Introduction

- fundamental constituents of strongly interacting matter

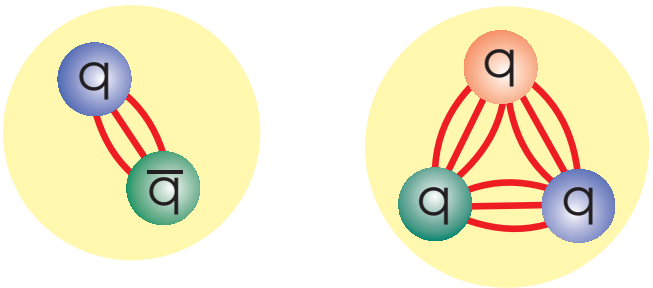
  colored quarks and gluons

- physical vacuum:

  - vacuum hosts condensates ($\mu \sim 1$ GeV)

    $\langle 0|\bar{q}q|0\rangle \sim -2.0/\mathrm{fm}^3$
    $\langle 0|GG|0\rangle \sim 2.6/\mathrm{fm}^3$

  - color neutral hadrons



meson **baryon**

- under 'extreme conditions':

  - early universe ($\sim 1\mu s$): $T > 10^{12}$K
  - interior of neutron stars: $\rho > 10^{14}$ g/cm^3