Zeta functions, periodic trajectories, and the Conley index

Christopher McCord
Institute for Dynamics
Department of Mathematical Sciences
University of Cincinnati
Cincinnati, OH 45221-0025
mccord@cmccord.csm.uc.edu
and
Konstantin Mischaikow*
Center for Dynamical Systems and Nonlinear Studies
School of Mathematics
Georgia Institute of Technology
Atlanta, GA 30332-0001
mischaik@math.gatech.edu
and
Marian Mrozek†
Center for Dynamical Systems and Nonlinear Studies
School of Mathematics
Georgia Institute of Technology
Atlanta, GA 30332-0001

March 25, 1996

Abstract

We use the Conley index to produce a simple sufficient condition (stated in terms of the Betti numbers of the cohomology Conley index) for the existence of periodic orbits for flows which admit a cross-section.

*Research was supported in part by NSF Grants DMS-9101412 and DMS-9302970.

†Permanent Address: Instytut Informatyki, Uniwersytet Jagielloński, Kraków, Poland, e-mail: mrozek@ii.uj.edu.pl