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WIMP search at the International Linear Collider —
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The International Linear Collider (ILC) is a planned electron-positron collider with \sqrt{s} tunable from 250 to 500 GeV, with a possible upgrade to 1 TeV. Besides precision measurements of the Higgs boson its physics goals comprise searches for physics beyond the Standard Model, e.g. searches for Dark Matter.

This collider search assumes the production of WIMPs in pairs. They are not visible in the detector but the energy carried away can be observed via an additional ("tag") particle. Photon emission from the initial state leads to the almost model independent signature: $e^+e^- \rightarrow \chi\chi\gamma$. As this analysis tests couplings between WIMPs and leptons it is complementary to analogue searches at the LHC and direct detection. A precise study is facilitated by the clean environment of lepton colliders with small systematics of electroweak backgrounds.

While the conceptual feasibility and the sensitivity reach of the ILC have been shown in the past, this talk focusses on the treatment of the main reducible Standard Model background: Radiative Bhabha scattering $e^+e^- \rightarrow e^+e^-\gamma$ mimics the signal if the leptons are undetected. Hence the best possible hermeticity of the detector, especially in the forward region, is one of the key requirements on the detector design.

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