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The CLIC potential for new physics

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The Compact Linear Collider (CLIC) is a mature option for a future electron-positron collider operating at centre-of-mass energies of up to 3 TeV. CLIC will be built and operated in a staged approach with three centre-of-mass energy stages currently assumed to be 380 GeV, 1.5 TeV, and 3 TeV. A selection of results from recent studies will be presented showing that CLIC has excellent sensitivity to many BSM physics scenarios, both through direct observation and precision measurements of SM processes. New particles can be discovered in a model-independent way almost up to the kinematic limit. Compared with hadron colliders, the low background conditions at CLIC provide extended discovery potential. In addition to studying new particles directly, BSM models can be probed up to scales of tens of TeV through precision measurements. Beam polarisation allows further constraints on the underlying theory in many cases.

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