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Small Visible Energy Scalar Top Iterative Discriminant Analysis

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The precision determination of scalar top quark properties will play an important role at a future International Linear Collider (ILC). The scenario with small expected visible energies, from almost mass degenerate stops and neutralinos, is cosmologically motivated and experimentally particularly challenging. This scenario has been investigated with an Iterative Discriminant Analysis (IDA) and first results on the IDA performance are reported. The simulation is based on a fast and realistic detector simulation. A vertex detector concept of the Linear Collider Flavor Identification (LCFI) collaboration, which studies pixel detectors for heavy quark flavour identification, is implemented in the simulations for c-quark tagging.

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