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The Bc lifetime in the Standard Model and beyond

Monday, 10 January 2022 16:18 (1 minute)

Applying an operator product expansion approach an updated Standard Model prediction of the Bc lifetime will be presented. The non-perturbative velocity expansion is carried out up to third order in the relative velocity of the heavy quarks. Scheme dependence is studied using three different mass schemes for the b and c quarks, resulting in three different values consistent with each other and with experiment. Furthermore, a novel way on how to compute the Bc lifetime from B and D meson lifetimes will be discussed in the talk. Finally, since the Bc lifetime puts strong constraints on New Physcs (NP) models I will review the bounds on NP scenarios resulting from the updated computation of the Bc lifetime.

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