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Form factor of Heavy-to-Light Baryonic Transitions in SCET

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In the framework of the soft-collinear effective theory, we demonstrate that the leading-power heavy-to light baryonic form factors at large recoil obey the heavy quark and large energy symmetries. Symmetry breaking effects are suppressed by Λ/mb or Λ/E, where Λ is the hadronic scale, mb is the b quark mass and E ~ mb is the energy of light baryon in the final state. At leading order, the leading power baryonic form factor ξΛ,p(E), in which two hard-collinear gluons are exchanged in the baryon constituents, can factorize into the soft and collinear matrix elements convoluted with a hard-kernel of order α_sˆ2.
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Summary

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