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Further Report on the Beam-Induced Backgrounds in the H1 Detector

H1 background working group

V. Andreev, W. Bartel, J. Bracinik, A. Buniatian, E. Elsen, R. Felst, J. Ferencei, P. Fleischmann, J. Gayler, K. Gadow, S. Gorbounov, T. Greenshaw, H. Henschel, M. Kapishin, M. Klein, C. Kleinwort, P. Kostka, J. Kretzschmar, V. Lendermann, S. Levonian, B. List, R. Lopez-Fernandez, L. Lytkin, N. Malden, T. Naumann, C. Niebuhr, M. Nozicka, D. Pitzl, E. Rizvi, J. Schaffran, A. Schöning, H.-C. Schultz-Coulon, A. Specka, R. Stamen, F. Tomasz, I. Tsurin, P. Van Mechelen, K. Wacker.

Abstract

HERA running in the last quarter of 2002 is described, as is the developing understanding of the beam-induced backgrounds in the H1 detector. Comparisons are presented of the sensitivity of H1 to proton-induced background before and after the luminosity upgrade as well as of the residual gas composition and pressure in the H1 vacuum chamber. The backgrounds in the H1 central chambers are discussed and their dependence on the HERA beam currents and running conditions investigated. Various studies are described which were designed to localise the source of the positron beam induced outgassing responsible for the poor vacuum during HERA operation. Finally, proposed further studies and measures designed to combat the H1 background problems are presented.