

First Experiments Of The Digital Global Feedback In SRRC, C.H. KUO, K.T. HSU, C.J. WANG, K.T. PAN, Jenny Chen and Y.C. LIU, SRRC, Hsinchu, Taiwan, R.O.C - The digital global feedback is implemented to suppress orbit drift, low frequency beam motion as well as orbit perturbed due to insertion devices. Measured response matrix and singular value decomposition (SVD) techniques are applied in this experiment. The feedback controller is based on PID algorithm. Some digital filtering techniques are used to reduce noise of electron beam position, to compensate eddy current effect of vacuum chamber and to increase bandwidth of orbit feedback. The infrastructure of digital feedback system is composed of orbit acquisition system, gigabit fiber links, digital signal processing hardware and software, high precision digital-to-analog converters. The experimental results will be presented.