Institut Henri Poincaré

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String Theory in Greater Paris

Rencontres Théoriciennes

“Supergravité, théorie des cordes et théorie M”

Jeudi 23 Janvier 2020, 11:40

Slava Rychkov

ENS and IHES

Random Field Ising Model and Parisi-Sourlas Supersymmetry

We will discuss the phase transition in the Ising model with magnetic impurities. By one kind of lore, this leads to a non-unitary supersymmetric CFT with scalar supercharges (Parisi-Sourlas supersymmetry). By further lore, Parisi- Sourlas SCFT in D dimensions is equivalent to a non-SUSY CFT in D-2 dimensions. It is known that this story is not fully correct, but we will put at least some of it on firmer ground using non-perturbative CFT methods. Joint work with Apratim Kaviraj and Emilio Trevisani.

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