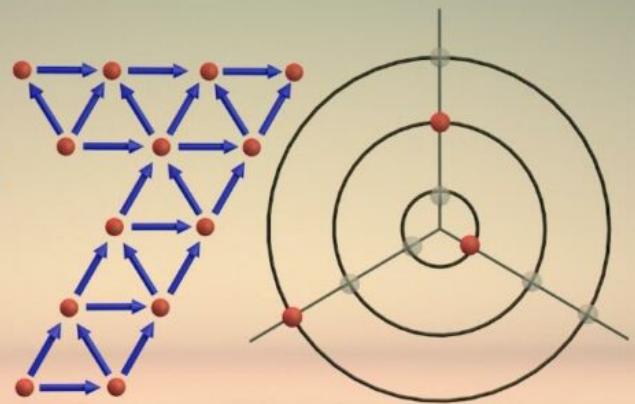# Brazilian School and Workshop on Statistical Mechanics — Recent Developments

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Finite size scaling anomaly in 1D Ising model

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The phase transition in the 1D Ising model only happens at T=0, but through analysis of the model using the transfer matrix technique taking in count the two autovalues to compute the free energy and yours derivatives (second and fourth) we show a finite size scaling effect. In this finite-size scaling anomaly, the temperature in which the system changes your order is dependent on the size of the system. An approximation for this temperature is given and the number of the atoms used in the experimental results is estimated. We conclude that the finite system shows effects analogous to the infinity one and that the size of the lattice used in the experiment is large, but less than necessary to reach the limit T=0, needing infinity atoms.