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Heavy-light flavour physics: D*(s) and B*(s) mesons decay constats in lattice QCD

Thursday, 19 May 2016 18:10 (20 minutes)

In this talk the results of a lattice QCD calculation of the vector mesons decay constants are presented. They are relevant hadronic parameters that characterize the internal structure of vector mesons due to QCD interactions, for instance they can provide phenomenologically good descriptions of non-leptonic decay rates within the factorization approximation. The two previous lattice calculations for these parameters show a 10% difference, the presented results point to a possible explanation of the existing tension.
The analysis is based on the extraction of mesons masses and decay constants from the two-point correlation functions coming from unquenched simulations of the European Twisted Mass Collaboration (ETMC) with Nf = 2+1+1 dynamical quarks. These are particularly suitable for charm physics, as the strange and charm quark masses are close to their physical values. Otherwise the extension to the beauty-sector requires an extrapolation, in order to do that, the ETMC ratio method has been applied.

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