

Anuncio de workshop:

“*Dynamical systems and their applications*”

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Fechas: 23, 28 y 30 de noviembre de 2017

Lugar: IEMath-GR: Seminario 1 (días 23), Seminario (día 28) y Sala de Conferencias (día 30)

Hora: 11:30-14 horas

First Session: Introduction to dynamical systems [1,2,3]:

1. What is a dynamical system (DS)? Discrete and continuous time.
2. The orbit of a DS.
3. One dimensional DS, hyperbolic points.
4. On a family of quadratic DSs.

Second Session: Applications to biology [4-7].

5. Definitions of QSO
6. The Volterra QSOs
7. Examples of Non-Volterra QSOs

Third Session: Thermodynamics in physics [8-10]

8. Gibbs measure
9. Configuration space. Hamiltonian
10. A functional equation for the Ising model
11. Periodic Gibbs measures of the Ising model

References.

1. R.L. Devaney. An introduction to Chaotic dynamical systems. Westview press. 2003.
2. R.C. Robinson. An introduction to dynamical systems, continuous and discrete. Pearson Educ. Inc. 2004.
3. S.N. Elyadi. Discrete chaos. Chapman Hall/CRC. 2000
4. Ганиходжаев Р.Н. Квадратичные стохастические операторы. Доктор. Дисс. 1992.
5. Ganikhodzhaev R.N., Mukhamedov F.M., Rozikov U.A. Quadratic stochastic operators and processes: results and open problems. Inf. Dim. Anal. Quant. Prob. Rel. Fields. 2011. V.14, No.2, p.279-335.
6. R. N. Ganikhodzhaev, Quadratic stochastic operators, Lyapunov functions and tournaments, *Acad. Sci. Sb. Math.* **76** (1993) 489–506.
7. R. N. Ganikhodzhaev, A chart of fixed points and Lyapunov functions for a class of discrete dynamical systems, *Math. Notes* **56** (1994) 1125–1131.
8. Rozikov U.A. Gibbs measures on Cayley trees. World Sci. Publ. Singapore. 2013, 404 pp.
9. Ya.G. Sinai, Theory of phase transitions: Rigorous Results, Pergamon, Oxford, 1982.
10. H.O. Georgii, Gibbs Measures and Phase Transitions, Second edition. De Gruyter Studies in Mathematics, 9. Walter de Gruyter, Berlin, 2011