

# The $q^2$ moments in inclusive semileptonic $B$ decays

*Wednesday 25 September 2024 10:30 (30 minutes)*

In this talk I will present the calculation of moments of the  $q^2$  distribution in inclusive semileptonic  $B$  decays with a lower cut on the dilepton invariant mass  $q^2$ , confirming known results. The theoretical predictions are then used in a global fit to moments of the spectrum of inclusive semileptonic  $B$  decays, allowing the extraction of  $|V_{cb}|$ . The fit includes the recently measured  $q^2$  moments, together with moments in the lepton energy and hadronic invariant mass. The uncertainty on the non-perturbative parameters and on  $|V_{cb}|$  slightly decreases, yielding to the final value  $|V_{cb}| = (41.97 \pm 0.48) \times 10^{-3}$ .

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**Session Classification:** Heavy to heavy inclusive