

A Feedback System to Control the Flux during Ultra Slow Extraction at LEAR, S. JACOBSEN, G. MOLINARI, H. MULDER, CERN - Prior to the introduction of extraction flux feedback, the spill intensity on LEAR was controlled by a feed-forward system. Apart from the tedious adjustment procedure, this system could not react to variations in the beam conditions. In particular, density variations induced by instabilities of the stack would cause large intensity fluctuations in the extracted beam, thus reducing its usefulness for particle physics experiments. The new extraction flux feedback option has been operational since the start of the 1995 physics run. Particularly at 200 MeV/c, the improved duty cycle has significantly increased the useful amount of extracted beam with respect to similar runs in 1994. In addition the system has a greater operational flexibility allowing a rapid response to changes in user requirements. The feedback controller is implemented at software level. The system layout is described and the feedback dynamics is discussed.