Title:	First measurements of absolute branching fractions of the Ξ + c baryon at Belle
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Abstract:	We present the first measurements of the absolute branching fractions of Ξ + c decays into Ξ − π + π + and p K − π + final states. Our analysis is based on a data set of (772 ± 11) × 10 6 B ¯ B pairs collected at the Y (4 S) resonance with the Belle detector at the KEKB e + e − collider. We measure the absolute branching fraction of ¯ B 0 → ¯ Λ − c Ξ + c with the Ξ + c recoiling against ¯ Λ − c in ¯ B 0 decays resulting in B (¯ B 0 → ¯ Λ − c Ξ + c) = [1.16 ± 0.42 (stat .) ± 0.15 (syst .)] × 10 − 3 . We then measure the product branching fractions B (¯ B 0 → ¯ Λ − c Ξ + c) B (Ξ + c → Ξ − π + π +) and B (¯ B 0 → ¯ Λ − c Ξ + c) B (Ξ + c → p K − π +) . Dividing these product branching fractions by ¯ B 0 → ¯ Λ − c Ξ + c yields B (Ξ + c → Ξ − π + π +) = [2.86 ± 1.21 (stat .) ± 0.38 (syst .)] % and B (Ξ + c → p K − π +) = [0.45 ± 0.21 (stat .) ± 0.07 (syst .)] % . Our result for B (Ξ + c → Ξ − π + π +) can be combined with Ξ + c branching fractions measured relative to Ξ + c → Ξ − π + π + to set the absolute scale for many Ξ + c branching fractions.
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