

STANDARDIZATION OF THE DELTA CONTROL SYSTEM

E. Kasel, Institute for Acceleratorphysics and Synchrotronradiation (IBS, DELTA); B. Keil, Institute for Acceleratorphysics and Synchrotronradiation (IBS, DELTA); A. Luedecke, Institute for Acceleratorphysics and Synchrotronradiation (IBS, DELTA); D. Schirmer, Institute for Acceleratorphysics and Synchrotronradiation (IBS, DELTA); D. Zimoch, Institute for Acceleratorphysics and Synchrotronradiation (IBS, DELTA)

DELTA, the 1.5 GeV electron storage ring facility of the University of Dortmund, dedicated as a driver for free electron laser as well as for synchrotron radiationbased experiments, has started routine operation in summer 1998. The complete facility consisting of a 80 MeV linac, a full energy booster and the main storage ring is controlled by a typical 3 level soft- and hardware architecture with a high level operator interface, a real time process level and a low I/O device control level. The core of this system is non standard hand-made, which was sufficient during the commissioning phase. Since January 1999 the small control group is working on the migration to the Experimental Physics and Industrial Control System (EPICS). This standard toolkit provides full support for all hard and software levels with a high degree of compatibility to other facilities. Apart from the basic functionality of EPICS, additional adaptations to DELTA specific components and specialized tools are under development. Furthermore, in order to guarantee intelligent and more automatic ways of controlling, DSP based fuzzy controller, neuronal networks as well as expert systems are in progress. This paper summarizes first results and experiences about the migration from an individual self-made control system to a standardization supported by EPICS.