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# Measuring the trilinear couplings of MSSM neutral Higgs bosons in the light of the discovery of a Higgs boson

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We consider the measurement of the trilinear couplings of the neutral Higgs bosons in the Minimal Supersymmetric Standard Model (MSSM) at a high energy $e^+e^-$ linear collider in the light of the discovery of a Higgs boson at the CERN Large Hadron Collider˜(LHC). We identify the state observed at the LHC with the lightest Higgs boson ($h^0$) of the MSSM, and impose the constraints following from this identification, as well as other experimental constraints on the MSSM parameter space. In order to measure trilinear neutral Higgs couplings, we consider different processes where the heavier Higgs boson ($H^0$) of the MSSM is produced in electron-positron collisions, which subsequently decays into a pair of lighter Higgs boson. We identify the regions of the MSSM parameter space where it may be possible to measure the trilinear couplings of the Higgs boson at a future electron positron collider.

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