

Chiral symmetry breaking in the three dimensional Thirring model

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Abstract: We study the three-dimensional Thirring model for $N_f = 6$ fermion flavors by means of Monte Carlo simulations on lattice sizes ranging from 12^3 to 32^3 . The results are extracted from fits to an RG-inspired equation of state. In contrast to most Schwinger-Dyson approaches, we find a second order chiral symmetry breaking transition at strong coupling. The critical coupling corresponds to an ultra-violet fixed point of the renormalization group defining a non-trivial continuum limit. Further, preliminary results for $N_f > 6$ are also presented.