Graduate

Probability Seminar

Markov processes and the Ruelle operator

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Date: 18/10/2019

Time: 14:15Hours

Mini-Auditorium MAT

Abstract. In this seminar, we introduce a Markov process as the action of a positive operator that is also a contraction on a suitable L^1 space. We compare this definition, due to Hopf, with the classical probabilistic point view of Markov processes, following the ideas discussed in the reference [2]. We consider the classical Ruelle operator as in [1], and we show how to extend this operator to a bounded linear operator acting on L^1. Next, we apply this theory of Markov Processes to obtain some results about the maximal spectral data of the Ruelle operator.

References

[1] L. Cioletti, A.C.D van Enter and R. Ruviaro. The Double Transpose of the Ruelle Operator. *ArXiv e-prints*, October 2017.

[2] S.R. Foguel. *The Ergodic Theory of Markov Processes*. Van Nostrand Reinhold, New York, 1969.