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Type: **Talk**

Multi-quark states at LHCb

Monday 2 September 2024 10:00 (30 minutes)

Since the observation of the $X(3872)$, a large number of multi-quark candidates have been observed in the past 20 years. A thorough spectroscopic search and interpretation of these states is crucial for a profound understanding of quantum chromodynamics (QCD) and the strong interactions. The LHCb experiment, with the largest dataset of beauty and charm hadrons, is uniquely positioned to explore the properties of heavy-flavored and exotic multi-quark states in both prompt and non-prompt productions.

This talk is aimed to provide an overview of some latest LHCb results on the subject of multi-quark spectroscopy. It encompasses, the observation of new open-charm tetraquarks and pentaquarks in open-charm final states, which could provide useful input for validating the di-open-charm molecular hypothesis of the known pentaquark states. This talk will also highlight the latest study of $\chi_{c1}(3872)$ using radiative decays along with observation of exotic resonances in diffractive processes and heavy ion collisions.

Internet talk

Maybe

Is this an abstract from experimental collaboration?

Yes

Name of experiment and experimental site

LHCb Experiment, CERN

Is the speaker for that presentation defined?

Yes

Details

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<https://www.ncbj.gov.pl/en>

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