

Beam Lifetime Investigation at SRRC, H.P. CHANG, C.C. KUO, M.H. WANG, SRRC, Hsinchu, Taiwan ROC; W.T. WENG, AGS Department, BNL - The beam lifetime of the 1.3 GeV storage ring TLS at SRRC was studied. The contributions of the gas scattering lifetime and Touschek scattering lifetime were measured and compared with the theoretical calculations. The effects of the insertion devices, RF energy acceptance, chromaticity setting, transverse emittance coupling strength, bunch length, bunch current, etc. on the beam lifetime were measured. It is confirmed with the design prediction that this machine is Touschek lifetime dominated provided that the transverse emittance coupling strength is low enough and bunch current is reasonably high. In the multibunch user mode it is required to have a larger lifetime, e.g., 8 hours at 200 mA, some possible actions to increase the beam life-time have been proposed and implemented.