Semiconductor Vertex Detectors for Elementary Particle Physics

Akimasa Ishikawa 1 (Tohoku Univ.)

Keywords: semiconductor, radiation, detector

In the experimental elementary particle physics, measuring the properties of produced elementary particles are performed by identifying the particle species. To identify the particles, lifetimes of the particles are used. The bottom quark and charm quark have relatively short lifetimes and decay with the flight length of about 100um from production vertex. The particles are identified by measuring the tracks of charged particles decaying from the quark precisely and reconstructing the decay vertex position. To measure the vertex position, precise semiconductor detector is used. In this talk, semiconductor vertex detectors proposed for the ILC will be given.