

Truncation orders, external constraints, and the determination of $|V_{cb}|$

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We investigate the role of different schemes in deciding at what order to truncate form factor expansions for semileptonic decays and how to determine the appropriate combination of truncations when multiple form factors are involved. The specific choice of truncation orders can significantly impact the reported values of exclusive $|V_{cb}|$. Additionally, we explore whether and how unitarity bounds, which provide a straightforward method for regularizing overfitting of form factors, may introduce bias in measurements. We formulate a set of suggestions on how LHCb and Belle II should treat this subject in future measurements.

Alternate track

I read the instructions above

Yes

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