6th ComHEP: Colombian Meeting on High Energy Physics



Contribution ID: 85 Type: Short Talk (5')

Two-body nonleptonic weak decays of vector heavy mesons in vector mesons

Monday 29 November 2021 16:45 (20 minutes)

We study the nonleptonic weak decays $V_1 \rightarrow V_2 M$, where V_1 is a vector heavy meson as $D_{((s))}^{,} J/\Psi, B_{((s))}^{,} B_c^*, Y(1S)$; V_2 is a vector meson and M is a pseudoscalar or vector meson. We calculate the tree-level contribution to these decays given by the transition vector-to-vector, $V_1 \rightarrow V_2$, using the covariant light-front quark model to evaluate the form factors. We find that some of these decays have branching ratios that can be measured at future experiments at BESIII and LHC.

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Session Classification: Heavy Flavour

Track Classification: Heavy Flavour