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The CLIC potential for new physics PHILIPP ROLOFF[1], CERN, CLIC DETECTOR AND PHYSICS (CLICDP) COLLABORATION — 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. 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 particular for the production through electroweak and/or Higgs boson interactions. This includes long-lived states, for example through the reconstruction of disappearing tracks. In addition to studying new particles directly, BSM models can be probed up to scales far beyond the centre-of-mass energy of the collider via precision measurements of Standard Model processes. Beam polarisation allows further constraints on the underlying theory in many cases.

[1]The presenter will be nominated by the CLICdp collaboration after acceptance of the contribution.

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