Dynamical supersymmetry breaking and phase diagram of the lattice Wess-Zumino model

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Abstract: A new approach to the study of the transition point in a class of two dimensional Wess-Zumino model is presented. The method is based on the calculation of rigorous lower bounds on the ground state energy density in the infinite-lattice limit. Such bounds are useful in the discussion of supersymmetry phase transition. The transition point is then determined and compared with recent results based on large-scale GFMC simulations with good agreement.