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Automated calculation of Beam functions at NNLO

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We present a novel framework to streamline the calculation of beam functions to next-to-next-to-leading order in perturbation theory. By exploiting the infrared behavior of the collinear splitting functions, we factorize the singularities with suitable phase-space parametrizations and perform the observable-dependent integrations numerically. We have implemented our approach in the publicly available code pySecDec and present the first results for sample beam functions.

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