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Mass of the b-quark from QCD sum rules for fB and fBs

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We demonstrate that Borel QCD sum rules for heavy-light currents yield a very strong correlation between the b-quark mass and the resulting decay constant of the B-meson. This opens the possibility of an accurate determination of the b-quark mass from the sum rule using the values of fB and fBs as inputs. Combining recent accurate lattice QCD determinations of fB and fBs with our sum-rule analysis based on the three-loop heavy-light correlation function leads to an accurate value $\overline{m}_b(\overline{m}_b) = 4.245 \pm 0.025$ GeV.

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