Wed 11.30

Examples of calculations for gaseous detectors

R. Veenhof

Nikhef, Amsterdam, The Netherlands

I would like to present the physical and mathematical background to some calculations for gaseous detectors done over the last year. The related measurements are hopefully presented at this conference: (1) a study and optimisation of the resolution of the Atlas muon tubes, (2) the effect of space charge on the r(t) relations of these tubes, (3) the coupled movement of several wires in a RICH proposed for Alice, (4) drift properties and avalanche development in GEM foils, (5) diffusion studies in Micromegas detectors. These calculations were done with the help of a series of computer programs (Magboltz, Heed, Maxwell), interfaced with Garfield which in the process has considerably been modified and extended.