Cristian Giardinà (Modena & Reggio Emilia University, Italy)

Stability of the quenched measure and universal identities in disordered spin systems.

Abstract: We consider a large class of disordered spin system given by spin glasses with Gaussian couplings. This class includes mean field models, finite dimensional models and models on the Nishimori line. We show that, in the quenched state, a non trivial set of identities is satisfied. They can be deduced from a stochastic stability property of the quenched measure. The identities are universal and, for each model, they are expressed in terms of the covariance of the Hamiltonian. If time permits we will discuss open conjectures on a more general set of identities (ultrametric identities) which have been suggested in the context of mean field theory.