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Spectrum and mass anomalous dimension of SU(2) gauge theories with fermions in the adjoint representation: from $N_f = 1/2$ to $N_f = 2$

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In this work I will summarize our results concerning the spectrum and mass anomalous dimension of SU(2) gauge theories with a different number of fermions in the adjoint representation, where each Majorana fermion corresponds effectively to half a Dirac flavour N_f. The most relevant examples for the extensions of the standard model are supersymmetric Yang-Mills theory ($N_f = 1/2$) and minimal walking technicolour ($N_f = 2$). In addition to these theories I will also consider the cases of $N_f = 1$ and $N_f = 3/2$.
The results will contain the particle spectrum of glueballs, triplet and singlet mesons, and possible fractionally charged spin half particles.
In addition I will discuss our recent results for the mass anomalous dimension.

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