

Physics at a Z factory

The most valuable task for high-energy physics at future colliders is the study of the Standard Model features in detail. That is required to resolve crucial problems of this model including the origin of the spontaneous symmetry breaking, the metastability of the Higgs boson vacuum, the symmetry and mass hierarchy of three fermion generations, etc. High statistics and advanced experimental accuracy at future Z factories can provide a substantially new level of the SM verification [1]. The physical program of such factories extends the studies performed at LEP because of higher statistics, modern detectors and advanced analysis techniques. All that challenges theory to provide adequately accurate SM predictions. Those challenges and some recent developments are discussed. ReneSANCe [1] Monte Carlo event generator and MCSANC [3] integrator presented. They are developed for high-precision studies of electroweak physics at future electron-positron colliders.

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