



Size Effects in the Three Dimensional Ising Lattice (Classic Reprint)

By Robert L. Jennette

Forgotten Books. Paperback. Condition: New. This item is printed on demand. 82 pages. Dimensions: 9.0in. x 6.0in. x 0.2in. Excerpt from Size Effects in the Three Dimensional Ising Lattice A random walk in a discrete space of large dimensions is devised to find the free energy of finite Ising spin systems with nearest neighbor interactions. The system studied is the three dimensional cubic lattice, finite and periodic in two of the dimensions, and infinite in the third dimension. The effect of low-order surface terms in the graphical expansion of the free energy is shown by removing them from the numerical results for the finite lattice, and comparing this reduced free energy to the bulk free energy. Using transfer matrix formalism, a Monte Carlo solution is obtained by establishing a correspondence between the eigenvalue equation satisfied by the transfer matrix, and the collision density equation of the random walk. The walk is then simulated to provide Monte Carlo estimates of the free energy, magnetization, and spin correlation. About the Publisher Forgotten Books publishes hundreds of thousands of rare and classic books. Find more at www.forgottenbooks.com This book is a reproduction of an important historical work. Forgotten Books uses state-of-the-art technology to digitally reconstruct...



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