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UV conformal window of 4d gauge theories with matter

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Using RG methods, I study the UV conformal window of weakly coupled gauge theories weakly with matter. Using beta functions up to four-loop in perturbation theory, I discuss results for fixed points and scaling dimensions as power series in a small Veneziano parameter. Particular emphasis is put on the mechanism resonsible for the end of the conformal window, and a competition between the loss of vacuum stability and potential merger in the gauge or the double-trace scalar sectors. The study is largely based on 2307.08747 and forthcoming work.

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