

An Analytical Study of Three-State Potts Model on Lattice

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Abstract: We investigate the phase structure of the three-state Potts model by the variational cumulant expansion approach. It is shown that there is a weak first-order phase transition in three and four dimensions. The critical coupling given by this method is in good agreement with MC data.

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Key words: variational cumulant expansion, Potts model, phase structure

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