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The story of Vcb, continued

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The determination of the CKM element Vcb from inclusive semileptonic

 $b \rightarrow c$ semileptonic decays has reached a high precision thanks to a combination of theoretical and experimental efforts. Moreover, the long standing Vcb puzzle, a discrepancy between inclusive and exclusive determinations seems to be disappearing. In this talk, I will discuss the story of Vcb and how to continue towards even higher precision focusing on the inclusive determination. Specifically, I discuss two new strategies to improve the precision. The first is based on reparametrization invariances, which allows including higher power-suppressed terms in the heavy-quark expansion (HQE), the second is a method to control background effects using the HQE.

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