



Invitation to the colloquium

"From quarks and gluons to exotic hadrons"

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Abstract:

With recent experimental evidence for tetraquarks and pentaquarks, hadron spectroscopy is nowadays a cutting-edge area of research with the LHC among its central facilities. Hadrons are bound states of quarks and gluons in QCD, the theory of the strong interaction, but their spectrum and structure are much richer than the naïve quark model suggests and governed by nonperturbative phenomena such as confinement and dynamical mass generation. In this colloquium I will make a survey through some open questions in QCD, with an emphasis on the structure of exotic hadrons and multiquarks, and connect them with the key underlying phenomena of mass generation for quarks and gluons. I will highlight recent advances with functional methods, which allow one to compute hadron properties from first principles. Systematic improvements in this approach have made it possible to address a wide range of problems from multiquark spectroscopy to form factors, parton distributions, the anomalous magnetic moment of the muon, and the QCD phase diagram.

time: Tuesday, 24. January 2023, 04:15 p.m.
place: HS 05.01, Universitätsplatz 5, EG, 8010 Graz
meet the speaker: 24. January 2023, 03:45 p.m.
1. OG, Universitätsplatz 5, 8010 Graz, Room 0005010122