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Symplectic dynamics: methods and results

Poincare's last geometric theorem led to the Arnold conjectures, which are deeply related to the birth of symplectic topology. The first goal of this talk is to review parts of this beautiful piece of history of mathematics, leading to the introduction of the term 'Symplectic Dynamics' by Hofer. Then I will move on to explain how modern methods in symplectic topology, namely holomorphic curves and Eliashberg-Givental-Hofer's Symplectic Field Theory, can be used to study Hamiltonian dynamics in the large. I will focus on the existence of global surfaces of section, and on versions of the Poincare-Birkhoff theorem for Reeb flows.