Breakup of shearless tori in the standard nontwist map KATHRIN
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standard nontwist map is a simple model for degenerate Hamiltonian systems that
describe, e.g., magnetic field lines in toroidal plasma devices with reversed magnetic
shear profile. As a numerically easily accessible system, this map can be used to gain
understanding of basic field line features, such as the breaking of transport barriers
represented by shearless invariant tori. Breakup of several sample tori with noble
winding numbers have been studied in the past.[1] Here, for a sequence of noble
tori, tori breakup is investigated systematically, in order to gain insight into how
the breakup of different tori are interrelated and whether the sequence can describe
the breakup of non noble tori as a limiting case.
— [1] D. Del-Castillo-Negrete, J. M. Greene, and P. J. Morrison, Physica D **100**, 311
(1997); A. Apte, A. Wurm, and P. J. Morrison, Physica D **200**, 47 (2005); K. Fuchss,
A. Wurm, A. Apte, and P. J. Morrison, preprint/submitted to Chaos (2006).

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Date submitted: 13 Jan 2006   Electronic form version 1.4