

Radiative decay of Singly Heavy Bottom Baryons in the Hypercentral Quark Model

In hadron spectroscopy, various decay processes of the heavy flavour baryons are important to identify the new hadronic states observed experimentally. The strong decays are expected to dominate the branching ratios of heavy flavour baryons. Although the electromagnetic strength is weaker than that of the strong interaction, radiative channels are not phase space suppressed as in the case of pion transitions. Therefore, some radiative decay modes are expected to contribute significantly to heavy baryon branching fractions. In the present study, we employ a simple non-relativistic hypercentral approach with coulomb plus power potential to compute the radiative decays of the single heavy bottom baryons in terms of radiative transition magnetic moments and photon energy. The predicted radiative decay widths of singly heavy bottom baryons are in the range of few eV to KeV.

Preferred Track

Open Heavy Flavors

Collaboration

Not applicable

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