

Simulation Study of 3D Laser Cooling Schemes for Circulating Stored Beams, Y. IWASHITA, T. KIHARA, H. OKAMOTO, Kyoto Univ; A.M. SESSLER, J. WEI, BNL; K. OIDE, KEK - Molecular dynamics (MD) method is employed to study laser cooling of circulating stored beams in a storage ring. Various three-dimensional cooling methods are compared to examine achievable minimum beam temperature. In particular, the stress is put upon the three coupling schemes, i.e. the dispersion-coupling scheme, the coupling-cavity scheme, and the tapered cooling scheme. We demonstrate that beam temperature much lower than the currently available level can be obtained with these schemes.