

# Quantum field theory meets gravity

DESY THEORY WORKSHOP

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RESEARCH FOR GRAND CHALLENGES

## Quantum field theory meets gravity



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## Constraining the MSSM Higgs sector in the low $\tan\beta$ region

*Thursday 26 September 2019 16:30 (25 minutes)*

We review recent progress in the calculation of the MSSM Higgs boson masses for low  $M_A$  and  $\tan\beta$  using the THDM as low-energy EFT. As an application of this calculation, we present two new Higgs benchmark scenarios valid in the region of low  $\tan\beta$ . While all SUSY masses are chosen relatively heavy in the first scenario, the second scenario features light neutralinos and charginos. Both scenarios are largely compatible with recent LHC results. We also discuss their main phenomenological features relevant for future LHC searches.

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