

## TEST BEAM-2003

A major job of the test beam is maintenance and providing a beam test in this year. The beam test of BES-III-TOF prototype is complied second phase test before the BEPC summer end. Also, the Test Beam has checked and accepted in the end of this year.

A brief of E3-Test Beam facility on the BEPC-LINAC (Beijing) is follow.

The E3 test beam is a secondary beam, also is the unseparated beams. A major particle composition is determined by the choice of the target.

Electron: Compound target (tungsten and carbon): copper.

Hadrons (pion, proton): beryllium; carbon.

A collimator list upstream of the D2 magnet determines the size of the E3 test beam and width of the momentum. Now the list is about 30mm. On several momentums, the momentum width of the electron of E3 beam is following table.

Centre Momentums ( $P_0$ : MeV/c)	FWHM (MeV/c)
400	16
600	18
800	22

The specifications of E3 Test Beam (The Test Beam of an unseparated beams):

Primary beam from BEPC-LINAC 1.1-1.5GeV e from BEPC-LINAC

Particle types of secondary beam e,  $\pi$ , p

Momentum:  $\frac{\Delta P}{P} \leq 1\%$

electron, 200MeV/c-1.2GeV/c (currently 1.1GeV/c)

pion 400MeV/c-800MeV/c

proton 500MeV/c-800MeV/c

Position resolution 200-400 $\mu$ m

Repeat rate 0.5-2Hz (will be higher on the BEPCII-LINAC)

### Beam counters:

The E3 test beam setup is shown in figure 1. The beam is defined by a coincidence of the scintillation counters S1 and S2, also the multiwire proportional chambers M1(MWPC1) and M2(MWPC2) participate in the coincidence. The size of S1 and S2 is 3cm $\times$ 3cm or 5cm $\times$ 6cm. The cathode-introduced readout was applied on the MWPC. The strip-width is 4.2mm and its sensitive area is 50mm $\times$ 50mm. The MWPC provide the position measurement and also as energy loss measurement to identify double particles and background electrons. The gas Cherenkov counter is in the beam line for particle identification. It was used as a coincidence or a veto to selected an electron or pion (muon).