

Institutul de Fizică Atomică



Programme europèen:

- EURATOM-FU, Fisiune & F4E
 - România-CERN
 - Parteneriatul IFA-CEA

Promovare științifică și acțiuni suport

Acordarea de distinctii:

- Medalia IFA pentru contribuții la dezvoltarea și promovarea fizicii
 - Premiul IFA pentru rezultate la olimpiade internationale de fizică



Seminar



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ECFA and perspectives of the particle physics in the world

Calin ALEXA
ECFA secretary, IFIN-HH, Bucharest, Romania

The European Committee for Future Accelerators (ECFA) was founded in 1963 with the view to monitoring and supporting the development of particle physics in the CERN member countries through regular visits.
This presentation aims to provide you insight into the mission of the Committee and its recent activities.
The involvement of ECFA has played an important role in the development and the approval of the Update of the European Strategy for Particle Physics by CERN Council in its special Strategy Session in Brussels in May 2013.
The European Strategy takes into account the worldwide particle physics landscape and developments in related fields.

Symposium



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Achievements and prospects of Romania's participation in CERN experiments

Romanian teams participating in ALICE, ATLAS, LHCb, WLCG, ISOLDE, n_TOF and DIRAC experiments at CERN will present the main results obtained in the last year and the perspectives on future collaboration within the framework coordinated by IFIN-HH and ISS and financed by the Ministry of National Education - Institute of Atomic Physics under the Romania-CERN Programmes.

The session is held on the occasion of the annual meeting of the International Scientific Advisory Board (ISAB), the body

Seminar



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Despre proprietatea intelectuală – inventatori, titulari, beneficiari

Ana Maria ANDRONIC
Biru Goran SCA, București

Ioan TOTU
Universitatea Transilvania, Brașov

Calea tradițională de transfer al cunoștințelor înțelepte care mediul socio-economic – publicărie și formarea resurselor umane – sunt în mare parte uni-directionale, mediul științific neobținând vreun beneficiu financiar direct. O treia cale, bi-directională, către tot mai mult tehnici în pările avansate proprietatea intelectuală invitați noștri, experti în domeniul

Seminar



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New features of the Surface Enhanced Raman Scattering effect

Dr. Ioan Baltog
National Institute for Materials Physics

• New features of the Surface Enhanced Raman Scattering (SERS) effect generated by plasmon assistance:
 i) similar to a stimulated Raman process in the Stokes branch and
 ii) similar to a single-beam Coherent anti-Stokes Raman Scattering (CARS) effect in the anti-Stokes branch.

• New features of the Raman spectra of single-walled carbon nanotubes highly separated in semiconducting (99%) and metallic (9%) components.
 Regardless of whether on- or off-resonant optical excitation is used, only the

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PULSE and IMPULSE of ELI (Extreme Light Infrastructure)

VII: COUPLING of (ULTRA-) RELATIVISTIC ATOMIC NUCLEI with PHOTONS

M. APOSTOL
Horia Hulubei National Institute of Physics and Nuclear Engineering, Magurele-Bucharest

The coupling of photons with ultra-relativistic atomic nuclei is presented in two particular circumstances: very high electromagnetic fields and very short photon pulses. We consider a typical situation where the bare nuclei (fully stripped of electrons) are accelerated to energies – T_{rel} per nucleon (according to the state of the art at LHC, for instance) and photon sources like petawatt lasers – Γ_{el} -radiation (envisaged by the ELI project, for instance), or free-electron lasers (FEL), operating in the GeV range. The coupling can be achieved with the help of the laser field, which can be attained with very high field intensities. In particular, we analyze the nuclear transitions induced by the radiation, including both one- and two-photon processes, as well as the polarization-driven transitions which lead to quasi-deep resonance. The nuclear electrodynamic interaction concept is introduced. It is shown that the perturbation theory for the nuclear transitions is appropriate only if the field intensity is high, since the corresponding interaction energy is low and the interaction time (pulse duration) is short. It is also shown that the description of the giant nuclear dipole resonance requires the dynamics of the nuclear electric polarizability degrees of freedom.



Sala de Consiliu, Bloc Turn, etaj 9

Martî 17 Decembrie 2013, ora 11⁰⁰