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On transport barriers in a nontwist map model of a reversed magnetic shear tokamak with ergodic magnetic limiter ALEXANDER WURM, Dept. of Physical and Biological Sciences, Western New England College, KATHRIN FUCHSS, P.J. MORRISON, Institute for Fusion Studies and Department of Physics, The University of Texas at Austin — Recently, the magnetic field line structure of reversed magnetic shear tokamaks has been modeled by an area preserving nontwist map that includes non-integrable perturbations describing ergodic magnetic limiters.[1] An expansion around the equilibrium shearless curve (corresponding to the main transport barrier in the model) showed that the map is locally equivalent to the standard nontwist map with an additional perturbation due to the limiter.[2] We investigate the effect of this perturbation on the resilience of transport barriers and separatrix reconnection scenarios that have been studied extensively in the case of the standard nontwist map.

[1] K. Ullmann and I.L. Caldas, *Chaos, Solitons and Fractals*, **11**, 2129 (2000)

[2] J.S.E. Portala, I.L. Caldas, R.L. Viana, and P.J. Morrison, preprint (2005).

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