

Special Issue on Topics in Low-energy QCD

CALL FOR PAPERS

With the advent of the LHC data which provides up to today no experimental support for any of the UV completions of the Standard Model, timeless topics like low-energy QCD may emerge at the forefront of theoretical particle physics. In the recent years important progress has been made in low-energy QCD spanning from a more accurate description of hadrons in terms of effective Lagrangians to the more intricate connection between the low-energy and high-energy degrees of freedom in the Standard Model Lagrangian. Precision in spectroscopy together with efforts to develop tools based on unitarity and analyticity have been pursued to unravel the properties and dynamics of hadronics, including the search for exotics, glueballs, and axion-like particles, the latter as a benchmark for new physics' scenario. Efforts encompass an attempt to build a consistent hadronic picture within electroweak observables like the muon anomalous magnetic moment or the electroweak mixing angle.

In this special issue we propose to focus on these and other important aspects of low-energy QCD.

Potential topics include but are not limited to the following:

- ▶ Hadron spectroscopy and properties, including glueballs and QCD exotics
- ▶ Hadronic contributions to the anomalous magnetic moment of the muon
- ▶ Hadronic uncertainties in the determination of the weak-mixing angle
- ▶ Proton radius puzzle
- ▶ CP violation in K decays
- ▶ Analytical and unitarity constraints in the era of high-precision measurements of 2- and 3-body hadronic decays of D and B mesons
- ▶ Tests on the reliability of chiral expansions in observables involving the s-quark
- ▶ Contour-improved (CIPT) versus fixed-order (FOPT) perturbation theory predictions from tau decays and e^+e^- to hadrons
- ▶ Electric dipole moments
- ▶ QCD axions

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Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Guest Editor

Catalina R. Jora, National Institute of Physics and Nuclear Engineering, Bucharest, Romania
rjora@theory.nipne.ro

Guest Editors

Rafel Escribano, IFAE, Barcelona, Spain
rescriba@ifae.es

Pere Masjuan, IFAE, Barcelona, Spain
masjuan@ifae.es

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