

The Control Performance of Elliptically Polarizing Undulator at SRRC, C.S. CHEN, J. CHEN, C.H. KUO, K.T. HSU, K.T. PAN, C.J. WANG, SRRC - Abstract There are two elliptically polarizing undulators (EPUs) with a period length of 56 mm at SRRC. One is a engineering prototype 1-meter-long EPU which is being installed for beam test. The other is a final version 4-meters-long EPU which will be installed in the end of this year. The requirements of the control performance are a fast polarization switch, good magnet gap control resolution for getting precise photon energy and synchronizing movement during changing gap and adjusting phase. There are four axes horizontal magnetic array to adjust phase position for EPUs. Due to magnet force, the adjacent and non-adjacent two axes will possess different effects during moving magnetic array. Residual field compensation mechanism function to provide to preclude the beam orbit from drift. For achieving a high performance, it should be fine tuned the proportional-integral-derivative (PID) parameters of the servo loop. The results will be reported in this paper.