

PARTICLEFACE 2021: Unraveling New Physics Workshop & Management Committee Meeting



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Precision predictions for the Higgs masses and mixings in the CP-violating MSSM

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The mass of the discovered Higgs boson is one of its most precisely measured properties with an experimental accuracy at the sub-percent level. Its measured value can place strong constraints on extensions of the Standard Model, in particular on the Minimal Supersymmetric Standard Model. To fully exploit this experimental precision, very precise predictions of the mass of the Standard-Model-like Higgs boson in the respective model are needed. In addition, the coupling behaviour of the discovered Higgs boson puts further constraints on viable Beyond Standard Model physics scenarios.

In this talk, I will focus on some recent developments of improving the predictions within the MSSM for scenarios with relatively heavy supersymmetric partner particles taking into account CP-violating phases. Part of the work has been performed during an STSM supported from the COST Action CA16201 PARTICLEFACE.

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