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# Beam Polarisation and Triple Gauge Couplings in ee->WW at the ILC

*Saturday 20 July 2013 11:00 (20 minutes)*

A unique feature of the future e+e- linear collider is the ability to provide longitudinal polarised beams. In order to fully exploit the benefits of the polarised beams, the luminosity weighted average polarisation needs to be known with a permille-level precision. A method for measuring the beam polarisation from the collision data is presented. It is based on a realistic full simulation study of the semi-leptonic W-pair production in e+e- annihilation at the ILC at centre-of-mass energies of 500 GeV and 1 TeV with the ILD detector. Assuming that the angular distributions of the W-pair production are described by the Standard Model, the longitudinal polarisation of the electron and positron beams is measured with high accuracy. The W-pair events and the angular distributions for the final state qqlnu are also used to determine the triple gauge couplings. Results from a simultaneous measurement of the beams' polarisation and the TGCs show that they can be determined independently and thus the method would not be compromised by indirect contributions from physics beyond the Standard Model.

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