Introduction to Nuclear Forces, a birdeye on Quantum Chromodynamics

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Brief overview of Quantum Chromydynamics (QCD)

- Quark-gluon degrees of freedom (DOF) are optimal to describe the strong force dynamics of nuclei.
- Nevertheless, the low-energy Effective Field Theory (EFT) that underpin our modern understanding if internucleon forces are clearly related to the underlying symmetries of QCD
- Moreover, as we will see later in the course, remarkable progress is being made in lattice QCD so that *dired* calculations of few-nucleon systems with nucleat forces are becoming closer to reality.
- Therefore, even though 95% of this corse will be devoted to a description in terms of nucleons and pions, it is useful to give a birdeye view of QCD.
- If you are not too familiar with quantum field theory or QCD. Our presentation here is necessarily impressionistic and meant only to remind you of what is governing things at a fundamental level.

QCD Lagrangian