

Title: About stability under small perturbation in the selection process at zero temperature.

Abstract: This is a joint work (in progress) with Jairo Mengue from UFRGS. The study of selection at zero temperature aims to understand what are the parameters that rule if there is convergence to a ground state at zero temperature and which ground state is selected.

We are here interested in small perturbation and want to study if they affect the selection process or not.

It turns out that one answer can be given in some cases.

We prove that if the Aubry set is a subshift of finite type, then the pressure goes exponentially fast to the limit entropy as the temperature goes to zero. Furthermore, the speed of convergence is the unique eigenvalue of the matrix whose entries are the Peierl's barrier between the irreducible components of the Aubry set.

Then, if the perturbation goes faster to zero than the pressure to the limit entropy, it does not affect the selection process.