

Lifetime Measurement of the ATF Damping Ring,
T. OKUGI, Tokyo Metropolitan University; K. KUBO,
T. NAITO, N. TERUNUMA, J. URAKAWA, KEK -
The ATF damping ring has been operated for developing
the technologies to produce a low emittance beam that
required in future linear colliders such as JLC. The beam
lifetime of the damping ring is very short (typically few
minutes) for the reason why the damping ring has the small
dynamic apperture, the strong intra-beam scattering, the
small momentum acceptance and so on. The main process
of beam lifetime in the ATF damping ring are elastic and in-
elastic beam-gas scattering and the Touschek effect which is
due to intra-beam scattering with momentum transfer into
the longitudinal plane that exceed the longitudinal
acceptance. The study of the beam lifetime for the ring with
the small emittance beam and the short Touschek beam
lifetime is in progress and we will report the result.