CERN-BINP workshop for young scientists in e+e- colliders



Contribution ID: 41

Type: not specified

The liquid Xenon barrel calorimeter of the CMD-3 detector

Monday 22 August 2016 18:40 (20 minutes)

ABSTRACT: The barrel calorimeter of CMD-3 detector consists of two subsystems, one of them being the internal calorimeter on the base of liquid xenon. The LXe-calorimeter consists of 14 layers of cylindrical ionization chambers with anode and cathode readout and allows one to measure precisely the coordinates of the point of the conversion of photon to an electron-positron pair. Another opportunity provided by LXe is a separation of kaons and pions using the information about ionization losses dE/dx in the LXe. In this report it will be shown that whereas the CMD-3's drift chamber allows one to separate single kaons and pions up to the momenta of particles of 450-500 MeV/c, LXe calorimeter allows to separate kaons and pions at momenta up to ~700 MeV/c, that is of particularly importance in studying of the K^{+}K^{-}\pi^{0} and K^{+}K^{-}\pi^{0}\pi^{0} final states.

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Track Classification: Detector design and technologies