

ICTP DIPLOMA PROGRAMME IN MATHEMATICS 2011-12

Differential Equations and Dynamical Systems II (MTH-ODE II) (10 lectures : 15 hrs)

- 1) Contraction Maps and Local Linearisation of Attracting fixed points. Proof of the Grobman-Hartman Theorem in the special case of contracting maps.
- 2) Circle rotations and minimal homeomorphisms
- 3) Symbolic Dynamics. Shift map. The Tent map. Symbolic coding.
- 4) Full branch maps. Expansion of real numbers in various bases. Normal numbers.