

# Differences and analogies between quantum chromodynamics and ferromagnets

## Abstract content

The low-energy physics of quantum chromodynamics (QCD) and ferromagnets is dominated by Goldstone bosons. While the effective theory of QCD - chiral perturbation theory - is well established in the particle physics community, the systematic studies of ferromagnetic systems within the effective Lagrangian framework are not well-known. We analyze the low-temperature properties of ferromagnets in one, two and three spatial dimensions up to three loop order in the effective expansion, i.e., beyond the accuracy of any previous results obtained with conventional condensed matter methods. In particular, in the nonrelativistic domain, the effective method perfectly works in one spatial dimension.

## Summary

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