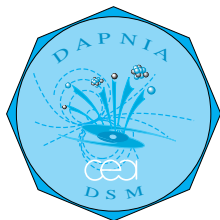


# Service de Physique Nucléaire



## Séminaire

le vendredi 23 juin 2006 à 11H

CEA Saclay, Orme des Merisiers, Bât. 703, Salle 135

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### **Radiative corrections to electron-proton scattering and the crossed process: the role of two-photon exchange**

Eduard A. Kuraev

(JINR-BLTP, Dubna)

Much attention was recently devoted to the solution of the problem of the discrepancy between the ratio of the proton electromagnetic form factors extracted from (quasi)elastic unpolarized and polarized electron-proton scattering experiments (SLAC and Jefferson Laboratory). It is shown that the calculation of radiative corrections based on the structure functions method can bring the results in agreement. The role of the two-photon exchange amplitude turns out to be negligible. Nevertheless, the two-photon exchange mechanism is interesting by itself (it can be described in terms of virtual photon-proton Compton scattering amplitude as well) and it can be measured in electron-proton and positron-proton scattering experiments. The relevant asymmetry is calculated in an analytical model, based on exploring the analytical properties of the Compton amplitude. The annihilation channel (the crossed process) will be also discussed.

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*Le café sera servi 10 minutes avant*

Contact : [msoyeur@cea.fr](mailto:msoyeur@cea.fr) Tel : 01 69 08 70 07  
<http://www-dapnia.cea.fr/Seminaires/>