

Preface

The research presented in this thesis was conducted at the Institute for Theoretical Physics at Heidelberg University from October 2016 to May 2019. The content of the Chapters ??- ?? are based on work in collaboration with other authors and have previously been published as

- [1] A. Biekötter, F. Keilbach, R. Moutafis, T. Plehn and J. Thompson,
Tagging Jets in Invisible Higgs Searches,
SciPost Phys. **4** (2018) no. 6, 035, [arXiv:1712.03973](#) [hep-ph]
- [2] A. Biekötter, D. Gonçalves, T. Plehn, M. Takeuchi and D. Zerwas,
The Global Higgs Picture at 27 TeV,
SciPost Phys. **6** (2019) no. 2, 024, [arXiv:1811.08401](#) [hep-ph]
- [3] A. Biekötter, C. Corbett, T. Plehn,
The Gauge-Higgs Legacy of the LHC Run II,
to appear in *SciPost Phys.*, [arXiv:1812.07587](#) [hep-ph]

respectively.