

New results and methods in heavy-baryon spectroscopy

Friday, 21 April 2023 09:30 (30 minutes)

In this talk, I will discuss new results in the charm/bottom baryon sectors, including discoveries of new excited open-flavor baryons with the LHCb experiment, analyses of their properties, and development of the analysis techniques.

It is natural to classify baryonic excitation multiplets by quantum numbers of the light diquark in the ground configuration, which is 0^+ , referred to the good diquark, or 1^+ , referred to the bad diquark. The new results for the bad-diquark multiplets come from studies of the Ω_c^{**0} , and Ξ_c^{**+} states in exclusive and prompt reactions. I will show new resonances in the “good”-diquark multiplets from the studied with the Ξ_b^{**} excitations.

Furthermore, I will introduce a new polarimeter vector field for multibody decays of a spin-half baryon. Using $\Lambda_c^+ \rightarrow pK^-\pi^+$ decays, I will demonstrate how it can facilitate polarization measurements of charm baryons and hadronic amplitude analyses.

Primary author: MIKHASENKO, Mikhail (ORIGINS Excellence Cluster)

Presenter: MIKHASENKO, Mikhail (ORIGINS Excellence Cluster)

Session Classification: Talks