

**R. Bissacot** ``*Thermodynamic Formalism on Generalized Symbolic Spaces*''

In 1999 R. Exel and M. Laca extended the construction of the Cuntz-Krieger algebras for infinite countable symbols and transitive matrices, they introduced a class of algebras which today are known as Exel-Laca algebras  $O_A$ , which are related to its respective countable Markov shift  $\Sigma_A$ , similarly with what happens to the Cuntz-Krieger algebras. Such construction gave birth a locally compact version of the standard symbolic space  $\Sigma_A$ , the space  $X_A$ , which in general contains the usual space  $\Sigma_A$  as a dense subset and, when  $\Sigma_A$  is locally compact these two spaces coincide. On another hand, M. Denker, M. Urbański, O. Sarig, and many others developed the Thermodynamic Formalism for the standard countable Markov shifts  $\Sigma_A$ , these spaces, in general, are not locally compact. Despite a big success of Exel-Laca algebras in the Operator Algebra community, the measure-theoretic aspects of this generalization of the symbolic space and interaction with the dynamical system community were essentially zero until now. We obtained the first results about thermodynamic formalism (conformal and DLR measures, pressure, phase transitions, etc.) on the space  $X_A$ . We will give some geometric interpretation of  $X_A$ , results about the existence of conformal measures on this new setting and we will answer the first natural question: If  $\Sigma_A$  is a subset of  $X_A$ , what is the connection between the standard thermodynamic formalism on  $\Sigma_A$  and the results on  $X_A$ ? We will see that not only new phenomena appear (phase transitions) as well we can recover conformal measures living on  $\Sigma_A$  as a limit of new conformal measures which are detected only in the new space  $X_A$ . The results are part of a project which is still in developing with T. Razseja (IME-USP), Ruy Exel (UFSC) and Rodrigo Frausino (IME-USP).