

Excited Ξ_c Baryon Decays via γ and/or π Emission

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The Ξ_c states consist of a combination of a charm quark, a strange quark, and an up or down quark. The ground-state Ξ_c^0 and Ξ_c^+ are the only members of the group that decay weakly, and their masses, lifetimes, and many of their decay modes have been measured.

The Ξ_c states also exist in many angular momentum configurations of the constituent quarks, each as an isospin pair. These excited states have been found to decay either electromagnetically or strongly in three different general types of decay: to the Ξ_c ground states together with mesons and/or photons, to final states that include a Λ_c^+ and a kaon, and to ΛD final states.

The talk will cover recent measurements of the masses and widths of the excited Ξ_c baryons that include a ground-state Ξ_c in their decay chain. All five pairs under investigation have previously been discovered, but in general their masses and intrinsic widths have not been measured precisely.

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