

Model-dependent constraints on the mass of additional Z' -boson at the next-generation electron-positron colliders

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Heavy neutral gauge boson Z' are predicted by many theoretical schemes of physics beyond the Standard Model, and intensive searches for their signatures will be performed at the next-generation high energy electron-positron colliders. It is quite possible that Z' is heavy enough to lie beyond the discovery reach expected at the LHC, in which case only indirect signatures of Z' exchanges may occur at future colliders, through deviations of the measured cross sections from the Standard Model predictions.

We here assess the identification reaches on Z' gauge boson pertinent to the SSM, LR, ALR and E_6 classes of models at the planned International Linear Collider (ILC) and Compact Linear Collider (CLIC).

Based on the previously developed model-independent analysis methodology, model-dependent constraints on the Z' mass have been derived in this paper.

Primary authors: SINEGRIBOV, D. V. (P.O. Sukhoi Gomel State Technical University, F. Skorina Gomel State University); Dr ANDREEV, V. V. (F. Skorina Gomel State University)

Co-author: Mrs SERENKOVA, I. A. (P.O. Sukhoi Gomel State Technical University)

Presenter: SINEGRIBOV, D. V. (P.O. Sukhoi Gomel State Technical University, F. Skorina Gomel State University)

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