Seminar/Talk

Birkhoff Normal Forms, frequency maps and local integrability

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To any symplectic real analytic diffeomorphisms of the 2-dimensional disk (or annulus) admitting the origin as a non resonant fixed point one can associate a formal series, the Birkhoff Normal Form (BNF), which is invariant by (formal) conjugations. One can prove that in general this formal series is divergent. I shall address in this talk the following questions: does the convergence of the BNF imply integrability of the diffeomorphism in a neighborhood of the origin? Can such a diffeomorphism be perturbed in the real analytic topology so that its BNF is convergent? Can such a diffeomorphism be perturbed so that it becomes integrable in a neighborhood of the origin?

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Mondi Seminar Room 2, Central Building

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