

Bunch by Bunch Precision Measurement of Fast Extraction Efficiency at IHEP 70 GeV Proton Synchrotron, A.G. AFONIN, YU.I. BARDIK, A.I. SHESTOPALOV, V.I. TEREKHOV - In the course of upgrading the IHEP extraction system, we are developing diagnostic tool aimed at increasing an accuracy of measuring the extraction efficiency on a bunch by bunch basis. The task is solved by using a single Beam Current Transformer, mounted in front of the exit window of the accelerator beam pipe so that it envelops both the circulating and ejected beams. Readings of the bunches intensities taken sequentially before and during the extraction allow one to calculate efficiencies for each bunch and overall. This paper describes the main components of the diagnostic tool and gives errors analysis.