uniform approximation
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Exercises

Exercise 44.1 Uniform approximation to a symmetric cusp catastrophe. *Consider the case of a pitchfork bifurcation described by the normal form (44.4). Keep in mind that at the bifurcation point the two orbits that bifurcate off the single orbit have both the same action and amplitude. Derive the uniform approximation for this bifurcation, using the general procedure given in sect. 44.3 and the computations of integral (44.1) in sect. 44.1 for a cusp catastrophe.*

(Domenico Lippolis)