

# Development of two-photon event generators for the KEDR experiment

Tuesday, 11 October 2016 15:15 (30)

The KEDR experiment is dedicated to a study of c- and b-quarks and the two-photon physics at the  $e^+e^-$  collider VEPP-4M in the Budker Institute of Nuclear Physics. Since 2002 the KEDR detector has been collecting data in the energy range  $2E \simeq 1.8 \div 4$  GeV. The main collection of data for the study of  $\gamma\gamma$  physics is planned in the next few years, after increasing VEPP-4M energy. The detector is equipped with a special system to tag scattered electrons from  $\gamma\gamma$  processes. The system detects electrons corresponding to small  $Q_i^2$  of virtual photons. It has a high detection efficiency and good invariant  $\gamma\gamma$  mass resolution. To analyze the  $2\gamma$  data and estimate contribution of two-photon background events in the  $1\gamma$  data samples, the event generators  $e^+e^- \rightarrow e^+e^- + \text{hadrons}$ ,  $e^+e^- \rightarrow e^+e^- + \pi^+\pi^-$ , and  $e^+e^- \rightarrow e^+e^- + \text{PS}$  have been developed. The generator of pseudoscalar resonances production  $e^+e^- \rightarrow e^+e^- + \text{PS}$  has the option of taking into account radiative corrections in the mode with a single tagging.

**Primary author(s) :** Dr. TAYURSKY, Valeri (Budker INP, Novosibirsk)

**Presenter(s) :** Dr. TAYURSKY, Valeri (Budker INP, Novosibirsk)

**Session Classification :** Poster session - II

**Track Classification :** Methods of experimental physics