

Title: Analytic Pseudo Rotations

Abstract:

We will construct transitive analytic symplectomorphisms of the sphere, the disk, and the cylinder with a finite number of periodic points. This disproves a conjecture of Birkhoff (1941) and solves problems posed by Birkhoff (1927), Herman (1998), Fayad-Katok (2004), and Fayad-Krikorian (2018).