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Heavy quark masses from step-scaling

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We present a determination of the charm- and bottom-quark masses using the step-scaling approach to heavy-quark physics. Renormalization is performed in small volumes where relativistic bottom quarks can be simulated directly. A sequence of finite-volume simulations connects this calculation to large-volume CLS ensembles, where simulations at physical light and strange quark masses provide reliable control over low-energy hadronic physics. In all but the smallest volume, the B-scale is reached by interpolating between relativistic heavy-quark data and the static limit. The resulting quark masses are obtained with good precision, with subdominant systematic uncertainties that differ from, and thus complement, those of standard large-volume determinations.

Parallel Session (for talks only)

Standard Model parameters

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