Title:	Measurement of branching fractions of Λ + c → η Λ π + , η Σ 0 π + , Λ (1670) π + , and η Σ (1385) +
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Abstract:	We report branching fraction measurements of four decay modes of the Λþ c baryon, each of which includes an η meson and a Λ baryon in the final state, and all of which are measured relative to the Λþ c → pK−πþ decay mode. The results are based on a 980 fb−1 data sample collected by the Belle detector at the KEKB asymmetric-energy eþe− collider. Two decays, Λþ c → ηΣ0πþ and Λð1670Þπþ, are observed for the first time, while the measurements of the other decay modes, Λþ c → ηΛπþ and ηΣð1385Þþ, are more precise than those made previously. We obtain relative branching fractions of BðΛþ c →ηΛπþÞ= BðΛþ c →pK−πþÞ ¼0.2930.0030.014, BðΛþ c →ηΣ0πþÞ=BðΛþ c →pK−πþÞ ¼0.1200.0060.010, BðΛþ c → Λð1670Þπþ × BðΛð1670Þ → ηΛÞ=BðΛþ c → pK−πþÞ¼ð5.54 0.29 0.73Þ × 10−2, and BðΛþ c → ηΣð1385Þþ=BðΛþ c → pK−πþÞ ¼ 0.192 0.006 0.016. The mass and width of the Λð1670Þ are also precisely determined to be 1674.3 0.8 4.9 MeV=c2 and 36.1 2.4 4.8 MeV, respectively, where the uncertainties are statistical and systematic, respectively
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