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BSM physics at CLIC (15' + 5')

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The Compact Linear Collider (CLIC) is an option for a future electron-positron collider operating at centre-of-mass energies from a few hundred GeV up to 3 TeV. The search for phenomena beyond the Standard Model through direct observation of new particles and precision measurements is a main motivation for the high-energy stages of CLIC. An overview of physics benchmark studies assuming different New Physics scenarios is given in this presentation. These studies are based on full detector simulations. New particles can be discovered in a model-independent way almost up to the kinematic limit of $\sqrt{s} / 2$. The low background conditions at CLIC provide extended discovery potential compared to hadron colliders, for example in the case of non-coloured TeV -scale SUSY particles. In addition to studying new particles directly, BSM models can be probed up to scales of tens of TeV through precision measurements. Examples, including recent results on the reaction $e^+ e^- \rightarrow \gamma \gamma$, are given. Beam polarisation allows to constrain the underlying theory further in many cases. The talk will also include discussion of LHC results relevant for the CLIC physics case.

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