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Monte-Carlo simulation of lepton pair production in ”p pbar −> e+e− + X” events at PANDA

Tuesday, 17 September 2013 15:30 (30 minutes)

The lepton pair production process in collisions of antiproton beam (E_beam = 15 GeV) with proton target in PANDA experiment is
studied on the basis of event samples simulated with PYTHIA6 generator and PandaRoot package. The considered quark level subprocesses goes through the production of virtual photon which converts into the lepton pair (q qbar −> gamma* −> e+e-). Such
quark-antiquark annihilation process of hadron-hadron collision may provide an interesting information about the quark dynamics
inside the hadron.
The distributions of different kinematical variables of final leptons, as well as their correlations and comparison at fast and full simulation level, will be presented. The problems of the background separation will be discussed. The set of cuts which could help to supress the background will be proposed.

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Session Classification: Talks and Discussions