

Title: Thue-Morse substitution and freezing phase transition

Abstract: In this talk, I will discuss results obtained with N. Bedaride, J. Cassaigne and R. Leplaideur. We generalize the Manneville-Pomeau/Hofbauer example of freezing phase transition. On the full shift on two symbols, we consider a potential related to the logarithm of the distance to the Thue-Morse subshift (the length of shortest prefix belonging to the Thue-Morse subshift). This potential is continuous but it is not a Hölder function. We prove that for small temperatures, the pressure is equal to zero and there is only one equilibrium, the unique shift invariant probability measure on the Thue-Morse shift. The proof uses words combinatorics.