

*Dynamics of complex planar polynomial Hamiltonian systems*

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In this talk we will report our recent results on dynamics of complex planar Hamiltonian systems with polynomial nonlinearity. Parts of the results are on linearization of Hamiltonian systems with nonlinearity either quadratic homogeneous or cubic homogeneous. Then we study the global dynamics of these locally linearizable complex planar Hamiltonian systems. For general complex planar quadratic Hamiltonian systems we obtain some partial results.