

Conventional Charm Baryon Spectroscopy at LHCb

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The unique structure of charmed baryons makes them an ideal laboratory for studying QCD in the non-perturbative regime. Research in charm baryon spectroscopy has provided valuable insights into QCD interactions, quark confinement, and broader topics in modern physics. The LHCb detector, dedicated to heavy flavor studies, enables high production rates and efficient detection of charmed particles, along with precise measurement of their properties.

This report highlights recent advancements in conventional charm baryon spectroscopy, including new discoveries and precise measurements of singly and doubly charmed baryons, as well as studies of their internal structures and decay properties. These results validate effective QCD models that describe interactions between heavy and light quarks, and also offer intriguing insights into weak interactions in the charm sector.

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