. Several such examples arrive from Italian secondary (lyceum) school system.

The work in the DW “D” workshop Physics research in the classroom was greatly based on these examples.

The main contributions to the Workshop came from:

1) Davide Cenadelli and Antonella Testa from Università degli Studi di Milano on Astrophysics
2) Lorenzo Santi and Marisa Michelini from Università degli Studi di Udine on Physics of Elementary Particles
3) Federico Corni from Università degli Studi di Modena on Solid State Physics
4) Andrzej Karbowski, Grzegorz Osiński and Grzegorz Karwasz from Uniwersytet Mikołaja Kopernika, Toruń on Quantum Collisions and on Cosmology

In the discussion participants from Belgium, Bosnia and Herzegovina, Norway, Poland, Italy took part. In addition to the scientific and didactical matters, the need for exchanging practical information (what kind of equipment, which are the ways of funding) was stressed in the discussion. Finally, we also presented the outcomes of two EU projects developed on Modern Physics [6] and on Superconductivity [7] and Polish Programme on Science Centres.

REFERENCES
Frontiers of Physics Education

GIREP - EPEC Conference 2007
Selected Contributions
FRONTIERS OF PHYSICS EDUCATION
Selected Contributions

GIREP - EPEC Conference
26 - 31 August, 2007, Opatija, Croatia

4th GIRED Seminar
2nd European Physics Education Conference

EDITORS
Rajka Jurdana-Šepić, Velimir Labinac, Marta Žuvić-Butorac, Ana Sušac

Society “Golden section” Rijeka, Croatia
August, 2008
GIREP EPEC Conference Frontiers of Physics Education (2007; Opatija) Selected contributions/
ISBN 978-953-55066-1-4
I. Nastava fizike -- Metodika – Zbornik
111221049

To order this book, please send e-mail to: zlatnirez@zlatnirez.hr