Joint DESY and University of Hamburg Accelerator Physics Seminar

Friday, December 15, 2006

(14:00 in Room 459/30b)

Tensorial Relation between linear and nonlinear lattice functions

Etienne Forest

KEK

Abstract

In this talk I study the connection between various approximate methods to compute equilibrium distributions. In particular I show the connection between the more exact beam envelope approach, the less exact Chao–integrals and finally the least exact Sands integrals. The connection between Chao and Sands can be derived in terms of the standard Ripken lattice functions and a new set of Ripken–like lattice functions which do not appear in Hamiltonian theory naturally and were thus absent in Gerhard Ripken's work. An infinite number of such connections exist in the nonlinear theory and can be used to solve for the equilibrium distribution of the Fokker–Planck equation in the Chao limit of small damping when the underlying symplectic system is a 3–tori integrable system. This talk and this work are dedicated to the memory of Dr. Gerhard Ripken.

NOTE THE UNUSUAL DATE AND TIME

D.P.Barber (MPY), S.Khan (Univ. HH), J.Roßbach (Univ. HH) and M.Vogt (MPY).

Visit our web site at `http://www-mpy.desy.de/AccPhySemDESY/`