

Selfconsistent replica symmetry breaking (RSB) results up to fifth order are presented for the SK model. A numerical renormalization group in RSB-space is defined and applied to a two parameter model which fits well the numerical solutions of up to five RSB-orders for the SK model. The parameter flow towards a fixed point (estimated by extrapolation) leads to a new analytical model solution, which is presented and conjectured to be the exact $T=0$ solution of the SK-model. A simple relaxational differential equation of motion-in-RSB-space is derived with a cubic Hamiltonian density as underlying field theory. It is viewed as a onedimensional analog of the Halperin-Hohenberg dynamical theory of critical slowing down. Further numerical results and scaling arguments for the asymptotic, nonanalytic small field behaviour of the magnetic field distribution are presented. The numerical analysis is also extended to the fermionic generalization of the SK model. Results for the density of states and imaginary time fermion propagator, for the chemical potential dependence of fermion concentration, magnetic breakdown at critical depletion of magnetic sites, and energy variation with filling will be presented.

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