

STUDY OF THERMODYNAMIC
PROPERTIES OF THE LIEB FERROELECTRIC
MODEL AT THE VICINITY OF A CRITICAL POINT

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S u m m a r y

The critical properties of the exactly solvable two-dimensional Lieb ferroelectric model are examined on the basis of the thermodynamic method of investigation of the critical states in one-component systems. The behavior of the complete set of characteristics of the stability upon the approach of a system to a critical point is analyzed, and the type of a critical behavior by the thermodynamic classification is determined. When $T \rightarrow T_c^-$ and $T \rightarrow T_c^+$, the second and fourth type of a critical behavior are realized, respectively. The violation of the scaling law hypothesis in the model ($\alpha' \neq \alpha$) is explained just by the realization of different types of critical behavior in the vicinity of a critical point. The existence of a new type of the critical point is established, in which three lines of the phase equilibrium converge.