Destruction of transport barriers in a nontwist map model of a reversed magnetic shear tokamak with an ergodic magnetic limiter
ALEXANDER WURM, Dept. of Physical and Biological Sciences, Western New England College — 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] I report results of the investigation into the effect of the perturbation on the resilience of the shearless curve.

[1] K. Ullmann and I.L. Caldas, Chaos, Solitons and Fractals, **11**, 2129 (2000).
[2] J.S.E. Portela, I.L. Caldas, R.L. Viana, and P.J. Morrison, to appear in J. Bifur. Chaos (2007).

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