

About the sharpness of the phase transition for the Ising model

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There are two important papers for this theme [1] and [2]. The first show us, for $\beta < \beta_c$ the finiteness of the magnetic susceptibility and the vanishing of the spontaneous magnetization and for $\beta > \beta_c$ a mean-field lower bound for this one. Also, this paper shows us the low- and high- temperature phases extend up to a common critical point. The second paper is a new proof of the sharpness of the phase transition and also give us a decreasing rate of $\langle \sigma_0 \sigma_x \rangle_\beta^+$. In this poster, we show the ideas how they used the random current representation for getting the results above.

References

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