Suggestion: postpone this discussion to Thursday

Continuous β function vs step scaling approach

- Can we match to 2- or 3- loop GF β function? How small must g^2_{GF} be?
- Is infinite volume limit under control in the continuous β function?
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Renormalized quark masses

- Is matching to $\overline{MS}$ reliable?

  - Competing schemes: $\alpha_s(\mu)$ must be small ; $\log(\tau\mu^2)$ must be O(1); Lattice $8\tau/a^2 \gg 1$

- Is there a “window” problem in GF renormalization?

  - $\frac{1}{m_q^2} \gg 8\tau \gg a^2$: how large is “$\gg$”

- Is it feasible to calculate $\langle\bar{\psi}\psi\rangle$ on the lattice?

- Interpret PCAC for GF operators :

  - Endo et al *PTEP* 2015 (2015) 5, 053B03 , “Universal formula for the flavor non-singlet axial-vector current from the gradient flow

  - It is a valid definition for $m_{GF}(\tau)$; does it become the $\overline{MS}$ scheme mass after SFTX?

  - In the “GF Axial” scheme one can derive the renormalized PCAC for correlators

Bag parameters & life times ; four fermion operators

- Do we need that $\tau \to 0$ limit?
- Is matching to $\overline{MS}$ necessary?
- Converting GF to $\overline{MS}$ or perturbative Wilson coefficients to GF scheme?