Fr

14.5o

Tests of gas mixtures for operating drift chambers in limited streamer mode over drift distances up to 10 cms.

E. Daubie, F. Defontaine, F. Grard, J. Kesteman, O. Pingot, C. Poiret, Université de l'Etat, Mons, Belgium.
L. Etienne, W. Van Doninck, Inter University Institute for High Energies, U.L.B.-V.U.B., Brussels, Belgium.

We present the results of systematic tests of drift chambers operated in the limited streamer mode over drift distances up to 10 cms.

In order to find the best suitable gas mixture ensuring efficient operation, we have performed a detailed comparison between the streamer mode of operation and the proportional one concerning detection efficiency and rate capability. The influence of the primary ionization and of the diffusion on the streamer performances together with the afterpulses problem are also discussed.

Fr

15.15

A STRIP CHAMBER USING TETRAMETHYLSILANE

J. Engler, H. Keim and C. Müller

A new type of position sensitive chamber is presented. It is an ionization chamber using strip electrodes, and working with the room-temperature liquid tetramethylsilane (TMS). The test chamber consists of 3 layers with a strip pitch of 1 mm and inclined orientations of 60 degrees. Its resolution was measured in an electron beam to be around 300 μm rms. Final limitations in space and time resolution, e.g. due to amplifier noise and diffusion, are discussed.

Liquid ionization chambers offer advantages in fields of high radiation background and are rather insensitive against radiation damage.