

30th International Symposium on Lepton Photon Interactions at High Energies



Contribution ID: 163

Type: **Poster**

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 Physics (NP) models I will review the bounds on NP scenarios resulting from the updated computation of the Bc lifetime.

Author: GRINSTEIN, Benjamin (Univ. of California San Diego (US))

Presenters: AEBISCHER, Jason (University of Zurich); AEBISCHER, Jason (TUM)

Session Classification: Quark and charged lepton flavour

Track Classification: Flavour