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Inclusive rare Lambdab decays to photon

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I present an analysis of the inclusive Hb -> Xs gamma decay with Hb a beauty baryon, in particular Lambdab, employing an expansion in the heavy quark mass at
at leading order in alphas. For a polarized baryon I show the results for the distribution d2Gamma/dy/dcos(thetap), with y=2 Egamma/mb, Egamma the photon energy and thetap the angle between the baryon spin vector and the photon momentum in the Hb rest-frame. I discuss the correlation between the baryon spin and the photon polarization, and show how effects of physics beyond the Standard Model can modify the photon polarization asymmetry. I also present a method to treat the singular terms in the photon energy distribution.

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