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Mechanical Systems on the 2-Torus : Extension of Results of Dias Carneiro and Applications to Arnold Diffusion in Two and a Half and Three Degrees of Freedom

Abstract

I will discuss properties of action-minimizing measures for autonomous systems on the 2-torus of the form kinetic energy + potential energy. The results that I will discuss extend results previously obtained by Dias Carneiro. They are a small part of my proof of the existence of Arnold diffusion in two and a half and three degrees of freedom.