Pseudo-rotations vs. rotations

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The main theme of the talk is the symplectic topology and dynamics of Hamiltonian pseudo-rotations, i.e., Hamiltonian diffeomorphisms of a closed symplectic manifold M having the minimum number of periodic points. This is an interesting and important class of maps and, as has been established recently, there is a strong relation between the symplectic topological properties of M and the dynamics of pseudo-rotations of M, going far beyond periodic orbits. In this talk we discuss the broader context and touch upon the question of whether existing symplectic methods can distinguish pseudo-rotations from rotations (i.e., elements of Hamiltonian circle actions). This is based on joint work with Viktor Ginzburg.