

# To break or not to break: chiral symmetry breaking in QCD-like theories from anomaly matching and supersymmetry

*jeudi 2 juin 2022 17:30 (20 minutes)*

Gauge theories are central in describing the fundamental interactions of particles both within and beyond the Standard Model. However, our knowledge on the infrared phases (for instance the vacuum structure) is limited once the theory becomes strongly-coupled. In this talk, we will try to sketch a generic and rigorous proof of chiral symmetry breaking in the confining phase of QCD-like theories, by showing that there is no solution for 't Hooft anomaly matching and persistent mass conditions. Furthermore, we will discuss implications from supersymmetric QCD and briefly comment on potential applications to beyond-the-Standard-Model phenomenology.

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