

PARTICLES  
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XIII INTERNATIONAL  
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Perugia ( Italy )  
28 June - 2 July 1993

BOOK OF ABSTRACT  
VOL. II

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**Production of a positron and a bound electron by high-energy photon in a strong Coulomb field.**

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The cross section of  $e^+e^-$  pair creation by a high-energy photon with capture of the produced  $e^-$  in arbitrary bound state of arising hydrogen-like atom is found using the quasiclassical approach with exact regard for a Coulomb field. Formulae are essentially simplified for large quantum numbers of the bound state. That permits us to find the total cross section of the process.

## The ROKK-1M facility at the VEPP-4M collider.

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The ROKK-1M facility (Russian abbr. means Backward Scattered Compton Quanta) now is ready to start the experimental program which includes: calibration of the energy scale of the electron energy tagging system of KEDR detector (with the accuracy about of 0.2% of the collider operation energy); real-time measurement of the electron (positron) beam radiation polarization with 10% accuracy and 30 s measurement cycle; it is also supposed to use this facility as an intensive source of the polarized monochromatic gamma quanta in 100 — 1600 MeV energy range for the photonuclear physics experiments.