

Observation of resonances in the $L_b \rightarrow L_c + \pi^- \pi^+ \pi^-$ decay mode at CDF II

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Please give a brief summary of your poster

CDF II has reconstructed a signal of about 900 $L_b \rightarrow L_c + \pi^- \pi^+ \pi^-$ decays from a data sample of 2.4 fb⁻¹ of ppbar collisions at $\sqrt{s} \sim 2$ TeV collected with the displaced vertex trigger. Several resonant decay modes have been observed for the first time, including

$L_b \rightarrow L_c(2595) + [L_c \pi^+ \pi^-] \pi^-$,

$L_b \rightarrow L_c(2625) + [L_c \pi^+ \pi^-] \pi^-$,

$L_b \rightarrow \Sigma(2455)^{++} [L_c \pi^+] \pi^- \pi^-$,

and $L_b \rightarrow \Sigma(2455)^0 [L_c \pi^-] \pi^+ \pi^-$.

We present the $L_b \rightarrow L_c + \pi^- \pi^+ \pi^-$ signal extraction and the preliminary measurement of the relative branching fractions of the above resonant L_b decay modes.

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