Pierre BERGER

Title: Analytic pseudo-rotations

We construct analytic symplectomorphisms of the cylinder or the sphere with zero or exactly two periodic points and which are not conjugated to a rotation. In the case of the cylinder, we show that these symplectomorphisms can be chosen ergodic or to the contrary with local emergence of maximal order. In particular, this disproves a conjecture of Birkhoff (1941) and solves a problem of Herman (1998). One aspect of the proof provides a new approximation theorem, it enables in particular to implement the Anosov-Katok scheme in new analytic settings.