

Nuclotron Extracted Beam Diagnostics

V. Andreev, V. Gorchenko, I. Issinsky, A. Kirichenko, A. Kovalenko,
D. Krusinsky, I. Kulikov, L. Leonov, V. Mikhailov, S. Novikov,
L. Ondris, S. Romanov, P. Rukoyatkin, V. Seleznev, B. Sveshnikov,
A. Tsarenkov, B. Vasilishin, M. Voevodin, V. Volkov

Joint Institute for Nuclear Research, 141980, Dubna, Russia

Abstract

The first experiments with the Nuclotron Beam Slow Extraction System (BES) were carried out in 1999-2001. The Nuclotron Control System (NCS) provided an efficient support for the BES operation during all runs. The dedicated beam diagnostics subsystem for BES integrated into the NCS is described. The beam monitors are required to cover an intensity range from $10E03$ pps (particles per second) to $10E11$ pps. To meet this requirement, several types of detectors are used for beam diagnostics: multi-wire proportional chambers, plane parallel ionization chambers, scintillation counters, fluorescent screen monitors. The subsystem hardware infrastructure consists of data links, front end industrial computers, acquisition and control modules in PC standard.