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Adjoint SU(2) with four fermion interactions

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Four fermion interactions appear in many models of Beyond Standard Model physics. In composite Higgs models Standard Model fermion masses can be generated by four fermion terms. They are also expected to modify the dynamics of the new strongly interacting sector. In particular in technicolour models it has been suggested that they can be used to break infrared conformality and produce a walking theory with a large mass anomalous dimension. We study the SU(2) gauge theory with 2 adjoint fermions and a chirally symmetric four fermion term. We demonstrate chiral symmetry breaking at large four fermion coupling and study the phase diagram of the model.

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