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Theory meets Experiment

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## Probing GHU models at the ILC with di-quark AFB at c.m.e. above the Z mass

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We discuss the experimental prospects for measuring differential observables in b-quark and c-quark pair production at the International Linear Collider (ILC) baseline energies, 250 and 500 GeV. The study is based on full simulation and reconstruction of the International Large Detector (ILD) concept. Two gauge-Higgs unification models predicting new high-mass resonances beyond the Standard Model are discussed. These models predict sizable deviations of the forward-backward observables at the ILC running above the mass and with longitudinally polarized electron and positron beams. The capability of the ILC to probe these models via high-precision measurements of the forward-backward asymmetry is discussed.

Alternative scenarios at other energies and beam polarization schemes are also discussed, extrapolating the estimated uncertainties from the two baseline scenarios.

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