



Contribution ID: 69

Type: Poster

Barrel calorimeter of the CMD-3 detector

During 2010 year the CMD-3 detector has started to collect experimental data produced at e+e- collider VEPP-2000 at Budker Institute of Nuclear Physics.

CMD-3 is a general purpose detector designed to study of e+e-annihilation in to hadrons in the wide energy range, $\sqrt{s} = 0.3 : 2$ GeV. The barrel electromagnetic calorimeter of the detector consists of two subsystems: closest to the beam pipe barrel liquid xenon calorimeter and outer barrel calorimeter based on CsI scintillation crystals.

The LXe calorimeter contains 400 liters of LXe, covers solid angle $\sim 0.8 \times 4\pi$ and has a thickness equal to $5X_0$. The electrodes structure of calorimeter provides possibility to measure deposited energy, reconstruct tracks of charged particles and analyze the deposited energy distribution in the calorimeter volume.

The CsI calorimeter consists of 8 octants, located around the LXe calorimeter, and contains 1152 counters. Each counter is based on CSI(Tl) or CsI(Na) crystals of $6 \times 6 \times 15$ cm³ size that corresponds to $8X_0$ for transverse to beam direction.

The total thickness of barrel calorimeter is equal to $13X_0$. The measured spatial resolution for cosmic muons tracks is about 1.5 mm. The measured energy resolution for 1 GeV electrons is about 4%. Obtained resolutions are close to designed values. The design of calorimeter and its current performance are presented in report.

quote your primary experiment

CMD-3

Author: MIKHAILOV, Kirill (B)

Presenter: MIKHAILOV, Kirill (B)

Track Classification: Calorimeters