

CP violation in b-baryon decays to multibody final states at LHCb

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The violation of CP symmetry is well established nowadays in the K- and B-mesons sectors. However CPV has not been observed in the baryonic sector. Charmless b-baryon decays represent a promising opportunity in this respect since their amplitudes receive both contributions from tree level diagrams where the CKM element V_{ub} appears and loop level diagrams which have comparable contributions. In addition, these decays are sensitive to possible physics beyond the SM, entering from penguin topologies. We present the most recent measurements of CP violation in charmless b-baryon decays performed by LHCb, including branching ratios and triple-product asymmetries.

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