Seminar

Random field disorder in magnets

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Presence of impurities in a condensed matter system can drastically change the behavior of the system. (In extreme cases it can completely destroy the ordered state). In two dimensions an infinitesimal amount of disorder is known to change the order of the transition from first order to a continuous transition. Theoretically the problem is hard due to additional averaging required over the disorder degrees of freedom (quenched average), in this talk we will discuss an exact mean field solution for a class on random field problems, using large deviation theory. For dimensions greater than two, it was conjectured that there exists an impurity threshold beyond which the transition should change its character. Our results support the conjecture.

Thursday, Nov 16th 2017

04:00 PM (Tea/Coffee at 03:30 PM)

Auditorium, TIFR-H