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Radiative corrections to muon decay spectrum

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Muon decay spectrum (energy spectrum of an electron in muon decay) can give information about weak interaction and Standard Model in general. Leptonic decays of leptons, such as muon and tau lepton, are a “pure laboratory”for testing the Standard Model and searching for new physics. For such processes, high-precision and highly sensitive experiments can be carried out, in which small deviations from the Standard Model can be seen. For theoretical description and prediction of the results of such experiments it is necessary to calculate the radiative corrections with high precision. Full non-polarized radiative corrections in leading and next-to-leading logarithmic approximations to the \alpha^3 order are presented.

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