

Abstract Submitted
for the DPP12 Meeting of
The American Physical Society

Adiabatic invariants of alpha particles in the presence of time dependent perturbations¹ B. HUANG, Y. NISHIMURA, C.Z. CHENG, National Cheng Kung University — Theoretical and numerical analysis is done for the fast particles in tokamaks in an analogy with the nonlinear pendulum with slowly changing string length (A.Einstein, Solvay Conference, 1912). The two important parameters are the ratio between mode frequency and bounce frequency ω/ω_b (change in string length versus pendulum frequency), as well as the perturbation amplitudes. Toroidal drift eigenmode structure is applied to the analysis.²

¹Work supported by Taiwan National Science Council (NSC) 100-2112-M-006-021-MY3.

²C.Z.Cheng, Phys. Fluids **25**, 1020 (1982).

Yasutaro Nishimura
National Cheng Kung University

Date submitted: 07 Sep 2012

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