

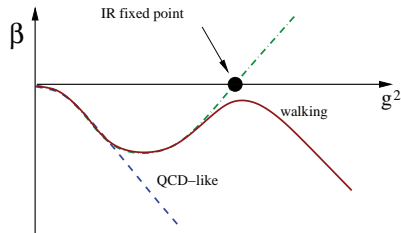
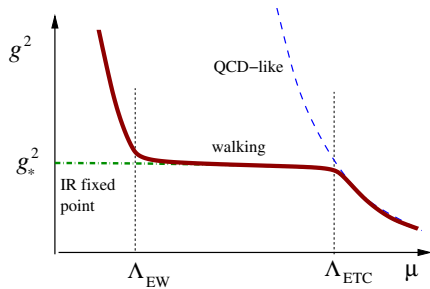
Conformal window on the lattice

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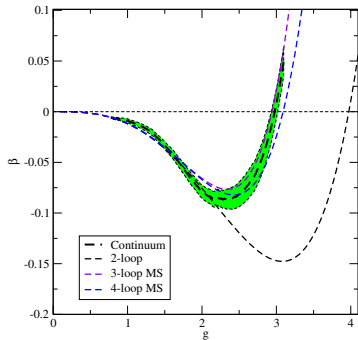
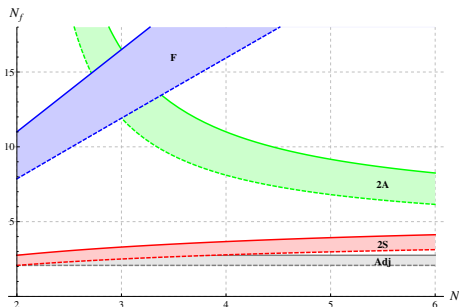
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What is conformal window?

- ▶ Constant coupling for a large energy range could be useful
→ (extended) Technicolor
- ▶ Gauge theory defined with:
 - ▶ Colour group e.g. $SU(2)$
 - ▶ Number of fermions N_f
 - ▶ Representation of the colour group
- ▶ Varying N_f from small to large:
 - ▶ Confinement e.g. QCD
 - ▶ Infrared fixed point (Conformal window)
 - ▶ Loss of asymptotic freedom



What I do?



- ▶ We study SU(2) with 8 fundamental representation fermions
 - ▶ Seems to be withing conformal window
 - ▶ Next step: $N_f = 6$
- ▶ Large coupling \rightarrow non-perturbative methods required \rightarrow Lattice simulations
- ▶ Coupling runs slowly \rightarrow high accuracy needed