

# Studies of pentaquark states with strangeness at LHCb

*Friday, 9 June 2023 09:30 (30 minutes)*

Study of exotic hadrons provides an important perspective on the nature of QCD. Using the pp interaction dataset collected during the Run1 and Run2 data-taking periods, corresponding to an integrated luminosity of  $9 \text{ fb}^{-1}$ , LHCb established the first evidence of pentaquark with strangeness,  $P_{\psi_s}^{\Lambda}(4459)^0$ , in  $\Xi_b^- \rightarrow J/\psi \Lambda K^-$  decays, and further made the first observation of pentaquark with strangeness,  $P_{\psi_s}^{\Lambda}(4338)^0$ , in  $B^0 \rightarrow J/\psi \Lambda \bar{p}$  decays. This talk will focus on the experimental approach of extracting these pentaquark-candidate signals using LHCb data, and discuss about the potential interpretations about the nature of these exotic states.

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