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The QED corrections in the Standard Model

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The radiative correction (of the type g/2pi) is one of the commonly used methods of a comparison of the effects with very different scales [1]. For example, Bernstein marked the closeness of the QED correction (alpha/pi) to the parameter of CP-nonconservation in kaon decay [2]. There is an exact coincidence between QED radiative correction alpha/2pi=1.159 10-3 with the ratio between well-known Standard Model parameters m-mu/MZ=1.159 10-3 [3], while the lepton ratio m-mu/m-e=206.77 become integer 207.01 after small QED correction for the electron rest mass. We follow Nambu suggestion [4] that empirical relations in particle masses could be useful for the SM-development, and consider additional empirical relations in well-known particle masses, including top-quark and tau-lepton. Indirect confirmation of these tuning effects in particle masses was found in the corresponding tuning effects in the nuclear data [5].

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