

Open questions on the random field Ising model

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This talk reviews the 45 years history of the Ising model with quenched random ordering fields. It is now clear that the dimensionality shift (d to $d-2$) breaks down for $d < 5$, where a new fixed point, which breaks supersymmetry, seems to appear. However, the details of this new behavior, and particularly the order of the transition for some field distributions, remain unclear.

References

[1] Some of these issues are discussed in Sec. 2.3 of arXiv:2305.13940.