

Abstract Submitted
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Effects of remaining magnetic islands in resonant magnetic perturbations C.C. CHANG, J.C. LU, Y. NISHIMURA, C.Z. CHENG, Institute of Space and Plasma Sciences, National Cheng Kung University — Effects of remaining magnetic islands in stochastic magnetic field is investigated. A guiding center orbit following code is employed.¹ The island remnants play an important role in characterizing the radial particle and heat transport. By increasing the trapped particle fraction, the transport level is reduced due to the conservation of second adiabatic invariants.² Three dimensional particle motion is projected onto one dimensional radial profile to compare with a 1D transport model. Furthermore, particle source is incorporated into the kinetic simulation to retain the global profile as in realistic tokamak discharge.³ This work is supported by National Science Council of Taiwan, NSC 100-2112-M-006-021, 103-2112-M-006-007, and NCKU Top University Project.

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²G. F. Chew, M. L. Goldberger, and F. E. Low, *Proc. Royal Soc. London A* **236**, 112 (1956).

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