

APR07-2006-000051

Abstract for an Invited Paper
for the APR07 Meeting of
the American Physical Society

Particle beam dynamics in the Optical Stochastic Cooling¹

SHYH-YUAN LEE, Indiana University

The longitudinal and transverse damping dynamics for the optical stochastic cooling (OSC) are studied. This talk will review the necessary condition for the beam bypass optics in the transit-time method, the requirement of the laser amplification factor, and the effect of laser bandwidth on damping rate. Current proposals for the OSC demonstration will be discussed. We will also explore possible applications of the OSC.

¹work supported in part by DOE DE-FG02-92ER40747 and NSF PHY-0552389