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KKMCee for high precision two-fermion production at future electron colliders

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KKMCee is providing high precision Standard Model predictions for the lepton or quark pair production process at any future lepton colliders (excluding Bhabha process, including muon colliders). It features second order QED photonic corrections with advance soft photon resummation at the amplitude level and full control over longitudinal and transverse polarizations both for beams an outgoing fermions. It includes also decays of tau leptons and hadronization of quarks. It was recently upgraded with better library of first order electroweak corrections. Simulation of the beam energy spread, which is essential both for linear and circular colliders, was also recently upgraded. Auxiliary KKFoam MC program (in c++) with simplified matrix element and partial ananytical integration was added recently for precision testing of KKMCee predictions. Future development plans include translating the entire program into c++ (already in the process), improvements of the matrix element for the neutrino channel, inclusion of leading third order QED non-soft corrections. providing functionality of fast fitting of the initial parameters, and more.

Time Zone

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