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Standard model Higgs-boson branching ratios with uncertainties

LHC Higgs Cross Section Working Group

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Abstract We present an update of the branching ratios for Higgs-boson decays in the Standard Model. We list results for all relevant branching ratios together with corresponding uncertainties resulting from input parameters and missing higher-order corrections. As sources of parametric uncertainties we include the masses of the charm, bottom, and top quarks as well as the QCD coupling constant. We compare our results with other predictions in the literature.

1 Introduction

One of the main goals of the LHC is the identification of the mechanism of electroweak symmetry breaking. The most frequently investigated model is the Higgs mechanism within the Standard Model (SM) [1–5] with the mass of the Higgs boson, M_H, being the only unknown parameter of the SM relevant for the Higgs sector. All theoretical and experimental results can be expressed as a function of M_H. The LEP experiments searched for the SM Higgs boson, excluding Higgs-boson masses below 114.4 GeV [6] at the 95% C.L., while the Tevatron established an exclusion region of $156\,\text{GeV} \leq M_H \leq 177\,\text{GeV}$ [7]. Recently also first results on the Higgs searches at the LHC have been published by ATLAS [8] and CMS [9].[1] For a correct interpretation of the experimental data, precise calculations of the various production cross sections and the relevant decay widths and branching ratios are necessary, including an accurate estimate of the respective uncertainties. To coordinate these calculations for the Higgs boson searches at the LHC the *LHC Higgs Cross Section Working Group* was established [11]. First results on the cross section and branching ratio (BR) calculations for the SM Higgs boson (as well as for Higgs bosons of the Minimal Supersymmetric Standard Model) were recently published [12].

In this paper we present an update of the BR calculation as well as results for the uncertainties of the decay widths and BRs for a SM Higgs boson. Neglecting these uncertainties would yield in the case of negative search results too large excluded regions of the parameter space. In case of a Higgs-boson signal these uncertainties are crucial to perform a reliable and accurate determination of M_H and the Higgs-boson couplings [13–15]. (At a future linear e^+e^- collider the Higgs couplings can be measured accurately in a model-independent way [16, 17] so that the quark masses involved in the Yukawa couplings will be extracted with much higher precision than using QCD sum rules within the J/ψ and Υ systems.) The uncertainties arise from two sources, the missing higher-order corrections yield the "theoretical" uncertainties, while the experimental errors on the SM input parameters, such as the quark masses or the strong coupling constant, give rise to the "parametric" uncertainties. Both types of uncertainty have to be taken into account and combined for a reliable estimate. We investigate all relevant channels for the SM Higgs boson, $H \to t\bar{t}$, $H \to b\bar{b}$, $H \to c\bar{c}$, $H \to \tau^+\tau^-$, $H \to \mu^+\mu^-$, $H \to gg$, $H \to \gamma\gamma$, $H \to Z\gamma$, $H \to WW$ and $H \to ZZ$ (including detailed results also for the various four-fermion final states). We present results for the total width, Γ_H, as well as for various BRs.

The paper is organized as follows. In Sect. 2 we briefly review the codes and calculations employed in our analysis. The input parameters are summarized in Sect. 3. We describe in detail how the various uncertainties are obtained in Sect. 4, where we also give details about their combination to obtain the overall uncertainties. In Sect. 5 we present our

[1]More recent results can be found in [10].

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Table 1 The SM input parameters used for the branching-ratio calculations presented in this work

e mass	0.510998910 MeV	μ mass	105.658367 MeV	τ mass	1776.84 MeV
$\overline{\text{MS}}$ mass $m_c(m_c)$	1.28 GeV	$\overline{\text{MS}}$ mass $m_b(m_b)$	4.16 GeV	$\overline{\text{MS}}$ mass $m_s(2\,\text{GeV})$	100 MeV
1-loop pole mass m_c	1.42 GeV	1-loop pole mass m_b	4.49 GeV	pole mass m_t	172.5 GeV
W mass	80.36951 GeV	NLO Γ_W	2.08856 GeV		
Z mass	91.15349 GeV	NLO Γ_Z	2.49581 GeV		
G_F	$1.16637 \times 10^{-5}\,\text{GeV}^{-2}$	$\alpha(0)$	1/137.0359997	$\alpha_s(M_Z^2)$	0.119

main results, the uncertainty estimates for the various decay channels (where detailed tables can be found at the end of the paper). A brief discussion of the differences to earlier analyses of the uncertainties is given in Sect. 6. Our conclusions can be found in Sect. 7.

2 Programs and Strategy for Branching Ratio Calculations

The branching ratios of the Higgs boson in the SM have been determined using the programs HDECAY [18–20] and PROPHECY4F [21–23]. In a first step, all partial widths have been calculated as accurately as possible. Then the branching ratios have been derived from this full set of partial widths. Since the widths are calculated for on-shell Higgs bosons, the results have to be used with care for a heavy Higgs boson ($M_H \gtrsim 500\,\text{GeV}$).

- HDECAY calculates the decay widths and branching ratios of the Higgs boson(s) in the SM and the MSSM. For the SM it includes all kinematically allowed channels and all relevant higher-order QCD corrections to decays into quark pairs and into gluons. More details are given below.
- PROPHECY4F is a Monte Carlo event generator for $H \to WW/ZZ \to 4f$ (leptonic, semi-leptonic, and hadronic) final states. It provides the leading-order (LO) and next-to-leading-order (NLO) partial widths for any possible 4-fermion final state. It includes the complete NLO QCD and electroweak corrections and all interferences at LO and NLO. In other words, it takes into account both the corrections to the decays into intermediate WW and ZZ states as well as their interference for final states that allow for both. The dominant two-loop contributions in the heavy-Higgs-mass limit proportional to $G_\mu^2 M_H^4$ are included according to Refs. [24, 25]. Since the calculation is consistently performed with off-shell gauge bosons without any on-shell approximation, it is valid above, near, and below the gauge-boson pair thresholds. Like all other light quarks and leptons, bottom quarks are treated as massless. Using the LO/NLO gauge-boson widths in the LO/NLO calculation ensures that the effective branching ratios of the W and Z bosons obtained by summing over all decay channels add up to one.
- Electroweak next-to-leading order (NLO) corrections to the decays $H \to \gamma\gamma$ and $H \to gg$ have been calculated in [26–32]. They are implemented in HDECAY in form of grids based on the calculations of [31, 32].

The results presented below have been obtained as follows. The Higgs total width resulting from HDECAY has been modified according to the prescription

$$\Gamma_H = \Gamma^{HD} - \Gamma_{ZZ}^{HD} - \Gamma_{WW}^{HD} + \Gamma_{4f}^{Proph.}, \tag{1}$$

where Γ_H is the total Higgs width, Γ^{HD} the Higgs width obtained from HDECAY, Γ_{ZZ}^{HD} and Γ_{WW}^{HD} stand for the partial widths to ZZ and WW calculated with HDECAY, while $\Gamma_{4f}^{Proph.}$ represents the partial width of $H \to 4f$ calculated with PROPHECY4F. The latter can be split into the decays into ZZ, WW, and the interference,

$$\Gamma_{4f}^{Proph.} = \Gamma_{H\to W^*W^*\to 4f} + \Gamma_{H\to Z^*Z^*\to 4f} + \Gamma_{WW/ZZ-int.}\,. \tag{2}$$

3 The SM input-parameter set

The production cross sections and decay branching ratios of the Higgs bosons depend on a large number of SM parameters. For the following calculations, the input parameter set has been defined within the *LHC Higgs Cross Section Working Group*[2] and the chosen values are listed in Table 1.

The gauge-boson masses given in Table 1 are the pole masses derived from the PDG values $M_Z = 91.1876\,\text{GeV}$, $\Gamma_Z = 2.4952\,\text{GeV}$, $M_W = 80.398\,\text{GeV}$, $\Gamma_W = 2.141\,\text{GeV}$ and the gauge-boson widths in Table 1 are calculated at NLO from the other input parameters.

It should be noted that for our numerical analysis we have used the one-loop pole masses for the charm and bottom quarks and their uncertainties, since these values do not exhibit a significant dependence on the value of the strong coupling constant α_s in contrast to the $\overline{\text{MS}}$ masses [33].

[2]These parameters can be found at https://twiki.cern.ch/twiki/bin/view/LHCPhysics/SMInputParameter.

4 Procedure for determining uncertainties

We included two types of uncertainty, parametric uncertainties (PU), which originate from uncertainties in input parameters, and theoretical uncertainties (TU), which arise from unknown contributions to the theoretical predictions, typically missing higher orders. Here we describe the way these uncertainties have been determined.

4.1 Parametric uncertainties

In order to determine the parametric uncertainties of the Higgs-decay branching ratios we took into account the uncertainties of the input parameters α_s, m_c, m_b, and m_t. The considered variation of these input parameters is given in Table 2. The variation in α_s corresponds to three times the error given in [34, 35]. The uncertainties for m_b and m_c are a compromise between the errors of [35] and the errors from the most precise evaluations [36–38]. For m_c our error corresponds roughly to the one obtained in [39]. Finally, the assumed error for m_t is about twice the error from the most recent combination of CDF and DØ [40].

We did not consider parametric uncertainties resulting from experimental errors on G_F, M_Z, M_W and the lepton masses, because their impact is below one per mille. We also did not include uncertainties for the light quarks u, d, s as the corresponding branching ratios are very small and the impact on other branching ratios is negligible. Since we used G_F to fix the electromagnetic coupling $\alpha(M_Z)$, uncertainties in the hadronic vacuum polarization do not matter.

Given the uncertainties in the parameters, the parametric uncertainties have been determined as follows. For each parameter $p = \alpha_s, m_c, m_b, m_t$ we have calculated the Higgs branching ratios for p, $p + \Delta p$ and $p - \Delta p$, while all other parameters have been left at their central values. The error on each branching ratio has then been determined by

$$\begin{aligned}\Delta^p_+ \mathrm{BR} &= \max\big\{\mathrm{BR}(p+\Delta p), \mathrm{BR}(p), \mathrm{BR}(p-\Delta p)\big\} \\ &\quad - \mathrm{BR}(p) \\ \Delta^p_- \mathrm{BR} &= \mathrm{BR}(p) \\ &\quad - \min\big\{\mathrm{BR}(p+\Delta p), \mathrm{BR}(p), \mathrm{BR}(p-\Delta p)\big\}.\end{aligned} \tag{3}$$

The total parametric errors have been obtained by adding the parametric errors from the four parameter variations in quadrature. This procedure ensures that the branching ratios add up to unity for all parameter variations individually.

The uncertainties of the partial and total decay widths have been obtained in an analogous way,

$$\begin{aligned}\Delta^p_+ \Gamma &= \max\big\{\Gamma(p+\Delta p), \Gamma(p), \Gamma(p-\Delta p)\big\} - \Gamma(p) \\ \Delta^p_- \Gamma &= \Gamma(p) - \min\big\{\Gamma(p+\Delta p), \Gamma(p), \Gamma(p-\Delta p)\big\}.\end{aligned} \tag{4}$$

Table 2 Input parameters and their relative uncertainties, as used for the uncertainty estimation of the branching ratios. The masses of the central values correspond to the 1-loop pole masses, while the last column contains the corresponding $\overline{\mathrm{MS}}$ mass values

Parameter	Central value	Uncertainty	$\overline{\mathrm{MS}}$ masses $m_q(m_q)$
$\alpha_s(M_Z)$	0.119	±0.002	
m_c	1.42 GeV	±0.03 GeV	1.28 GeV
m_b	4.49 GeV	±0.06 GeV	4.16 GeV
m_t	172.5 GeV	±2.5 GeV	165.4 GeV

where Γ denotes the partial decay width for each considered decay channel or the total width, respectively. The total parametric errors have been derived by adding the individual parametric errors in quadrature.

4.2 Theoretical uncertainties

The second type of uncertainty for the Higgs branching ratios results from approximations in the theoretical calculations, the dominant effects being due to missing higher orders. Since the decay widths have been calculated with HDECAY and PROPHECY4F the missing contributions in these codes are relevant. For QCD corrections the uncertainties have been estimated by the scale dependence of the widths resulting from a variation of the scale up and down by a factor 2 or from the size of known omitted corrections. For electroweak corrections the missing higher orders have been estimated based on the known structure and size of the NLO corrections. For cases where HDECAY takes into account the known NLO corrections only approximatively the accuracy of these approximations has been used. The estimated relative theoretical uncertainties for the partial widths resulting from missing higher-order corrections are summarized in Table 3. The corresponding uncertainty for the total width is obtained by adding the uncertainties for the partial widths linearly.

Specifically, the uncertainties of the partial widths calculated with HDECAY are obtained as follows: For the decays $H \to b\bar{b}, c\bar{c}$, HDECAY includes the complete massless QCD corrections up to and including NNNNLO, with a corresponding scale dependence of about 0.1% [41–48]. The NLO electroweak corrections [49–52] are included in the approximation for small Higgs masses [53] which has an accuracy of about 1–2% for $M_H < 135$ GeV. The same applies to the electroweak corrections to $H \to \tau^+\tau^-$. For Higgs decays into top quarks HDECAY includes the complete NLO QCD corrections [54–60] interpolated to the large-Higgs-mass results at NNNNLO far above the threshold [41–48]. The corresponding scale dependence is below 5%. Only the NLO electroweak corrections due to the self-interaction of the Higgs boson are included, and the neglected electroweak corrections amount to about 2−5% for $M_H < 500$ GeV,

Table 3 Estimated theoretical uncertainties from missing higher orders

Partial Width	QCD	Electroweak	Total
$H \to b\bar{b}/c\bar{c}$	∼0.1%	∼1–2% for $M_H \lesssim 135\,\text{GeV}$	∼2%
$H \to \tau^+\tau^-/\mu^+\mu^-$		∼1–2% for $M_H \lesssim 135\,\text{GeV}$	∼2%
$H \to t\bar{t}$	$\lesssim$5%	$\lesssim$ 2–5% for $M_H < 500\,\text{GeV}$	∼5%
		$\sim 0.1(\frac{M_H}{1\,\text{TeV}})^4$ for $M_H > 500\,\text{GeV}$	∼5–10%
$H \to gg$	∼3%	∼1%	∼3%
$H \to \gamma\gamma$	<1%	< 1%	∼1%
$H \to Z\gamma$	<1%	∼5%	∼5%
$H \to WW/ZZ \to 4f$	<0.5%	∼0.5% for $M_H < 500\,\text{GeV}$	∼0.5%
		$\sim 0.17(\frac{M_H}{1\,\text{TeV}})^4$ for $M_H > 500\,\text{GeV}$	∼0.5–15%

where 5% refers to the region near the $t\bar{t}$ threshold and 2% to Higgs masses far above. For $M_H > 500\,\text{GeV}$ higher-order heavy-Higgs corrections [61–66] dominate the error, resulting in an uncertainty of about $0.1 \times (M_H/1\,\text{TeV})^4$ for $M_H > 500\,\text{GeV}$. For $H \to gg$, HDECAY uses the NLO [67–69], NNLO [70], and NNNLO [71] QCD corrections in the limit of heavy top quarks. The uncertainty from the scale dependence at NNNLO is about 3%. The NLO electroweak corrections are included via an interpolation based on a grid from [32]; the uncertainty from missing higher-order electroweak corrections is estimated to be 1%. For the decay $H \to \gamma\gamma$, HDECAY includes the full NLO QCD corrections [69, 72–77] and a grid from [31, 32] for the NLO electroweak corrections. Missing higher orders are estimated to be below 1%. The contribution of the $H \to \gamma e^+e^-$ decay via virtual photon conversion, evaluated in [78] is not taken into account in the following results. Its correct treatment and its inclusion in HDECAY are in progress.[3] The partial decay width $H \to Z\gamma$ is included in HDECAY at LO including the virtual W, top, bottom and τ loop contributions. The QCD corrections are small in the intermediate-Higgs-mass range [79] and can thus safely be neglected. The associated theoretical uncertainty ranges at the level below one per cent. The electroweak corrections to this decay mode are unknown and thus imply a theoretical uncertainty of about 5% in the intermediate-Higgs-mass range.

The decays $H \to WW/ZZ \to 4f$ are based on PROPHECY4F, which includes the complete NLO QCD and electroweak corrections with all interferences and leading two-loop heavy-Higgs corrections. For small Higgs-boson masses the missing higher-order corrections are estimated to roughly 0.5%. For $M_H > 500\,\text{GeV}$ higher-order heavy-Higgs corrections dominate the error leading to an uncertainty of about $0.17 \times (M_H/1\,\text{TeV})^4$.

Based on the error estimates for the partial widths in Table 3, the theoretical uncertainties for the branching ratios are determined as follows. For the partial widths $H \to b\bar{b}$, $c\bar{c}$, $\tau^+\tau^-$, gg, $\gamma\gamma$ the total uncertainty given in Table 3 is used. For $H \to t\bar{t}$ and $H \to WW/ZZ \to 4f$, the total uncertainty is used for $M_H < 500\,\text{GeV}$, while for higher Higgs masses the QCD and electroweak uncertainties are added linearly. Then the shifts of all branching ratios are calculated resulting from the scaling of an individual partial width by the corresponding relative error (since each branching ratio depends on all partial widths, scaling a single partial width modifies all branching ratios). This is done by scaling each partial width separately while fixing all others to their central values, resulting in individual theoretical uncertainties of each branching ratio. However, since the errors for all $H \to WW/ZZ \to 4f$ decays are correlated for $M_H > 500\,\text{GeV}$ or small below, we only consider the simultaneous scaling of all 4-fermion partial widths. The thus obtained individual theoretical uncertainties for the branching ratios are combined linearly to obtain the total theoretical uncertainties.

Finally, the total uncertainties are obtained by adding linearly the total parametric uncertainties and the total theoretical uncertainties.

5 Results

In this section the results of the SM Higgs branching ratios, calculated according to the procedure described above, are shown and discussed. Figure 1 shows the SM Higgs branching ratios in the low mass range, $100\,\text{GeV} \le M_H \le 200\,\text{GeV}$ as solid lines. The (colored) bands around the lines show the respective uncertainties, estimated considering both the theoretical and the parametric uncertainty sources (as discussed in Sect. 4). The same results, but now for the "full" mass range, $100\,\text{GeV} \le M_H \le 1000\,\text{GeV}$, are shown in Fig. 2. More detailed results on the decays $H \to WW$ and $H \to ZZ$ with the subsequent decay to 4f are presented in Figs. 3 and 4. The largest "visible" uncertainties are found for the channels $H \to \tau^+\tau^-$, $H \to gg$, $H \to c\bar{c}$ and $H \to t\bar{t}$, see below.

[3] The contribution of $H \to \gamma e^+e^-$ is part of the QED corrections to $H \to \gamma\gamma$ which are expected to be small in total.

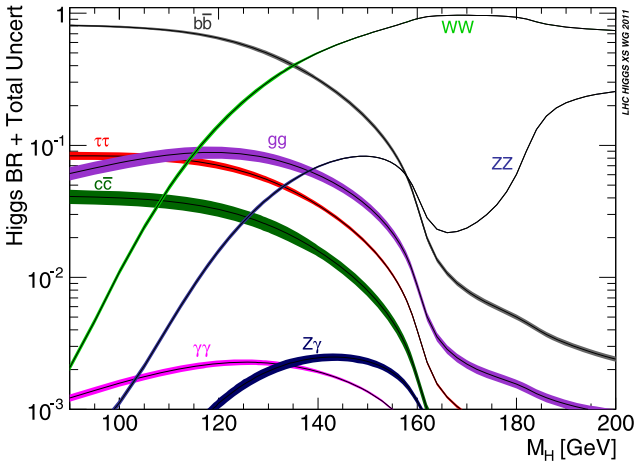

Fig. 1 Higgs branching ratios and their uncertainties for the low mass range

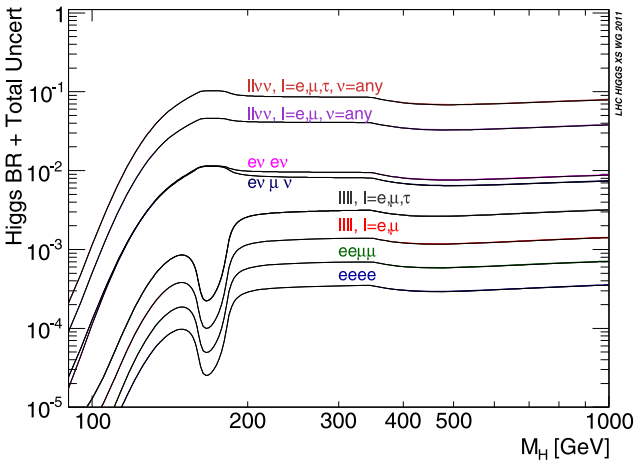

Fig. 3 Higgs branching ratios for the different H → 4l and H → 2l2ν final states and their uncertainties for the full mass range

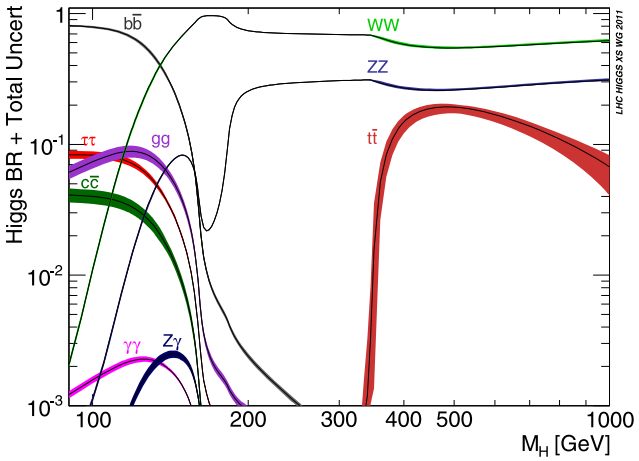

Fig. 2 Higgs branching ratios and their uncertainties for the full mass range

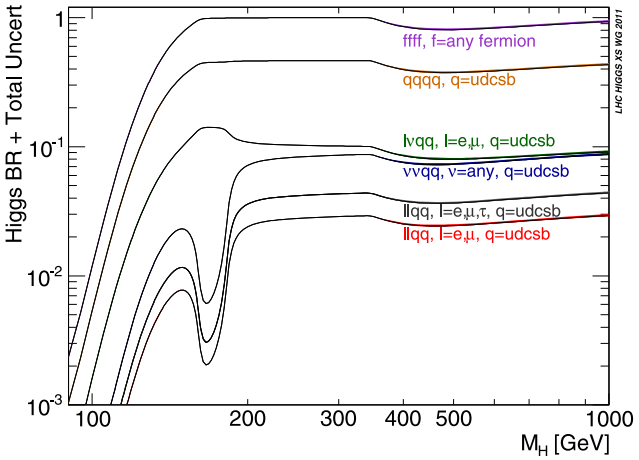

Fig. 4 Higgs branching ratios for H → 4q, H → 4f and H → 2q2l, 2qlν, 2q2ν final states and their uncertainties for the full mass range

Tables 4–13, which can be found at the end of the paper, show the branching ratios for the Higgs two-body fermionic and bosonic final states, together with their total uncertainties, estimated as discussed in Sect. 4.[4] Tables 9–13 also contain the total Higgs width Γ_H in the last column. More detailed results for four representative Higgs-boson masses are given in Table 14. Here we show the BR, the PU separately for the four parameters as given in Table 2, the total PU, the theoretical uncertainty TU as well as the total uncertainty on the Higgs branching ratios. The TU are most relevant for the H → gg, H → Zγ and H → $t\bar{t}$ branching ratios, reaching $\mathcal{O}(10\%)$. For the H → $b\bar{b}$, H → $c\bar{c}$ and H → $\tau^+\tau^-$ branching ratios they remain below a few percent. PU are relevant mostly for the H → $c\bar{c}$ and H → gg branching ratios, reaching up to $\mathcal{O}(10\%)$ and $\mathcal{O}(5\%)$, respectively. They are mainly induced by the parametric uncertainties in α_s and m_c. The PU resulting from m_b affect the BR(H → $b\bar{b}$) at the level of 3%, and the PU from m_t influences in particular the BR(H → $t\bar{t}$) near the $t\bar{t}$ threshold. For the H → γγ channel the total uncertainty can reach up to about 5% in the relevant mass range. Both TU and PU on the important channels H → ZZ and H → WW remain at the level of 1% over the full mass range, giving rise to a total uncertainty below 3% for $M_H > 135\,\text{GeV}$.

Finally, Tables 15–19 and Tables 20–24, to be found at the end of the paper, list the branching ratios for the most relevant Higgs decays into four-fermion final states. The right column in these tables shows the total relative uncertainties on these branching ratios in percentage. These are practically equal for all the H → 4f branching ratios and the same as those for H → WW/ZZ. It should be noted that the charge-conjugate state is not included for H → lνq$\bar{q}$.

[4]The value 0.0% means that the uncertainty is below 0.05%.

Table 4 SM Higgs branching ratios to two fermions and their total uncertainties (expressed in percentage). Very low mass range

M_H [GeV]	$H \to b\bar{b}$	$H \to \tau^+\tau^-$	$H \to \mu^+\mu^-$	$H \to c\bar{c}$
90.0	$8.10E{-}01^{+1.6\%}_{-1.6\%}$	$8.33E{-}02^{+7.0\%}_{-6.8\%}$	$2.89E{-}04^{+7.3\%}_{-7.1\%}$	$4.10E{-}02^{+12.1\%}_{-12.1\%}$
95.0	$8.02E{-}01^{+1.7\%}_{-1.7\%}$	$8.32E{-}02^{+6.9\%}_{-6.8\%}$	$2.89E{-}04^{+7.3\%}_{-7.1\%}$	$4.05E{-}02^{+12.2\%}_{-12.1\%}$
100.0	$7.89E{-}01^{+1.8\%}_{-1.8\%}$	$8.28E{-}02^{+6.9\%}_{-6.7\%}$	$2.88E{-}04^{+7.2\%}_{-7.0\%}$	$3.99E{-}02^{+12.2\%}_{-12.2\%}$
105.0	$7.71E{-}01^{+1.9\%}_{-2.0\%}$	$8.17E{-}02^{+6.8\%}_{-6.7\%}$	$2.84E{-}04^{+7.1\%}_{-7.0\%}$	$3.90E{-}02^{+12.2\%}_{-12.2\%}$
110.0	$7.44E{-}01^{+2.1\%}_{-2.2\%}$	$7.95E{-}02^{+6.6\%}_{-6.5\%}$	$2.76E{-}04^{+7.0\%}_{-6.8\%}$	$3.75E{-}02^{+12.2\%}_{-12.2\%}$
110.5	$7.40E{-}01^{+2.1\%}_{-2.2\%}$	$7.91E{-}02^{+6.6\%}_{-6.5\%}$	$2.75E{-}04^{+6.9\%}_{-6.8\%}$	$3.74E{-}02^{+12.2\%}_{-12.2\%}$
111.0	$7.37E{-}01^{+2.2\%}_{-2.2\%}$	$7.89E{-}02^{+6.6\%}_{-6.5\%}$	$2.74E{-}04^{+6.9\%}_{-6.8\%}$	$3.72E{-}02^{+12.2\%}_{-12.2\%}$
111.5	$7.33E{-}01^{+2.2\%}_{-2.3\%}$	$7.86E{-}02^{+6.6\%}_{-6.5\%}$	$2.72E{-}04^{+6.9\%}_{-6.8\%}$	$3.70E{-}02^{+12.2\%}_{-12.2\%}$
112.0	$7.29E{-}01^{+2.2\%}_{-2.3\%}$	$7.82E{-}02^{+6.5\%}_{-6.4\%}$	$2.71E{-}04^{+6.9\%}_{-6.7\%}$	$3.68E{-}02^{+12.2\%}_{-12.2\%}$
112.5	$7.25E{-}01^{+2.3\%}_{-2.3\%}$	$7.79E{-}02^{+6.5\%}_{-6.4\%}$	$2.70E{-}04^{+6.8\%}_{-6.7\%}$	$3.66E{-}02^{+12.2\%}_{-12.2\%}$
113.0	$7.21E{-}01^{+2.3\%}_{-2.4\%}$	$7.75E{-}02^{+6.5\%}_{-6.4\%}$	$2.69E{-}04^{+6.8\%}_{-6.7\%}$	$3.64E{-}02^{+12.2\%}_{-12.2\%}$
113.5	$7.17E{-}01^{+2.3\%}_{-2.4\%}$	$7.71E{-}02^{+6.5\%}_{-6.4\%}$	$2.67E{-}04^{+6.8\%}_{-6.7\%}$	$3.62E{-}02^{+12.2\%}_{-12.2\%}$
114.0	$7.12E{-}01^{+2.4\%}_{-2.4\%}$	$7.67E{-}02^{+6.5\%}_{-6.3\%}$	$2.66E{-}04^{+6.8\%}_{-6.7\%}$	$3.59E{-}02^{+12.2\%}_{-12.2\%}$
114.5	$7.08E{-}01^{+2.4\%}_{-2.4\%}$	$7.63E{-}02^{+6.4\%}_{-6.3\%}$	$2.64E{-}04^{+6.8\%}_{-6.6\%}$	$3.57E{-}02^{+12.2\%}_{-12.2\%}$
115.0	$7.03E{-}01^{+2.4\%}_{-2.5\%}$	$7.58E{-}02^{+6.4\%}_{-6.3\%}$	$2.63E{-}04^{+6.7\%}_{-6.6\%}$	$3.55E{-}02^{+12.2\%}_{-12.2\%}$
115.5	$6.98E{-}01^{+2.4\%}_{-2.5\%}$	$7.54E{-}02^{+6.4\%}_{-6.3\%}$	$2.61E{-}04^{+6.7\%}_{-6.6\%}$	$3.52E{-}02^{+12.2\%}_{-12.2\%}$
116.0	$6.93E{-}01^{+2.5\%}_{-2.5\%}$	$7.49E{-}02^{+6.4\%}_{-6.2\%}$	$2.60E{-}04^{+6.7\%}_{-6.6\%}$	$3.50E{-}02^{+12.2\%}_{-12.2\%}$
116.5	$6.88E{-}01^{+2.5\%}_{-2.6\%}$	$7.44E{-}02^{+6.3\%}_{-6.2\%}$	$2.58E{-}04^{+6.6\%}_{-6.5\%}$	$3.48E{-}02^{+12.2\%}_{-12.2\%}$
117.0	$6.83E{-}01^{+2.5\%}_{-2.6\%}$	$7.39E{-}02^{+6.3\%}_{-6.2\%}$	$2.56E{-}04^{+6.6\%}_{-6.5\%}$	$3.44E{-}02^{+12.2\%}_{-12.2\%}$
117.5	$6.77E{-}01^{+2.6\%}_{-2.6\%}$	$7.33E{-}02^{+6.3\%}_{-6.2\%}$	$2.54E{-}04^{+6.6\%}_{-6.5\%}$	$3.42E{-}02^{+12.2\%}_{-12.2\%}$
118.0	$6.72E{-}01^{+2.6\%}_{-2.7\%}$	$7.28E{-}02^{+6.2\%}_{-6.1\%}$	$2.52E{-}04^{+6.5\%}_{-6.4\%}$	$3.40E{-}02^{+12.2\%}_{-12.2\%}$
118.5	$6.66E{-}01^{+2.6\%}_{-2.7\%}$	$7.22E{-}02^{+6.2\%}_{-6.1\%}$	$2.50E{-}04^{+6.5\%}_{-6.4\%}$	$3.37E{-}02^{+12.2\%}_{-12.2\%}$
119.0	$6.60E{-}01^{+2.7\%}_{-2.8\%}$	$7.16E{-}02^{+6.2\%}_{-6.1\%}$	$2.48E{-}04^{+6.5\%}_{-6.4\%}$	$3.33E{-}02^{+12.2\%}_{-12.2\%}$
119.5	$6.54E{-}01^{+2.7\%}_{-2.8\%}$	$7.10E{-}02^{+6.2\%}_{-6.0\%}$	$2.46E{-}04^{+6.4\%}_{-6.3\%}$	$3.31E{-}02^{+12.2\%}_{-12.2\%}$
120.0	$6.48E{-}01^{+2.8\%}_{-2.8\%}$	$7.04E{-}02^{+6.1\%}_{-6.0\%}$	$2.44E{-}04^{+6.4\%}_{-6.3\%}$	$3.27E{-}02^{+12.2\%}_{-12.2\%}$
120.5	$6.41E{-}01^{+2.8\%}_{-2.9\%}$	$6.97E{-}02^{+6.1\%}_{-6.0\%}$	$2.42E{-}04^{+6.4\%}_{-6.3\%}$	$3.24E{-}02^{+12.2\%}_{-12.2\%}$
121.0	$6.35E{-}01^{+2.9\%}_{-2.9\%}$	$6.91E{-}02^{+6.0\%}_{-5.9\%}$	$2.39E{-}04^{+6.3\%}_{-6.2\%}$	$3.21E{-}02^{+12.2\%}_{-12.2\%}$
121.5	$6.28E{-}01^{+2.9\%}_{-3.0\%}$	$6.84E{-}02^{+6.0\%}_{-5.9\%}$	$2.37E{-}04^{+6.3\%}_{-6.2\%}$	$3.17E{-}02^{+12.2\%}_{-12.2\%}$
122.0	$6.21E{-}01^{+2.9\%}_{-3.0\%}$	$6.77E{-}02^{+6.0\%}_{-5.9\%}$	$2.35E{-}04^{+6.2\%}_{-6.1\%}$	$3.14E{-}02^{+12.2\%}_{-12.2\%}$
122.5	$6.14E{-}01^{+3.0\%}_{-3.0\%}$	$6.70E{-}02^{+5.9\%}_{-5.8\%}$	$2.33E{-}04^{+6.2\%}_{-6.1\%}$	$3.10E{-}02^{+12.2\%}_{-12.2\%}$
123.0	$6.07E{-}01^{+3.0\%}_{-3.1\%}$	$6.63E{-}02^{+5.9\%}_{-5.8\%}$	$2.31E{-}04^{+6.2\%}_{-6.0\%}$	$3.07E{-}02^{+12.2\%}_{-12.2\%}$
123.5	$6.00E{-}01^{+3.1\%}_{-3.1\%}$	$6.56E{-}02^{+5.8\%}_{-5.8\%}$	$2.28E{-}04^{+6.1\%}_{-6.0\%}$	$3.03E{-}02^{+12.2\%}_{-12.2\%}$
124.0	$5.92E{-}01^{+3.1\%}_{-3.2\%}$	$6.48E{-}02^{+5.8\%}_{-5.7\%}$	$2.25E{-}04^{+6.1\%}_{-6.0\%}$	$2.99E{-}02^{+12.2\%}_{-12.2\%}$
124.5	$5.84E{-}01^{+3.2\%}_{-3.2\%}$	$6.39E{-}02^{+5.8\%}_{-5.7\%}$	$2.22E{-}04^{+6.0\%}_{-5.9\%}$	$2.95E{-}02^{+12.2\%}_{-12.2\%}$
125.0	$5.77E{-}01^{+3.2\%}_{-3.3\%}$	$6.32E{-}02^{+5.7\%}_{-5.7\%}$	$2.20E{-}04^{+6.0\%}_{-5.9\%}$	$2.91E{-}02^{+12.2\%}_{-12.2\%}$
125.5	$5.69E{-}01^{+3.3\%}_{-3.3\%}$	$6.24E{-}02^{+5.7\%}_{-5.6\%}$	$2.17E{-}04^{+6.0\%}_{-5.8\%}$	$2.87E{-}02^{+12.2\%}_{-12.2\%}$
126.0	$5.61E{-}01^{+3.3\%}_{-3.4\%}$	$6.15E{-}02^{+5.6\%}_{-5.6\%}$	$2.14E{-}04^{+5.9\%}_{-5.8\%}$	$2.83E{-}02^{+12.2\%}_{-12.2\%}$
126.5	$5.53E{-}01^{+3.4\%}_{-3.4\%}$	$6.08E{-}02^{+5.6\%}_{-5.5\%}$	$2.11E{-}04^{+5.9\%}_{-5.7\%}$	$2.79E{-}02^{+12.2\%}_{-12.2\%}$
127.0	$5.45E{-}01^{+3.4\%}_{-3.5\%}$	$5.99E{-}02^{+5.5\%}_{-5.5\%}$	$2.08E{-}04^{+5.8\%}_{-5.7\%}$	$2.75E{-}02^{+12.2\%}_{-12.2\%}$
127.5	$5.37E{-}01^{+3.5\%}_{-3.5\%}$	$5.90E{-}02^{+5.5\%}_{-5.4\%}$	$2.05E{-}04^{+5.8\%}_{-5.6\%}$	$2.71E{-}02^{+12.2\%}_{-12.2\%}$
128.0	$5.28E{-}01^{+3.5\%}_{-3.6\%}$	$5.81E{-}02^{+5.4\%}_{-5.4\%}$	$2.01E{-}04^{+5.7\%}_{-5.6\%}$	$2.67E{-}02^{+12.2\%}_{-12.2\%}$
128.5	$5.19E{-}01^{+3.6\%}_{-3.6\%}$	$5.72E{-}02^{+5.4\%}_{-5.3\%}$	$1.98E{-}04^{+5.7\%}_{-5.5\%}$	$2.63E{-}02^{+12.2\%}_{-12.2\%}$
129.0	$5.11E{-}01^{+3.6\%}_{-3.7\%}$	$5.63E{-}02^{+5.3\%}_{-5.3\%}$	$1.95E{-}04^{+5.6\%}_{-5.5\%}$	$2.58E{-}02^{+12.2\%}_{-12.2\%}$
129.5	$5.02E{-}01^{+3.7\%}_{-3.7\%}$	$5.54E{-}02^{+5.3\%}_{-5.3\%}$	$1.92E{-}04^{+5.6\%}_{-5.5\%}$	$2.54E{-}02^{+12.2\%}_{-12.2\%}$
130.0	$4.94E{-}01^{+3.7\%}_{-3.8\%}$	$5.45E{-}02^{+5.3\%}_{-5.2\%}$	$1.90E{-}04^{+5.5\%}_{-5.4\%}$	$2.49E{-}02^{+12.2\%}_{-12.1\%}$

Table 5 SM Higgs branching ratios to two fermions and their total uncertainties (expressed in percentage). Low and intermediate mass range

M_H [GeV]	$H \to b\bar{b}$	$H \to \tau^+\tau^-$	$H \to \mu^+\mu^-$	$H \to c\bar{c}$
130.5	$4.85E{-}01^{+3.8\%}_{-3.8\%}$	$5.36E{-}02^{+5.2\%}_{-5.2\%}$	$1.86E{-}04^{+5.5\%}_{-5.4\%}$	$2.45E{-}02^{+12.2\%}_{-12.1\%}$
131.0	$4.76E{-}01^{+3.8\%}_{-3.9\%}$	$5.26E{-}02^{+5.2\%}_{-5.1\%}$	$1.82E{-}04^{+5.4\%}_{-5.3\%}$	$2.41E{-}02^{+12.2\%}_{-12.1\%}$
131.5	$4.67E{-}01^{+3.9\%}_{-3.9\%}$	$5.17E{-}02^{+5.1\%}_{-5.1\%}$	$1.80E{-}04^{+5.4\%}_{-5.3\%}$	$2.36E{-}02^{+12.2\%}_{-12.1\%}$
132.0	$4.58E{-}01^{+3.9\%}_{-4.0\%}$	$5.07E{-}02^{+5.1\%}_{-5.0\%}$	$1.77E{-}04^{+5.3\%}_{-5.2\%}$	$2.32E{-}02^{+12.2\%}_{-12.1\%}$
132.5	$4.49E{-}01^{+4.0\%}_{-4.0\%}$	$4.97E{-}02^{+5.0\%}_{-5.0\%}$	$1.72E{-}04^{+5.2\%}_{-5.2\%}$	$2.27E{-}02^{+12.2\%}_{-12.1\%}$
133.0	$4.40E{-}01^{+4.0\%}_{-4.1\%}$	$4.88E{-}02^{+5.0\%}_{-4.9\%}$	$1.69E{-}04^{+5.2\%}_{-5.1\%}$	$2.23E{-}02^{+12.2\%}_{-12.1\%}$
133.5	$4.31E{-}01^{+4.1\%}_{-4.2\%}$	$4.79E{-}02^{+4.9\%}_{-4.9\%}$	$1.67E{-}04^{+5.1\%}_{-5.1\%}$	$2.18E{-}02^{+12.2\%}_{-12.1\%}$
134.0	$4.22E{-}01^{+4.1\%}_{-4.2\%}$	$4.68E{-}02^{+4.8\%}_{-4.8\%}$	$1.63E{-}04^{+5.1\%}_{-5.0\%}$	$2.13E{-}02^{+12.2\%}_{-12.1\%}$
134.5	$4.13E{-}01^{+4.2\%}_{-4.3\%}$	$4.59E{-}02^{+4.8\%}_{-4.8\%}$	$1.60E{-}04^{+5.0\%}_{-5.0\%}$	$2.09E{-}02^{+12.2\%}_{-12.1\%}$
135.0	$4.04E{-}01^{+4.2\%}_{-4.3\%}$	$4.49E{-}02^{+4.8\%}_{-4.8\%}$	$1.55E{-}04^{+5.0\%}_{-4.9\%}$	$2.04E{-}02^{+12.2\%}_{-12.1\%}$
135.5	$3.95E{-}01^{+4.2\%}_{-4.2\%}$	$4.39E{-}02^{+4.6\%}_{-4.6\%}$	$1.52E{-}04^{+4.8\%}_{-4.8\%}$	$2.00E{-}02^{+11.9\%}_{-11.8\%}$
136.0	$3.86E{-}01^{+4.1\%}_{-4.1\%}$	$4.29E{-}02^{+4.5\%}_{-4.5\%}$	$1.49E{-}04^{+4.7\%}_{-4.7\%}$	$1.95E{-}02^{+11.6\%}_{-11.6\%}$
136.5	$3.77E{-}01^{+4.0\%}_{-4.0\%}$	$4.20E{-}02^{+4.4\%}_{-4.4\%}$	$1.45E{-}04^{+4.6\%}_{-4.6\%}$	$1.91E{-}02^{+11.4\%}_{-11.3\%}$
137.0	$3.68E{-}01^{+3.9\%}_{-4.0\%}$	$4.10E{-}02^{+4.3\%}_{-4.3\%}$	$1.42E{-}04^{+4.5\%}_{-4.5\%}$	$1.86E{-}02^{+11.1\%}_{-11.1\%}$
137.5	$3.59E{-}01^{+3.8\%}_{-3.9\%}$	$4.00E{-}02^{+4.2\%}_{-4.2\%}$	$1.39E{-}04^{+4.3\%}_{-4.4\%}$	$1.81E{-}02^{+10.8\%}_{-10.8\%}$
138.0	$3.50E{-}01^{+3.7\%}_{-3.8\%}$	$3.91E{-}02^{+4.1\%}_{-4.1\%}$	$1.35E{-}04^{+4.2\%}_{-4.3\%}$	$1.77E{-}02^{+10.6\%}_{-10.5\%}$
138.5	$3.41E{-}01^{+3.7\%}_{-3.7\%}$	$3.81E{-}02^{+3.9\%}_{-4.0\%}$	$1.32E{-}04^{+4.1\%}_{-4.2\%}$	$1.73E{-}02^{+10.3\%}_{-10.3\%}$
139.0	$3.32E{-}01^{+3.6\%}_{-3.6\%}$	$3.71E{-}02^{+3.8\%}_{-3.8\%}$	$1.29E{-}04^{+4.0\%}_{-4.0\%}$	$1.68E{-}02^{+10.0\%}_{-10.0\%}$
139.5	$3.23E{-}01^{+3.5\%}_{-3.5\%}$	$3.62E{-}02^{+3.7\%}_{-3.7\%}$	$1.25E{-}04^{+3.8\%}_{-3.9\%}$	$1.63E{-}02^{+9.8\%}_{-9.8\%}$
140.0	$3.15E{-}01^{+3.4\%}_{-3.4\%}$	$3.52E{-}02^{+3.6\%}_{-3.6\%}$	$1.22E{-}04^{+3.7\%}_{-3.8\%}$	$1.58E{-}02^{+9.5\%}_{-9.5\%}$
141.0	$2.97E{-}01^{+3.5\%}_{-3.5\%}$	$3.33E{-}02^{+3.5\%}_{-3.5\%}$	$1.15E{-}04^{+3.6\%}_{-3.7\%}$	$1.50E{-}02^{+9.5\%}_{-9.5\%}$
142.0	$2.81E{-}01^{+3.5\%}_{-3.5\%}$	$3.15E{-}02^{+3.5\%}_{-3.5\%}$	$1.09E{-}04^{+3.6\%}_{-3.6\%}$	$1.41E{-}02^{+9.5\%}_{-9.6\%}$
143.0	$2.64E{-}01^{+3.6\%}_{-3.6\%}$	$2.97E{-}02^{+3.4\%}_{-3.4\%}$	$1.03E{-}04^{+3.5\%}_{-3.6\%}$	$1.33E{-}02^{+9.5\%}_{-9.6\%}$
144.0	$2.48E{-}01^{+3.7\%}_{-3.6\%}$	$2.79E{-}02^{+3.4\%}_{-3.4\%}$	$9.67E{-}05^{+3.5\%}_{-3.5\%}$	$1.25E{-}02^{+9.5\%}_{-9.7\%}$
145.0	$2.32E{-}01^{+3.7\%}_{-3.7\%}$	$2.61E{-}02^{+3.3\%}_{-3.3\%}$	$9.06E{-}05^{+3.4\%}_{-3.4\%}$	$1.16E{-}02^{+9.6\%}_{-9.7\%}$
146.0	$2.16E{-}01^{+3.8\%}_{-3.8\%}$	$2.44E{-}02^{+3.3\%}_{-3.3\%}$	$8.46E{-}05^{+3.4\%}_{-3.4\%}$	$1.09E{-}02^{+9.6\%}_{-9.7\%}$
147.0	$2.01E{-}01^{+3.8\%}_{-3.8\%}$	$2.27E{-}02^{+3.2\%}_{-3.2\%}$	$7.87E{-}05^{+3.3\%}_{-3.3\%}$	$1.01E{-}02^{+9.6\%}_{-9.7\%}$
148.0	$1.85E{-}01^{+3.9\%}_{-3.9\%}$	$2.09E{-}02^{+3.1\%}_{-3.2\%}$	$7.26E{-}05^{+3.2\%}_{-3.3\%}$	$9.35E{-}03^{+9.7\%}_{-9.7\%}$
149.0	$1.72E{-}01^{+3.9\%}_{-4.0\%}$	$1.94E{-}02^{+3.1\%}_{-3.1\%}$	$6.74E{-}05^{+3.2\%}_{-3.2\%}$	$8.65E{-}03^{+9.7\%}_{-9.7\%}$
150.0	$1.57E{-}01^{+4.0\%}_{-4.0\%}$	$1.79E{-}02^{+3.0\%}_{-3.1\%}$	$6.19E{-}05^{+3.1\%}_{-3.2\%}$	$7.93E{-}03^{+9.7\%}_{-9.7\%}$
151.0	$1.43E{-}01^{+4.0\%}_{-4.1\%}$	$1.62E{-}02^{+3.0\%}_{-3.0\%}$	$5.65E{-}05^{+3.1\%}_{-3.1\%}$	$7.23E{-}03^{+9.8\%}_{-9.7\%}$
152.0	$1.30E{-}01^{+4.1\%}_{-4.1\%}$	$1.48E{-}02^{+3.0\%}_{-3.0\%}$	$5.13E{-}05^{+3.0\%}_{-3.1\%}$	$6.57E{-}03^{+9.8\%}_{-9.8\%}$
153.0	$1.17E{-}01^{+4.2\%}_{-4.2\%}$	$1.34E{-}02^{+2.9\%}_{-3.0\%}$	$4.63E{-}05^{+3.0\%}_{-3.0\%}$	$5.91E{-}03^{+9.8\%}_{-9.8\%}$
154.0	$1.05E{-}01^{+4.2\%}_{-4.2\%}$	$1.19E{-}02^{+2.9\%}_{-2.9\%}$	$4.14E{-}05^{+2.9\%}_{-3.0\%}$	$5.28E{-}03^{+9.8\%}_{-9.8\%}$
155.0	$9.23E{-}02^{+4.3\%}_{-4.2\%}$	$1.05E{-}02^{+2.8\%}_{-2.9\%}$	$3.65E{-}05^{+2.9\%}_{-2.9\%}$	$4.65E{-}03^{+9.8\%}_{-9.8\%}$
156.0	$8.02E{-}02^{+4.3\%}_{-4.3\%}$	$9.15E{-}03^{+2.8\%}_{-2.8\%}$	$3.17E{-}05^{+2.8\%}_{-2.9\%}$	$4.04E{-}03^{+9.9\%}_{-9.8\%}$
157.0	$6.82E{-}02^{+4.3\%}_{-4.3\%}$	$7.79E{-}03^{+2.8\%}_{-2.8\%}$	$2.71E{-}05^{+2.8\%}_{-2.8\%}$	$3.44E{-}03^{+9.9\%}_{-9.8\%}$
158.0	$5.65E{-}02^{+4.4\%}_{-4.4\%}$	$6.46E{-}03^{+2.7\%}_{-2.8\%}$	$2.25E{-}05^{+2.8\%}_{-2.7\%}$	$2.85E{-}03^{+9.9\%}_{-9.8\%}$
159.0	$4.52E{-}02^{+4.4\%}_{-4.4\%}$	$5.17E{-}03^{+2.7\%}_{-2.7\%}$	$1.80E{-}05^{+2.8\%}_{-2.7\%}$	$2.28E{-}03^{+9.9\%}_{-9.8\%}$
160.0	$3.46E{-}02^{+4.5\%}_{-4.4\%}$	$3.96E{-}03^{+2.6\%}_{-2.7\%}$	$1.38E{-}05^{+2.7\%}_{-2.6\%}$	$1.74E{-}03^{+9.9\%}_{-9.8\%}$
162.0	$1.98E{-}02^{+4.5\%}_{-4.5\%}$	$2.27E{-}03^{+2.6\%}_{-2.7\%}$	$7.87E{-}06^{+2.7\%}_{-2.6\%}$	$9.95E{-}04^{+9.9\%}_{-9.8\%}$
164.0	$1.36E{-}02^{+4.5\%}_{-4.5\%}$	$1.56E{-}03^{+2.6\%}_{-2.7\%}$	$5.43E{-}06^{+2.7\%}_{-2.6\%}$	$6.85E{-}04^{+9.9\%}_{-9.9\%}$
166.0	$1.07E{-}02^{+4.5\%}_{-4.5\%}$	$1.24E{-}03^{+2.6\%}_{-2.6\%}$	$4.30E{-}06^{+2.7\%}_{-2.6\%}$	$5.40E{-}04^{+9.9\%}_{-9.9\%}$
168.0	$9.06E{-}03^{+4.5\%}_{-4.5\%}$	$1.05E{-}03^{+2.6\%}_{-2.6\%}$	$3.63E{-}06^{+2.6\%}_{-2.6\%}$	$4.57E{-}04^{+9.9\%}_{-9.9\%}$
170.0	$7.93E{-}03^{+4.5\%}_{-4.5\%}$	$9.20E{-}04^{+2.6\%}_{-2.6\%}$	$3.19E{-}06^{+2.6\%}_{-2.6\%}$	$4.00E{-}04^{+9.9\%}_{-9.9\%}$

Table 6 SM Higgs branching ratios to two fermions and their total uncertainties (expressed in percentage). Intermediate mass range

M_H [GeV]	$H \to b\bar{b}$	$H \to \tau^+\tau^-$	$H \to \mu^+\mu^-$	$H \to c\bar{c}$
172.0	$7.10E{-}03^{+4.5\%}_{-4.5\%}$	$8.25E{-}04^{+2.6\%}_{-2.6\%}$	$2.86E{-}06^{+2.6\%}_{-2.6\%}$	$3.57E{-}04^{+9.9\%}_{-9.9\%}$
174.0	$6.45E{-}03^{+4.5\%}_{-4.5\%}$	$7.51E{-}04^{+2.6\%}_{-2.6\%}$	$2.60E{-}06^{+2.6\%}_{-2.6\%}$	$3.25E{-}04^{+10.0\%}_{-9.9\%}$
176.0	$5.91E{-}03^{+4.6\%}_{-4.5\%}$	$6.89E{-}04^{+2.6\%}_{-2.6\%}$	$2.39E{-}06^{+2.7\%}_{-2.6\%}$	$2.97E{-}04^{+10.0\%}_{-9.9\%}$
178.0	$5.44E{-}03^{+4.6\%}_{-4.5\%}$	$6.36E{-}04^{+2.6\%}_{-2.6\%}$	$2.20E{-}06^{+2.7\%}_{-2.6\%}$	$2.74E{-}04^{+10.0\%}_{-9.9\%}$
180.0	$5.01E{-}03^{+4.6\%}_{-4.5\%}$	$5.87E{-}04^{+2.6\%}_{-2.6\%}$	$2.04E{-}06^{+2.7\%}_{-2.6\%}$	$2.52E{-}04^{+10.0\%}_{-9.9\%}$
182.0	$4.55E{-}03^{+4.6\%}_{-4.5\%}$	$5.34E{-}04^{+2.6\%}_{-2.6\%}$	$1.85E{-}06^{+2.7\%}_{-2.6\%}$	$2.29E{-}04^{+10.0\%}_{-9.9\%}$
184.0	$4.09E{-}03^{+4.6\%}_{-4.5\%}$	$4.81E{-}04^{+2.6\%}_{-2.6\%}$	$1.67E{-}06^{+2.7\%}_{-2.6\%}$	$2.06E{-}04^{+10.0\%}_{-9.9\%}$
186.0	$3.70E{-}03^{+4.6\%}_{-4.5\%}$	$4.37E{-}04^{+2.6\%}_{-2.6\%}$	$1.52E{-}06^{+2.6\%}_{-2.5\%}$	$1.87E{-}04^{+10.0\%}_{-9.9\%}$
188.0	$3.41E{-}03^{+4.6\%}_{-4.5\%}$	$4.03E{-}04^{+2.6\%}_{-2.6\%}$	$1.40E{-}06^{+2.6\%}_{-2.5\%}$	$1.72E{-}04^{+10.0\%}_{-9.9\%}$
190.0	$3.17E{-}03^{+4.6\%}_{-4.6\%}$	$3.76E{-}04^{+2.6\%}_{-2.5\%}$	$1.31E{-}06^{+2.6\%}_{-2.5\%}$	$1.59E{-}04^{+10.0\%}_{-9.8\%}$
192.0	$2.97E{-}03^{+4.6\%}_{-4.6\%}$	$3.53E{-}04^{+2.6\%}_{-2.6\%}$	$1.23E{-}06^{+2.6\%}_{-2.5\%}$	$1.50E{-}04^{+10.0\%}_{-9.9\%}$
194.0	$2.80E{-}03^{+4.6\%}_{-4.6\%}$	$3.33E{-}04^{+2.6\%}_{-2.6\%}$	$1.16E{-}06^{+2.6\%}_{-2.6\%}$	$1.41E{-}04^{+10.0\%}_{-9.9\%}$
196.0	$2.65E{-}03^{+4.6\%}_{-4.6\%}$	$3.16E{-}04^{+2.6\%}_{-2.6\%}$	$1.10E{-}06^{+2.6\%}_{-2.6\%}$	$1.34E{-}04^{+10.0\%}_{-9.9\%}$
198.0	$2.52E{-}03^{+4.6\%}_{-4.6\%}$	$3.01E{-}04^{+2.6\%}_{-2.6\%}$	$1.05E{-}06^{+2.6\%}_{-2.6\%}$	$1.27E{-}04^{+10.0\%}_{-9.9\%}$
200.0	$2.40E{-}03^{+4.6\%}_{-4.6\%}$	$2.87E{-}04^{+2.5\%}_{-2.6\%}$	$9.96E{-}07^{+2.6\%}_{-2.6\%}$	$1.21E{-}04^{+10.0\%}_{-10.0\%}$
202.0	$2.29E{-}03^{+4.6\%}_{-4.6\%}$	$2.75E{-}04^{+2.6\%}_{-2.6\%}$	$9.52E{-}07^{+2.6\%}_{-2.6\%}$	$1.16E{-}04^{+10.0\%}_{-10.0\%}$
204.0	$2.19E{-}03^{+4.6\%}_{-4.6\%}$	$2.63E{-}04^{+2.6\%}_{-2.6\%}$	$9.13E{-}07^{+2.6\%}_{-2.6\%}$	$1.11E{-}04^{+10.0\%}_{-10.0\%}$
206.0	$2.10E{-}03^{+4.6\%}_{-4.6\%}$	$2.52E{-}04^{+2.6\%}_{-2.6\%}$	$8.76E{-}07^{+2.6\%}_{-2.6\%}$	$1.06E{-}04^{+10.0\%}_{-9.9\%}$
208.0	$2.01E{-}03^{+4.6\%}_{-4.6\%}$	$2.43E{-}04^{+2.6\%}_{-2.6\%}$	$8.43E{-}07^{+2.6\%}_{-2.6\%}$	$1.02E{-}04^{+10.0\%}_{-9.9\%}$
210.0	$1.93E{-}03^{+4.6\%}_{-4.6\%}$	$2.34E{-}04^{+2.6\%}_{-2.6\%}$	$8.11E{-}07^{+2.6\%}_{-2.6\%}$	$9.75E{-}05^{+10.0\%}_{-9.9\%}$
212.0	$1.87E{-}03^{+4.6\%}_{-4.6\%}$	$2.25E{-}04^{+2.6\%}_{-2.6\%}$	$7.81E{-}07^{+2.6\%}_{-2.6\%}$	$9.38E{-}05^{+10.0\%}_{-9.9\%}$
214.0	$1.80E{-}03^{+4.7\%}_{-4.6\%}$	$2.18E{-}04^{+2.6\%}_{-2.6\%}$	$7.54E{-}07^{+2.6\%}_{-2.6\%}$	$9.04E{-}05^{+10.1\%}_{-9.9\%}$
216.0	$1.73E{-}03^{+4.7\%}_{-4.6\%}$	$2.10E{-}04^{+2.6\%}_{-2.6\%}$	$7.29E{-}07^{+2.6\%}_{-2.6\%}$	$8.71E{-}05^{+10.1\%}_{-9.9\%}$
218.0	$1.67E{-}03^{+4.7\%}_{-4.5\%}$	$2.03E{-}04^{+2.6\%}_{-2.6\%}$	$7.04E{-}07^{+2.6\%}_{-2.6\%}$	$8.41E{-}05^{+10.1\%}_{-9.9\%}$
220.0	$1.61E{-}03^{+4.7\%}_{-4.5\%}$	$1.97E{-}04^{+2.6\%}_{-2.6\%}$	$6.81E{-}07^{+2.6\%}_{-2.6\%}$	$8.11E{-}05^{+10.1\%}_{-9.9\%}$
222.0	$1.56E{-}03^{+4.7\%}_{-4.5\%}$	$1.90E{-}04^{+2.6\%}_{-2.6\%}$	$6.59E{-}07^{+2.6\%}_{-2.6\%}$	$7.84E{-}05^{+10.1\%}_{-9.9\%}$
224.0	$1.51E{-}03^{+4.7\%}_{-4.5\%}$	$1.84E{-}04^{+2.6\%}_{-2.6\%}$	$6.39E{-}07^{+2.6\%}_{-2.6\%}$	$7.59E{-}05^{+10.1\%}_{-9.9\%}$
226.0	$1.46E{-}03^{+4.7\%}_{-4.5\%}$	$1.79E{-}04^{+2.6\%}_{-2.6\%}$	$6.19E{-}07^{+2.6\%}_{-2.6\%}$	$7.34E{-}05^{+10.1\%}_{-10.0\%}$
228.0	$1.41E{-}03^{+4.7\%}_{-4.5\%}$	$1.73E{-}04^{+2.6\%}_{-2.6\%}$	$6.00E{-}07^{+2.6\%}_{-2.6\%}$	$7.10E{-}05^{+10.1\%}_{-10.0\%}$
230.0	$1.37E{-}03^{+4.7\%}_{-4.5\%}$	$1.68E{-}04^{+2.6\%}_{-2.6\%}$	$5.82E{-}07^{+2.6\%}_{-2.6\%}$	$6.88E{-}05^{+10.1\%}_{-10.0\%}$
232.0	$1.33E{-}03^{+4.7\%}_{-4.5\%}$	$1.63E{-}04^{+2.6\%}_{-2.6\%}$	$5.65E{-}07^{+2.6\%}_{-2.6\%}$	$6.67E{-}05^{+10.1\%}_{-10.0\%}$
234.0	$1.29E{-}03^{+4.7\%}_{-4.5\%}$	$1.58E{-}04^{+2.6\%}_{-2.6\%}$	$5.49E{-}07^{+2.6\%}_{-2.6\%}$	$6.46E{-}05^{+10.1\%}_{-10.0\%}$
236.0	$1.25E{-}03^{+4.7\%}_{-4.5\%}$	$1.54E{-}04^{+2.6\%}_{-2.6\%}$	$5.33E{-}07^{+2.6\%}_{-2.6\%}$	$6.27E{-}05^{+10.1\%}_{-10.0\%}$
238.0	$1.21E{-}03^{+4.7\%}_{-4.5\%}$	$1.49E{-}04^{+2.6\%}_{-2.6\%}$	$5.19E{-}07^{+2.6\%}_{-2.6\%}$	$6.09E{-}05^{+10.1\%}_{-10.0\%}$
240.0	$1.17E{-}03^{+4.7\%}_{-4.5\%}$	$1.45E{-}04^{+2.6\%}_{-2.6\%}$	$5.05E{-}07^{+2.6\%}_{-2.6\%}$	$5.92E{-}05^{+10.1\%}_{-10.0\%}$
242.0	$1.14E{-}03^{+4.7\%}_{-4.6\%}$	$1.41E{-}04^{+2.6\%}_{-2.6\%}$	$4.91E{-}07^{+2.6\%}_{-2.6\%}$	$5.75E{-}05^{+10.1\%}_{-10.0\%}$
244.0	$1.11E{-}03^{+4.7\%}_{-4.6\%}$	$1.38E{-}04^{+2.6\%}_{-2.6\%}$	$4.78E{-}07^{+2.6\%}_{-2.6\%}$	$5.59E{-}05^{+10.1\%}_{-10.0\%}$
246.0	$1.08E{-}03^{+4.7\%}_{-4.6\%}$	$1.34E{-}04^{+2.6\%}_{-2.6\%}$	$4.66E{-}07^{+2.6\%}_{-2.6\%}$	$5.43E{-}05^{+10.1\%}_{-10.0\%}$
248.0	$1.05E{-}03^{+4.7\%}_{-4.6\%}$	$1.31E{-}04^{+2.6\%}_{-2.7\%}$	$4.53E{-}07^{+2.6\%}_{-2.6\%}$	$5.28E{-}05^{+10.1\%}_{-10.0\%}$
250.0	$1.02E{-}03^{+4.7\%}_{-4.6\%}$	$1.27E{-}04^{+2.6\%}_{-2.7\%}$	$4.42E{-}07^{+2.6\%}_{-2.6\%}$	$5.14E{-}05^{+10.1\%}_{-10.0\%}$
252.0	$9.95E{-}04^{+4.7\%}_{-4.6\%}$	$1.24E{-}04^{+2.6\%}_{-2.7\%}$	$4.31E{-}07^{+2.6\%}_{-2.6\%}$	$5.00E{-}05^{+10.1\%}_{-10.0\%}$
254.0	$9.69E{-}04^{+4.7\%}_{-4.6\%}$	$1.21E{-}04^{+2.6\%}_{-2.6\%}$	$4.20E{-}07^{+2.6\%}_{-2.6\%}$	$4.87E{-}05^{+10.1\%}_{-10.0\%}$
256.0	$9.43E{-}04^{+4.7\%}_{-4.6\%}$	$1.18E{-}04^{+2.6\%}_{-2.6\%}$	$4.10E{-}07^{+2.6\%}_{-2.6\%}$	$4.74E{-}05^{+10.1\%}_{-10.0\%}$
258.0	$9.19E{-}04^{+4.7\%}_{-4.6\%}$	$1.15E{-}04^{+2.6\%}_{-2.6\%}$	$4.00E{-}07^{+2.6\%}_{-2.6\%}$	$4.62E{-}05^{+10.1\%}_{-10.0\%}$
260.0	$8.96E{-}04^{+4.7\%}_{-4.6\%}$	$1.12E{-}04^{+2.6\%}_{-2.6\%}$	$3.90E{-}07^{+2.6\%}_{-2.6\%}$	$4.51E{-}05^{+10.1\%}_{-10.0\%}$

Table 7 SM Higgs branching ratios to two fermions and their total uncertainties (expressed in percentage). High mass range

M_H [GeV]	$H \to b\bar{b}$	$H \to \tau^+\tau^-$	$H \to \mu^+\mu^-$	$H \to c\bar{c}$	$H \to t\bar{t}$
262.0	$8.74E{-}04^{+4.7\%}_{-4.6\%}$	$1.10E{-}04^{+2.6\%}_{-2.6\%}$	$3.81E{-}07^{+2.6\%}_{-2.6\%}$	$4.39E{-}05^{+10.1\%}_{-10.0\%}$	$1.89E{-}07^{+342.0\%}_{-102.1\%}$
264.0	$8.52E{-}04^{+4.7\%}_{-4.6\%}$	$1.07E{-}04^{+2.6\%}_{-2.6\%}$	$3.72E{-}07^{+2.6\%}_{-2.6\%}$	$4.28E{-}05^{+10.1\%}_{-10.0\%}$	$4.49E{-}07^{+276.1\%}_{-91.5\%}$
266.0	$8.31E{-}04^{+4.7\%}_{-4.6\%}$	$1.05E{-}04^{+2.6\%}_{-2.6\%}$	$3.63E{-}07^{+2.6\%}_{-2.6\%}$	$4.18E{-}05^{+10.1\%}_{-10.0\%}$	$8.63E{-}07^{+210.1\%}_{-80.9\%}$
268.0	$8.11E{-}04^{+4.7\%}_{-4.6\%}$	$1.02E{-}04^{+2.6\%}_{-2.6\%}$	$3.55E{-}07^{+2.6\%}_{-2.6\%}$	$4.08E{-}05^{+10.1\%}_{-10.0\%}$	$1.46E{-}06^{+144.1\%}_{-70.3\%}$
270.0	$7.92E{-}04^{+4.7\%}_{-4.6\%}$	$1.00E{-}04^{+2.6\%}_{-2.6\%}$	$3.47E{-}07^{+2.6\%}_{-2.6\%}$	$3.98E{-}05^{+10.1\%}_{-10.0\%}$	$2.29E{-}06^{+78.1\%}_{-59.7\%}$
272.0	$7.73E{-}04^{+4.7\%}_{-4.6\%}$	$9.80E{-}05^{+2.6\%}_{-2.6\%}$	$3.40E{-}07^{+2.6\%}_{-2.6\%}$	$3.89E{-}05^{+10.1\%}_{-10.0\%}$	$3.37E{-}06^{+72.3\%}_{-56.6\%}$
274.0	$7.55E{-}04^{+4.7\%}_{-4.6\%}$	$9.58E{-}05^{+2.6\%}_{-2.6\%}$	$3.32E{-}07^{+2.6\%}_{-2.6\%}$	$3.80E{-}05^{+10.1\%}_{-10.0\%}$	$4.72E{-}06^{+66.5\%}_{-53.6\%}$
276.0	$7.38E{-}04^{+4.7\%}_{-4.6\%}$	$9.37E{-}05^{+2.6\%}_{-2.6\%}$	$3.25E{-}07^{+2.6\%}_{-2.6\%}$	$3.71E{-}05^{+10.1\%}_{-10.0\%}$	$6.41E{-}06^{+60.7\%}_{-50.6\%}$
278.0	$7.21E{-}04^{+4.7\%}_{-4.7\%}$	$9.17E{-}05^{+2.6\%}_{-2.6\%}$	$3.18E{-}07^{+2.6\%}_{-2.6\%}$	$3.63E{-}05^{+10.1\%}_{-10.0\%}$	$8.45E{-}06^{+54.9\%}_{-47.5\%}$
280.0	$7.05E{-}04^{+4.7\%}_{-4.7\%}$	$8.98E{-}05^{+2.6\%}_{-2.6\%}$	$3.11E{-}07^{+2.6\%}_{-2.6\%}$	$3.55E{-}05^{+10.1\%}_{-10.0\%}$	$1.09E{-}05^{+49.2\%}_{-44.5\%}$
282.0	$6.90E{-}04^{+4.7\%}_{-4.7\%}$	$8.79E{-}05^{+2.6\%}_{-2.6\%}$	$3.05E{-}07^{+2.6\%}_{-2.6\%}$	$3.47E{-}05^{+10.1\%}_{-10.0\%}$	$1.37E{-}05^{+47.2\%}_{-43.2\%}$
284.0	$6.74E{-}04^{+4.7\%}_{-4.7\%}$	$8.61E{-}05^{+2.6\%}_{-2.6\%}$	$2.98E{-}07^{+2.6\%}_{-2.6\%}$	$3.39E{-}05^{+10.1\%}_{-10.0\%}$	$1.72E{-}05^{+45.2\%}_{-41.9\%}$
286.0	$6.60E{-}04^{+4.7\%}_{-4.7\%}$	$8.43E{-}05^{+2.6\%}_{-2.6\%}$	$2.92E{-}07^{+2.6\%}_{-2.6\%}$	$3.32E{-}05^{+10.2\%}_{-10.0\%}$	$2.11E{-}05^{+43.2\%}_{-40.6\%}$
288.0	$6.46E{-}04^{+4.7\%}_{-4.7\%}$	$8.26E{-}05^{+2.6\%}_{-2.6\%}$	$2.86E{-}07^{+2.6\%}_{-2.6\%}$	$3.25E{-}05^{+10.2\%}_{-10.0\%}$	$2.55E{-}05^{+41.3\%}_{-39.4\%}$
290.0	$6.32E{-}04^{+4.7\%}_{-4.7\%}$	$8.09E{-}05^{+2.6\%}_{-2.6\%}$	$2.81E{-}07^{+2.6\%}_{-2.6\%}$	$3.18E{-}05^{+10.2\%}_{-10.0\%}$	$3.06E{-}05^{+39.3\%}_{-38.1\%}$
295.0	$6.00E{-}04^{+4.7\%}_{-4.7\%}$	$7.70E{-}05^{+2.6\%}_{-2.6\%}$	$2.67E{-}07^{+2.6\%}_{-2.6\%}$	$3.01E{-}05^{+10.1\%}_{-10.0\%}$	$4.67E{-}05^{+37.3\%}_{-36.6\%}$
300.0	$5.70E{-}04^{+4.7\%}_{-4.7\%}$	$7.33E{-}05^{+2.6\%}_{-2.6\%}$	$2.55E{-}07^{+2.6\%}_{-2.6\%}$	$2.86E{-}05^{+10.1\%}_{-10.0\%}$	$6.87E{-}05^{+35.3\%}_{-35.1\%}$
305.0	$5.42E{-}04^{+4.7\%}_{-4.7\%}$	$7.00E{-}05^{+2.6\%}_{-2.6\%}$	$2.43E{-}07^{+2.6\%}_{-2.6\%}$	$2.72E{-}05^{+10.2\%}_{-10.0\%}$	$9.83E{-}05^{+35.0\%}_{-34.5\%}$
310.0	$5.15E{-}04^{+4.7\%}_{-4.7\%}$	$6.69E{-}05^{+2.6\%}_{-2.6\%}$	$2.32E{-}07^{+2.6\%}_{-2.6\%}$	$2.60E{-}05^{+10.2\%}_{-10.0\%}$	$1.38E{-}04^{+34.6\%}_{-33.9\%}$
315.0	$4.92E{-}04^{+4.8\%}_{-4.6\%}$	$6.40E{-}05^{+2.6\%}_{-2.5\%}$	$2.22E{-}07^{+2.7\%}_{-2.5\%}$	$2.48E{-}05^{+10.2\%}_{-10.0\%}$	$1.91E{-}04^{+35.7\%}_{-34.1\%}$
320.0	$4.69E{-}04^{+4.8\%}_{-4.6\%}$	$6.11E{-}05^{+2.7\%}_{-2.5\%}$	$2.12E{-}07^{+2.7\%}_{-2.5\%}$	$2.35E{-}05^{+10.2\%}_{-10.0\%}$	$2.65E{-}04^{+36.8\%}_{-34.4\%}$
325.0	$4.49E{-}04^{+4.8\%}_{-4.6\%}$	$5.86E{-}05^{+2.6\%}_{-2.5\%}$	$2.03E{-}07^{+2.6\%}_{-2.5\%}$	$2.25E{-}05^{+10.2\%}_{-10.0\%}$	$3.70E{-}04^{+41.0\%}_{-35.7\%}$
330.0	$4.30E{-}04^{+4.8\%}_{-4.7\%}$	$5.63E{-}05^{+2.6\%}_{-2.5\%}$	$1.95E{-}07^{+2.6\%}_{-2.5\%}$	$2.16E{-}05^{+10.2\%}_{-10.1\%}$	$5.22E{-}04^{+45.1\%}_{-37.1\%}$
335.0	$4.12E{-}04^{+4.8\%}_{-4.7\%}$	$5.41E{-}05^{+2.6\%}_{-2.5\%}$	$1.87E{-}07^{+2.6\%}_{-2.5\%}$	$2.07E{-}05^{+10.2\%}_{-10.1\%}$	$7.61E{-}04^{+110.4\%}_{-41.5\%}$
340.0	$3.95E{-}04^{+4.8\%}_{-4.7\%}$	$5.20E{-}05^{+2.7\%}_{-2.5\%}$	$1.80E{-}07^{+2.7\%}_{-2.5\%}$	$1.98E{-}05^{+10.1\%}_{-10.1\%}$	$1.20E{-}03^{+175.6\%}_{-45.9\%}$
345.0	$3.80E{-}04^{+5.0\%}_{-5.0\%}$	$5.02E{-}05^{+3.5\%}_{-3.7\%}$	$1.74E{-}07^{+3.5\%}_{-3.7\%}$	$1.91E{-}05^{+10.3\%}_{-10.3\%}$	$3.28E{-}03^{+151.7\%}_{-68.6\%}$
350.0	$3.60E{-}04^{+5.2\%}_{-5.3\%}$	$4.77E{-}05^{+4.2\%}_{-4.9\%}$	$1.65E{-}07^{+4.2\%}_{-4.9\%}$	$1.81E{-}05^{+10.5\%}_{-10.4\%}$	$1.56E{-}02^{+127.8\%}_{-91.3\%}$
360.0	$3.18E{-}04^{+6.0\%}_{-5.4\%}$	$4.23E{-}05^{+5.6\%}_{-4.9\%}$	$1.47E{-}07^{+5.6\%}_{-4.9\%}$	$1.60E{-}05^{+11.2\%}_{-10.4\%}$	$5.14E{-}02^{+42.2\%}_{-48.4\%}$
370.0	$2.83E{-}04^{+6.4\%}_{-5.3\%}$	$3.78E{-}05^{+5.8\%}_{-4.7\%}$	$1.31E{-}07^{+5.8\%}_{-4.8\%}$	$1.42E{-}05^{+11.6\%}_{-10.4\%}$	$8.35E{-}02^{+25.4\%}_{-32.1\%}$
380.0	$2.54E{-}04^{+6.6\%}_{-5.4\%}$	$3.41E{-}05^{+5.8\%}_{-4.6\%}$	$1.18E{-}07^{+5.8\%}_{-4.6\%}$	$1.28E{-}05^{+11.8\%}_{-10.6\%}$	$1.10E{-}01^{+18.4\%}_{-24.7\%}$
390.0	$2.30E{-}04^{+6.7\%}_{-5.4\%}$	$3.10E{-}05^{+5.8\%}_{-4.5\%}$	$1.07E{-}07^{+5.9\%}_{-4.5\%}$	$1.16E{-}05^{+12.0\%}_{-10.7\%}$	$1.31E{-}01^{+14.5\%}_{-20.6\%}$
400.0	$2.10E{-}04^{+6.8\%}_{-5.5\%}$	$2.84E{-}05^{+5.8\%}_{-4.3\%}$	$9.83E{-}08^{+5.8\%}_{-4.3\%}$	$1.05E{-}05^{+12.2\%}_{-10.8\%}$	$1.48E{-}01^{+12.2\%}_{-17.8\%}$
410.0	$1.93E{-}04^{+6.9\%}_{-5.5\%}$	$2.62E{-}05^{+5.7\%}_{-4.3\%}$	$9.07E{-}08^{+5.7\%}_{-4.2\%}$	$9.66E{-}06^{+12.3\%}_{-10.8\%}$	$1.61E{-}01^{+10.4\%}_{-16.1\%}$
420.0	$1.78E{-}04^{+7.0\%}_{-5.5\%}$	$2.43E{-}05^{+5.6\%}_{-4.1\%}$	$8.41E{-}08^{+5.6\%}_{-4.1\%}$	$8.93E{-}06^{+12.4\%}_{-10.9\%}$	$1.71E{-}01^{+9.3\%}_{-14.7\%}$
430.0	$1.65E{-}04^{+7.0\%}_{-5.6\%}$	$2.27E{-}05^{+5.5\%}_{-4.0\%}$	$7.84E{-}08^{+5.5\%}_{-4.0\%}$	$8.29E{-}06^{+12.5\%}_{-10.9\%}$	$1.79E{-}01^{+8.4\%}_{-13.8\%}$
440.0	$1.54E{-}04^{+7.1\%}_{-5.6\%}$	$2.12E{-}05^{+5.4\%}_{-3.9\%}$	$7.34E{-}08^{+5.4\%}_{-3.9\%}$	$7.73E{-}06^{+12.5\%}_{-10.9\%}$	$1.84E{-}01^{+7.7\%}_{-13.0\%}$
450.0	$1.44E{-}04^{+7.2\%}_{-5.6\%}$	$2.00E{-}05^{+5.3\%}_{-3.8\%}$	$6.91E{-}08^{+5.3\%}_{-3.8\%}$	$7.25E{-}06^{+12.6\%}_{-11.0\%}$	$1.88E{-}01^{+7.2\%}_{-12.4\%}$
460.0	$1.36E{-}04^{+7.2\%}_{-5.7\%}$	$1.88E{-}05^{+5.2\%}_{-3.7\%}$	$6.52E{-}08^{+5.3\%}_{-3.7\%}$	$6.82E{-}06^{+12.6\%}_{-11.0\%}$	$1.91E{-}01^{+6.8\%}_{-11.9\%}$
470.0	$1.28E{-}04^{+7.2\%}_{-5.6\%}$	$1.78E{-}05^{+5.2\%}_{-3.6\%}$	$6.17E{-}08^{+5.2\%}_{-3.6\%}$	$6.43E{-}06^{+12.6\%}_{-11.0\%}$	$1.92E{-}01^{+6.4\%}_{-11.6\%}$
480.0	$1.21E{-}04^{+7.2\%}_{-5.5\%}$	$1.69E{-}05^{+5.1\%}_{-3.6\%}$	$5.86E{-}08^{+5.1\%}_{-3.5\%}$	$6.08E{-}06^{+12.6\%}_{-11.0\%}$	$1.93E{-}01^{+6.1\%}_{-11.2\%}$
490.0	$1.15E{-}04^{+7.2\%}_{-5.5\%}$	$1.61E{-}05^{+5.0\%}_{-3.5\%}$	$5.57E{-}08^{+5.0\%}_{-3.5\%}$	$5.76E{-}06^{+12.6\%}_{-11.0\%}$	$1.93E{-}01^{+5.9\%}_{-11.0\%}$
500.0	$1.09E{-}04^{+7.2\%}_{-5.4\%}$	$1.53E{-}05^{+5.0\%}_{-3.2\%}$	$5.31E{-}08^{+5.1\%}_{-3.1\%}$	$5.47E{-}06^{+12.8\%}_{-10.7\%}$	$1.92E{-}01^{+4.6\%}_{-9.8\%}$
510.0	$1.04E{-}04^{+7.4\%}_{-5.3\%}$	$1.46E{-}05^{+5.1\%}_{-3.1\%}$	$5.07E{-}08^{+5.1\%}_{-3.1\%}$	$5.21E{-}06^{+12.8\%}_{-10.8\%}$	$1.91E{-}01^{+4.7\%}_{-9.8\%}$
520.0	$9.88E{-}05^{+7.5\%}_{-5.4\%}$	$1.40E{-}05^{+5.1\%}_{-3.2\%}$	$4.85E{-}08^{+5.1\%}_{-3.1\%}$	$4.96E{-}06^{+12.9\%}_{-10.8\%}$	$1.90E{-}01^{+4.8\%}_{-10.1\%}$
530.0	$9.44E{-}05^{+7.5\%}_{-5.5\%}$	$1.34E{-}05^{+5.3\%}_{-3.3\%}$	$4.64E{-}08^{+5.2\%}_{-3.2\%}$	$4.74E{-}06^{+13.0\%}_{-10.9\%}$	$1.88E{-}01^{+5.0\%}_{-10.4\%}$
540.0	$9.02E{-}05^{+7.6\%}_{-5.6\%}$	$1.29E{-}05^{+5.4\%}_{-3.4\%}$	$4.44E{-}08^{+5.4\%}_{-3.4\%}$	$4.52E{-}06^{+13.1\%}_{-11.0\%}$	$1.85E{-}01^{+5.2\%}_{-10.7\%}$

Table 8 SM Higgs branching ratios to two fermions and their total uncertainties (expressed in percentage). Very high mass range

M_H [GeV]	$H \to b\bar{b}$	$H \to \tau^+\tau^-$	$H \to \mu^+\mu^-$	$H \to c\bar{c}$	$H \to t\bar{t}$
550.0	$8.64E{-}05^{+7.7\%}_{-5.7\%}$	$1.23E{-}05^{+5.5\%}_{-3.5\%}$	$4.27E{-}08^{+5.5\%}_{-3.5\%}$	$4.33E{-}06^{+13.1\%}_{-11.1\%}$	$1.83E{-}01^{+5.4\%}_{-10.9\%}$
560.0	$8.28E{-}05^{+7.8\%}_{-5.8\%}$	$1.19E{-}05^{+5.6\%}_{-3.7\%}$	$4.10E{-}08^{+5.6\%}_{-3.6\%}$	$4.15E{-}06^{+13.2\%}_{-11.2\%}$	$1.80E{-}01^{+5.6\%}_{-11.3\%}$
570.0	$7.95E{-}05^{+7.8\%}_{-5.9\%}$	$1.14E{-}05^{+5.8\%}_{-3.7\%}$	$3.95E{-}08^{+5.7\%}_{-3.8\%}$	$3.98E{-}06^{+13.3\%}_{-11.3\%}$	$1.78E{-}01^{+5.7\%}_{-11.6\%}$
580.0	$7.64E{-}05^{+7.9\%}_{-6.0\%}$	$1.10E{-}05^{+5.8\%}_{-4.0\%}$	$3.80E{-}08^{+5.8\%}_{-4.0\%}$	$3.83E{-}06^{+13.4\%}_{-11.4\%}$	$1.75E{-}01^{+5.9\%}_{-11.9\%}$
590.0	$7.34E{-}05^{+8.1\%}_{-6.1\%}$	$1.06E{-}05^{+6.0\%}_{-4.0\%}$	$3.67E{-}08^{+6.0\%}_{-4.0\%}$	$3.68E{-}06^{+13.5\%}_{-11.5\%}$	$1.72E{-}01^{+6.2\%}_{-12.2\%}$
600.0	$7.06E{-}05^{+8.2\%}_{-6.3\%}$	$1.02E{-}05^{+6.2\%}_{-4.2\%}$	$3.54E{-}08^{+6.1\%}_{-4.2\%}$	$3.54E{-}06^{+13.7\%}_{-11.6\%}$	$1.69E{-}01^{+6.3\%}_{-12.4\%}$
610.0	$6.81E{-}05^{+8.3\%}_{-6.5\%}$	$9.87E{-}06^{+6.2\%}_{-4.4\%}$	$3.42E{-}08^{+6.2\%}_{-4.4\%}$	$3.41E{-}06^{+13.8\%}_{-11.8\%}$	$1.66E{-}01^{+6.4\%}_{-12.8\%}$
620.0	$6.55E{-}05^{+8.4\%}_{-6.6\%}$	$9.53E{-}06^{+6.3\%}_{-4.5\%}$	$3.30E{-}08^{+6.3\%}_{-4.5\%}$	$3.29E{-}06^{+13.9\%}_{-12.0\%}$	$1.63E{-}01^{+6.6\%}_{-13.2\%}$
630.0	$6.32E{-}05^{+8.6\%}_{-6.7\%}$	$9.22E{-}06^{+6.5\%}_{-4.7\%}$	$3.19E{-}08^{+6.6\%}_{-4.7\%}$	$3.17E{-}06^{+14.0\%}_{-12.1\%}$	$1.59E{-}01^{+6.8\%}_{-13.4\%}$
640.0	$6.10E{-}05^{+8.8\%}_{-6.9\%}$	$8.92E{-}06^{+6.7\%}_{-4.9\%}$	$3.09E{-}08^{+6.7\%}_{-4.9\%}$	$3.06E{-}06^{+14.2\%}_{-12.3\%}$	$1.56E{-}01^{+7.0\%}_{-13.8\%}$
650.0	$5.89E{-}05^{+8.9\%}_{-7.1\%}$	$8.63E{-}06^{+6.8\%}_{-5.0\%}$	$2.99E{-}08^{+6.8\%}_{-5.0\%}$	$2.95E{-}06^{+14.4\%}_{-12.4\%}$	$1.53E{-}01^{+7.1\%}_{-14.2\%}$
660.0	$5.69E{-}05^{+9.1\%}_{-7.2\%}$	$8.36E{-}06^{+7.0\%}_{-5.2\%}$	$2.90E{-}08^{+7.0\%}_{-5.2\%}$	$2.85E{-}06^{+14.5\%}_{-12.6\%}$	$1.50E{-}01^{+7.2\%}_{-14.6\%}$
670.0	$5.50E{-}05^{+9.3\%}_{-7.4\%}$	$8.10E{-}06^{+7.2\%}_{-5.4\%}$	$2.81E{-}08^{+7.2\%}_{-5.4\%}$	$2.76E{-}06^{+14.8\%}_{-12.8\%}$	$1.47E{-}01^{+7.5\%}_{-15.0\%}$
680.0	$5.32E{-}05^{+9.5\%}_{-7.6\%}$	$7.85E{-}06^{+7.4\%}_{-5.5\%}$	$2.72E{-}08^{+7.4\%}_{-5.5\%}$	$2.67E{-}06^{+14.9\%}_{-13.0\%}$	$1.44E{-}01^{+7.7\%}_{-15.4\%}$
690.0	$5.15E{-}05^{+9.7\%}_{-7.8\%}$	$7.61E{-}06^{+7.6\%}_{-5.8\%}$	$2.64E{-}08^{+7.5\%}_{-5.8\%}$	$2.58E{-}06^{+15.1\%}_{-13.2\%}$	$1.41E{-}01^{+7.8\%}_{-15.8\%}$
700.0	$4.98E{-}05^{+9.9\%}_{-8.0\%}$	$7.38E{-}06^{+7.8\%}_{-6.0\%}$	$2.56E{-}08^{+7.8\%}_{-6.0\%}$	$2.50E{-}06^{+15.3\%}_{-13.4\%}$	$1.38E{-}01^{+8.0\%}_{-16.2\%}$
710.0	$4.82E{-}05^{+10.1\%}_{-8.2\%}$	$7.16E{-}06^{+8.0\%}_{-6.2\%}$	$2.48E{-}08^{+8.0\%}_{-6.2\%}$	$2.42E{-}06^{+15.6\%}_{-13.7\%}$	$1.35E{-}01^{+8.2\%}_{-16.7\%}$
720.0	$4.67E{-}05^{+10.4\%}_{-8.4\%}$	$6.94E{-}06^{+8.3\%}_{-6.4\%}$	$2.41E{-}08^{+8.3\%}_{-6.4\%}$	$2.34E{-}06^{+15.8\%}_{-13.8\%}$	$1.32E{-}01^{+8.4\%}_{-17.1\%}$
730.0	$4.53E{-}05^{+10.6\%}_{-8.7\%}$	$6.74E{-}06^{+8.5\%}_{-6.6\%}$	$2.34E{-}08^{+8.5\%}_{-6.7\%}$	$2.27E{-}06^{+16.0\%}_{-14.1\%}$	$1.29E{-}01^{+8.6\%}_{-17.6\%}$
740.0	$4.38E{-}05^{+10.9\%}_{-8.9\%}$	$6.55E{-}06^{+8.8\%}_{-6.9\%}$	$2.27E{-}08^{+8.8\%}_{-6.8\%}$	$2.20E{-}06^{+16.3\%}_{-14.4\%}$	$1.26E{-}01^{+8.7\%}_{-18.2\%}$
750.0	$4.24E{-}05^{+11.2\%}_{-9.2\%}$	$6.36E{-}06^{+9.1\%}_{-7.1\%}$	$2.21E{-}08^{+9.1\%}_{-7.1\%}$	$2.13E{-}06^{+16.6\%}_{-14.6\%}$	$1.23E{-}01^{+8.9\%}_{-18.7\%}$
760.0	$4.11E{-}05^{+11.4\%}_{-9.4\%}$	$6.18E{-}06^{+9.3\%}_{-7.4\%}$	$2.15E{-}08^{+9.3\%}_{-7.3\%}$	$2.07E{-}06^{+16.9\%}_{-14.8\%}$	$1.20E{-}01^{+9.2\%}_{-19.2\%}$
770.0	$3.99E{-}05^{+11.8\%}_{-9.7\%}$	$6.01E{-}06^{+9.6\%}_{-7.6\%}$	$2.09E{-}08^{+9.6\%}_{-7.6\%}$	$2.00E{-}06^{+17.2\%}_{-15.0\%}$	$1.18E{-}01^{+9.4\%}_{-19.8\%}$
780.0	$3.87E{-}05^{+12.1\%}_{-10.0\%}$	$5.84E{-}06^{+10.0\%}_{-7.9\%}$	$2.03E{-}08^{+10.0\%}_{-7.9\%}$	$1.94E{-}06^{+17.6\%}_{-15.3\%}$	$1.15E{-}01^{+9.7\%}_{-20.4\%}$
790.0	$3.75E{-}05^{+12.5\%}_{-10.2\%}$	$5.67E{-}06^{+10.4\%}_{-8.2\%}$	$1.97E{-}08^{+10.3\%}_{-8.1\%}$	$1.89E{-}06^{+17.9\%}_{-15.6\%}$	$1.12E{-}01^{+10.1\%}_{-20.9\%}$
800.0	$3.64E{-}05^{+12.8\%}_{-10.5\%}$	$5.52E{-}06^{+10.7\%}_{-8.5\%}$	$1.92E{-}08^{+10.7\%}_{-8.5\%}$	$1.83E{-}06^{+18.3\%}_{-15.9\%}$	$1.10E{-}01^{+10.6\%}_{-21.6\%}$
810.0	$3.54E{-}05^{+13.2\%}_{-10.8\%}$	$5.37E{-}06^{+11.1\%}_{-8.8\%}$	$1.86E{-}08^{+11.1\%}_{-8.8\%}$	$1.78E{-}06^{+18.7\%}_{-16.2\%}$	$1.07E{-}01^{+11.0\%}_{-22.3\%}$
820.0	$3.43E{-}05^{+13.7\%}_{-11.1\%}$	$5.22E{-}06^{+11.5\%}_{-9.1\%}$	$1.81E{-}08^{+11.5\%}_{-9.1\%}$	$1.73E{-}06^{+19.1\%}_{-16.5\%}$	$1.05E{-}01^{+11.5\%}_{-23.0\%}$
830.0	$3.33E{-}05^{+14.1\%}_{-11.4\%}$	$5.08E{-}06^{+11.9\%}_{-9.4\%}$	$1.76E{-}08^{+11.8\%}_{-9.4\%}$	$1.68E{-}06^{+19.5\%}_{-16.8\%}$	$1.02E{-}01^{+12.0\%}_{-23.6\%}$
840.0	$3.24E{-}05^{+14.5\%}_{-11.8\%}$	$4.94E{-}06^{+12.3\%}_{-9.7\%}$	$1.72E{-}08^{+12.3\%}_{-9.7\%}$	$1.63E{-}06^{+19.9\%}_{-17.2\%}$	$9.99E{-}02^{+12.5\%}_{-24.3\%}$
850.0	$3.14E{-}05^{+15.0\%}_{-12.1\%}$	$4.80E{-}06^{+12.8\%}_{-10.0\%}$	$1.67E{-}08^{+12.8\%}_{-10.1\%}$	$1.58E{-}06^{+20.4\%}_{-17.5\%}$	$9.76E{-}02^{+12.9\%}_{-25.1\%}$
860.0	$3.05E{-}05^{+15.4\%}_{-12.5\%}$	$4.67E{-}06^{+13.3\%}_{-10.4\%}$	$1.62E{-}08^{+13.3\%}_{-10.4\%}$	$1.54E{-}06^{+20.9\%}_{-17.9\%}$	$9.52E{-}02^{+13.5\%}_{-25.8\%}$
870.0	$2.97E{-}05^{+15.9\%}_{-12.9\%}$	$4.55E{-}06^{+13.8\%}_{-10.7\%}$	$1.58E{-}08^{+13.8\%}_{-10.8\%}$	$1.49E{-}06^{+21.4\%}_{-18.3\%}$	$9.29E{-}02^{+14.0\%}_{-26.6\%}$
880.0	$2.88E{-}05^{+16.5\%}_{-13.2\%}$	$4.43E{-}06^{+14.3\%}_{-11.1\%}$	$1.54E{-}08^{+14.3\%}_{-11.1\%}$	$1.45E{-}06^{+22.0\%}_{-18.6\%}$	$9.07E{-}02^{+14.6\%}_{-27.4\%}$
890.0	$2.80E{-}05^{+17.0\%}_{-13.6\%}$	$4.31E{-}06^{+14.9\%}_{-11.5\%}$	$1.50E{-}08^{+14.9\%}_{-11.5\%}$	$1.41E{-}06^{+22.5\%}_{-19.1\%}$	$8.86E{-}02^{+15.1\%}_{-28.3\%}$
900.0	$2.72E{-}05^{+17.6\%}_{-14.0\%}$	$4.19E{-}06^{+15.5\%}_{-11.9\%}$	$1.46E{-}08^{+15.5\%}_{-11.8\%}$	$1.37E{-}06^{+23.1\%}_{-19.4\%}$	$8.65E{-}02^{+15.8\%}_{-29.2\%}$
910.0	$2.64E{-}05^{+18.2\%}_{-14.4\%}$	$4.08E{-}06^{+16.1\%}_{-12.3\%}$	$1.42E{-}08^{+16.0\%}_{-12.3\%}$	$1.33E{-}06^{+23.8\%}_{-19.8\%}$	$8.44E{-}02^{+16.4\%}_{-30.1\%}$
920.0	$2.57E{-}05^{+18.9\%}_{-14.8\%}$	$3.97E{-}06^{+16.7\%}_{-12.7\%}$	$1.38E{-}08^{+16.7\%}_{-12.7\%}$	$1.29E{-}06^{+24.3\%}_{-20.2\%}$	$8.23E{-}02^{+17.0\%}_{-31.0\%}$
930.0	$2.49E{-}05^{+19.6\%}_{-15.2\%}$	$3.87E{-}06^{+17.4\%}_{-13.1\%}$	$1.34E{-}08^{+17.4\%}_{-13.1\%}$	$1.25E{-}06^{+25.1\%}_{-20.6\%}$	$8.03E{-}02^{+17.6\%}_{-32.0\%}$
940.0	$2.42E{-}05^{+20.3\%}_{-15.6\%}$	$3.76E{-}06^{+18.1\%}_{-13.5\%}$	$1.31E{-}08^{+18.1\%}_{-13.5\%}$	$1.22E{-}06^{+25.7\%}_{-21.1\%}$	$7.83E{-}02^{+18.3\%}_{-33.0\%}$
950.0	$2.35E{-}05^{+21.0\%}_{-16.1\%}$	$3.66E{-}06^{+18.8\%}_{-14.0\%}$	$1.27E{-}08^{+18.9\%}_{-13.9\%}$	$1.18E{-}06^{+26.6\%}_{-21.5\%}$	$7.64E{-}02^{+19.0\%}_{-34.0\%}$
960.0	$2.29E{-}05^{+21.9\%}_{-16.6\%}$	$3.56E{-}06^{+19.6\%}_{-14.4\%}$	$1.24E{-}08^{+19.7\%}_{-14.3\%}$	$1.15E{-}06^{+27.3\%}_{-21.9\%}$	$7.45E{-}02^{+19.8\%}_{-35.0\%}$
970.0	$2.23E{-}05^{+22.7\%}_{-17.0\%}$	$3.47E{-}06^{+20.4\%}_{-14.9\%}$	$1.21E{-}08^{+20.5\%}_{-14.8\%}$	$1.12E{-}06^{+28.2\%}_{-22.4\%}$	$7.26E{-}02^{+20.5\%}_{-36.1\%}$
980.0	$2.17E{-}05^{+23.5\%}_{-17.5\%}$	$3.38E{-}06^{+21.3\%}_{-15.3\%}$	$1.17E{-}08^{+21.2\%}_{-15.3\%}$	$1.09E{-}06^{+28.9\%}_{-22.9\%}$	$7.08E{-}02^{+21.2\%}_{-37.2\%}$
990.0	$2.11E{-}05^{+24.4\%}_{-18.0\%}$	$3.28E{-}06^{+22.2\%}_{-15.8\%}$	$1.14E{-}08^{+22.2\%}_{-15.8\%}$	$1.06E{-}06^{+29.9\%}_{-23.4\%}$	$6.90E{-}02^{+22.1\%}_{-38.3\%}$
1000.0	$2.05E{-}05^{+25.3\%}_{-18.5\%}$	$3.20E{-}06^{+23.1\%}_{-16.3\%}$	$1.11E{-}08^{+23.1\%}_{-16.3\%}$	$1.03E{-}06^{+30.9\%}_{-23.8\%}$	$6.73E{-}02^{+22.9\%}_{-39.5\%}$

Table 9 SM Higgs branching ratios to two gauge bosons and Higgs total width together with their total uncertainties (expressed in percentage). Very low mass range

M_H [GeV]	$H \to gg$	$H \to \gamma\gamma$	$H \to Z\gamma$	$H \to WW$	$H \to ZZ$	Γ_H [GeV]
90.0	$6.12E{-}02^{+11.8\%}_{-11.4\%}$	$1.22E{-}03^{+6.2\%}_{-6.2\%}$	$0.00E{+}00^{+0.0\%}_{-0.0\%}$	$2.07E{-}03^{+5.8\%}_{-5.7\%}$	$4.17E{-}04^{+5.8\%}_{-5.6\%}$	$2.22E{-}03^{+5.2\%}_{-5.2\%}$
95.0	$6.74E{-}02^{+11.7\%}_{-11.3\%}$	$1.39E{-}03^{+6.2\%}_{-6.1\%}$	$4.48E{-}06^{+10.2\%}_{-10.1\%}$	$4.67E{-}03^{+5.8\%}_{-5.6\%}$	$6.65E{-}04^{+5.7\%}_{-5.6\%}$	$2.35E{-}03^{+5.2\%}_{-5.1\%}$
100.0	$7.36E{-}02^{+11.6\%}_{-11.2\%}$	$1.58E{-}03^{+6.2\%}_{-6.1\%}$	$4.93E{-}05^{+10.2\%}_{-10.1\%}$	$1.09E{-}02^{+5.7\%}_{-5.6\%}$	$1.12E{-}03^{+5.7\%}_{-5.5\%}$	$2.49E{-}03^{+5.1\%}_{-5.1\%}$
105.0	$7.95E{-}02^{+11.4\%}_{-11.1\%}$	$1.77E{-}03^{+6.1\%}_{-5.9\%}$	$1.71E{-}04^{+10.2\%}_{-9.9\%}$	$2.40E{-}02^{+5.6\%}_{-5.5\%}$	$2.13E{-}03^{+5.6\%}_{-5.5\%}$	$2.65E{-}03^{+5.1\%}_{-5.0\%}$
110.0	$8.45E{-}02^{+11.2\%}_{-10.9\%}$	$1.95E{-}03^{+5.9\%}_{-5.8\%}$	$3.91E{-}04^{+9.9\%}_{-9.8\%}$	$4.77E{-}02^{+5.4\%}_{-5.3\%}$	$4.34E{-}03^{+5.4\%}_{-5.3\%}$	$2.85E{-}03^{+4.9\%}_{-4.9\%}$
110.5	$8.49E{-}02^{+11.2\%}_{-10.8\%}$	$1.97E{-}03^{+5.9\%}_{-5.8\%}$	$4.18E{-}04^{+9.9\%}_{-9.8\%}$	$5.09E{-}02^{+5.4\%}_{-5.3\%}$	$4.67E{-}03^{+5.4\%}_{-5.3\%}$	$2.87E{-}03^{+4.9\%}_{-4.9\%}$
111.0	$8.53E{-}02^{+11.2\%}_{-10.8\%}$	$1.98E{-}03^{+5.9\%}_{-5.8\%}$	$4.47E{-}04^{+9.9\%}_{-9.8\%}$	$5.40E{-}02^{+5.4\%}_{-5.2\%}$	$5.00E{-}03^{+5.4\%}_{-5.2\%}$	$2.90E{-}03^{+4.9\%}_{-4.8\%}$
111.5	$8.56E{-}02^{+11.1\%}_{-10.8\%}$	$2.00E{-}03^{+5.9\%}_{-5.8\%}$	$4.76E{-}04^{+9.9\%}_{-9.8\%}$	$5.75E{-}02^{+5.4\%}_{-5.2\%}$	$5.38E{-}03^{+5.3\%}_{-5.2\%}$	$2.92E{-}03^{+4.8\%}_{-4.8\%}$
112.0	$8.60E{-}02^{+11.1\%}_{-10.8\%}$	$2.02E{-}03^{+5.8\%}_{-5.8\%}$	$5.07E{-}04^{+9.8\%}_{-9.7\%}$	$6.10E{-}02^{+5.3\%}_{-5.2\%}$	$5.76E{-}03^{+5.3\%}_{-5.2\%}$	$2.95E{-}03^{+4.8\%}_{-4.8\%}$
112.5	$8.63E{-}02^{+11.1\%}_{-10.8\%}$	$2.03E{-}03^{+5.8\%}_{-5.7\%}$	$5.39E{-}04^{+9.8\%}_{-9.7\%}$	$6.47E{-}02^{+5.3\%}_{-5.2\%}$	$6.17E{-}03^{+5.3\%}_{-5.2\%}$	$2.98E{-}03^{+4.8\%}_{-4.8\%}$
113.0	$8.66E{-}02^{+11.1\%}_{-10.7\%}$	$2.05E{-}03^{+5.8\%}_{-5.7\%}$	$5.72E{-}04^{+9.8\%}_{-9.7\%}$	$6.87E{-}02^{+5.3\%}_{-5.2\%}$	$6.62E{-}03^{+5.3\%}_{-5.1\%}$	$3.00E{-}03^{+4.8\%}_{-4.8\%}$
113.5	$8.69E{-}02^{+11.0\%}_{-10.7\%}$	$2.07E{-}03^{+5.8\%}_{-5.7\%}$	$6.05E{-}04^{+9.8\%}_{-9.7\%}$	$7.27E{-}02^{+5.2\%}_{-5.1\%}$	$7.08E{-}03^{+5.2\%}_{-5.1\%}$	$3.03E{-}03^{+4.8\%}_{-4.7\%}$
114.0	$8.72E{-}02^{+11.0\%}_{-10.7\%}$	$2.08E{-}03^{+5.8\%}_{-5.6\%}$	$6.39E{-}04^{+9.7\%}_{-9.7\%}$	$7.70E{-}02^{+5.2\%}_{-5.1\%}$	$7.58E{-}03^{+5.2\%}_{-5.1\%}$	$3.06E{-}03^{+4.7\%}_{-4.7\%}$
114.5	$8.74E{-}02^{+11.0\%}_{-10.7\%}$	$2.10E{-}03^{+5.8\%}_{-5.6\%}$	$6.74E{-}04^{+9.7\%}_{-9.6\%}$	$8.14E{-}02^{+5.2\%}_{-5.1\%}$	$8.10E{-}03^{+5.2\%}_{-5.1\%}$	$3.09E{-}03^{+4.7\%}_{-4.7\%}$
115.0	$8.76E{-}02^{+10.9\%}_{-10.6\%}$	$2.11E{-}03^{+5.7\%}_{-5.6\%}$	$7.10E{-}04^{+9.7\%}_{-9.6\%}$	$8.60E{-}02^{+5.2\%}_{-5.0\%}$	$8.65E{-}03^{+5.2\%}_{-5.0\%}$	$3.12E{-}03^{+4.7\%}_{-4.7\%}$
115.5	$8.78E{-}02^{+10.9\%}_{-10.6\%}$	$2.12E{-}03^{+5.7\%}_{-5.6\%}$	$7.46E{-}04^{+9.7\%}_{-9.6\%}$	$9.05E{-}02^{+5.1\%}_{-5.0\%}$	$9.21E{-}03^{+5.1\%}_{-5.0\%}$	$3.16E{-}03^{+4.7\%}_{-4.6\%}$
116.0	$8.80E{-}02^{+10.9\%}_{-10.6\%}$	$2.14E{-}03^{+5.7\%}_{-5.5\%}$	$7.84E{-}04^{+9.6\%}_{-9.6\%}$	$9.55E{-}02^{+5.1\%}_{-5.0\%}$	$9.83E{-}03^{+5.1\%}_{-5.0\%}$	$3.19E{-}03^{+4.6\%}_{-4.6\%}$
116.5	$8.81E{-}02^{+10.8\%}_{-10.5\%}$	$2.15E{-}03^{+5.6\%}_{-5.5\%}$	$8.22E{-}04^{+9.6\%}_{-9.5\%}$	$1.01E{-}01^{+5.0\%}_{-4.9\%}$	$1.05E{-}02^{+5.0\%}_{-4.9\%}$	$3.23E{-}03^{+4.6\%}_{-4.6\%}$
117.0	$8.82E{-}02^{+10.8\%}_{-10.5\%}$	$2.16E{-}03^{+5.6\%}_{-5.5\%}$	$8.61E{-}04^{+9.6\%}_{-9.5\%}$	$1.06E{-}01^{+5.0\%}_{-4.9\%}$	$1.12E{-}02^{+5.0\%}_{-4.9\%}$	$3.26E{-}03^{+4.6\%}_{-4.5\%}$
117.5	$8.83E{-}02^{+10.8\%}_{-10.5\%}$	$2.18E{-}03^{+5.6\%}_{-5.4\%}$	$9.00E{-}04^{+9.5\%}_{-9.5\%}$	$1.11E{-}01^{+5.0\%}_{-4.8\%}$	$1.19E{-}02^{+5.0\%}_{-4.8\%}$	$3.30E{-}03^{+4.5\%}_{-4.5\%}$
118.0	$8.83E{-}02^{+10.8\%}_{-10.4\%}$	$2.19E{-}03^{+5.5\%}_{-5.4\%}$	$9.40E{-}04^{+9.5\%}_{-9.4\%}$	$1.17E{-}01^{+4.9\%}_{-4.8\%}$	$1.26E{-}02^{+4.9\%}_{-4.8\%}$	$3.34E{-}03^{+4.5\%}_{-4.5\%}$
118.5	$8.83E{-}02^{+10.7\%}_{-10.4\%}$	$2.20E{-}03^{+5.5\%}_{-5.4\%}$	$9.81E{-}04^{+9.5\%}_{-9.4\%}$	$1.23E{-}01^{+4.9\%}_{-4.8\%}$	$1.34E{-}02^{+4.9\%}_{-4.8\%}$	$3.37E{-}03^{+4.5\%}_{-4.4\%}$
119.0	$8.83E{-}02^{+10.7\%}_{-10.4\%}$	$2.21E{-}03^{+5.5\%}_{-5.3\%}$	$1.02E{-}03^{+9.4\%}_{-9.4\%}$	$1.29E{-}01^{+4.8\%}_{-4.7\%}$	$1.42E{-}02^{+4.8\%}_{-4.7\%}$	$3.41E{-}03^{+4.4\%}_{-4.4\%}$
119.5	$8.84E{-}02^{+10.7\%}_{-10.4\%}$	$2.22E{-}03^{+5.4\%}_{-5.3\%}$	$1.06E{-}03^{+9.4\%}_{-9.4\%}$	$1.35E{-}01^{+4.8\%}_{-4.7\%}$	$1.50E{-}02^{+4.8\%}_{-4.7\%}$	$3.46E{-}03^{+4.4\%}_{-4.4\%}$
120.0	$8.82E{-}02^{+10.6\%}_{-10.3\%}$	$2.23E{-}03^{+5.4\%}_{-5.3\%}$	$1.11E{-}03^{+9.4\%}_{-9.3\%}$	$1.41E{-}01^{+4.8\%}_{-4.7\%}$	$1.59E{-}02^{+4.8\%}_{-4.7\%}$	$3.50E{-}03^{+4.4\%}_{-4.3\%}$
120.5	$8.82E{-}02^{+10.6\%}_{-10.3\%}$	$2.23E{-}03^{+5.4\%}_{-5.2\%}$	$1.15E{-}03^{+9.3\%}_{-9.3\%}$	$1.48E{-}01^{+4.7\%}_{-4.6\%}$	$1.68E{-}02^{+4.7\%}_{-4.6\%}$	$3.55E{-}03^{+4.3\%}_{-4.3\%}$
121.0	$8.80E{-}02^{+10.6\%}_{-10.3\%}$	$2.24E{-}03^{+5.3\%}_{-5.2\%}$	$1.19E{-}03^{+9.3\%}_{-9.2\%}$	$1.55E{-}01^{+4.7\%}_{-4.6\%}$	$1.77E{-}02^{+4.7\%}_{-4.6\%}$	$3.60E{-}03^{+4.3\%}_{-4.2\%}$
121.5	$8.79E{-}02^{+10.5\%}_{-10.2\%}$	$2.25E{-}03^{+5.3\%}_{-5.2\%}$	$1.23E{-}03^{+9.3\%}_{-9.2\%}$	$1.61E{-}01^{+4.6\%}_{-4.5\%}$	$1.87E{-}02^{+4.6\%}_{-4.5\%}$	$3.65E{-}03^{+4.2\%}_{-4.2\%}$
122.0	$8.77E{-}02^{+10.5\%}_{-10.2\%}$	$2.25E{-}03^{+5.2\%}_{-5.1\%}$	$1.28E{-}03^{+9.2\%}_{-9.1\%}$	$1.69E{-}01^{+4.6\%}_{-4.5\%}$	$1.97E{-}02^{+4.6\%}_{-4.5\%}$	$3.70E{-}03^{+4.2\%}_{-4.2\%}$
122.5	$8.74E{-}02^{+10.4\%}_{-10.2\%}$	$2.26E{-}03^{+5.2\%}_{-5.1\%}$	$1.32E{-}03^{+9.2\%}_{-9.1\%}$	$1.76E{-}01^{+4.5\%}_{-4.4\%}$	$2.07E{-}02^{+4.5\%}_{-4.4\%}$	$3.76E{-}03^{+4.2\%}_{-4.1\%}$
123.0	$8.71E{-}02^{+10.4\%}_{-10.1\%}$	$2.27E{-}03^{+5.2\%}_{-5.0\%}$	$1.36E{-}03^{+9.2\%}_{-9.0\%}$	$1.83E{-}01^{+4.5\%}_{-4.4\%}$	$2.18E{-}02^{+4.5\%}_{-4.4\%}$	$3.82E{-}03^{+4.1\%}_{-4.1\%}$
123.5	$8.68E{-}02^{+10.3\%}_{-10.1\%}$	$2.28E{-}03^{+5.1\%}_{-5.0\%}$	$1.41E{-}03^{+9.1\%}_{-9.0\%}$	$1.91E{-}01^{+4.4\%}_{-4.3\%}$	$2.29E{-}02^{+4.5\%}_{-4.3\%}$	$3.88E{-}03^{+4.1\%}_{-4.0\%}$
124.0	$8.65E{-}02^{+10.3\%}_{-10.1\%}$	$2.28E{-}03^{+5.1\%}_{-5.0\%}$	$1.45E{-}03^{+9.1\%}_{-8.9\%}$	$1.98E{-}01^{+4.4\%}_{-4.3\%}$	$2.40E{-}02^{+4.4\%}_{-4.3\%}$	$3.94E{-}03^{+4.0\%}_{-4.0\%}$
124.5	$8.61E{-}02^{+10.3\%}_{-10.0\%}$	$2.28E{-}03^{+5.0\%}_{-4.9\%}$	$1.49E{-}03^{+9.1\%}_{-8.9\%}$	$2.07E{-}01^{+4.3\%}_{-4.2\%}$	$2.52E{-}02^{+4.4\%}_{-4.2\%}$	$4.00E{-}03^{+4.0\%}_{-4.0\%}$
125.0	$8.57E{-}02^{+10.2\%}_{-10.0\%}$	$2.28E{-}03^{+5.0\%}_{-4.9\%}$	$1.54E{-}03^{+9.0\%}_{-8.8\%}$	$2.15E{-}01^{+4.3\%}_{-4.2\%}$	$2.64E{-}02^{+4.3\%}_{-4.2\%}$	$4.07E{-}03^{+4.0\%}_{-3.9\%}$
125.5	$8.52E{-}02^{+10.2\%}_{-9.9\%}$	$2.28E{-}03^{+4.9\%}_{-4.8\%}$	$1.58E{-}03^{+8.9\%}_{-8.8\%}$	$2.23E{-}01^{+4.2\%}_{-4.1\%}$	$2.76E{-}02^{+4.3\%}_{-4.1\%}$	$4.14E{-}03^{+3.9\%}_{-3.9\%}$
126.0	$8.48E{-}02^{+10.1\%}_{-9.9\%}$	$2.28E{-}03^{+4.9\%}_{-4.8\%}$	$1.62E{-}03^{+8.9\%}_{-8.8\%}$	$2.31E{-}01^{+4.1\%}_{-4.1\%}$	$2.89E{-}02^{+4.2\%}_{-4.0\%}$	$4.21E{-}03^{+3.9\%}_{-3.8\%}$
126.5	$8.42E{-}02^{+10.1\%}_{-9.8\%}$	$2.28E{-}03^{+4.8\%}_{-4.7\%}$	$1.66E{-}03^{+8.8\%}_{-8.7\%}$	$2.39E{-}01^{+4.1\%}_{-4.0\%}$	$3.02E{-}02^{+4.1\%}_{-4.0\%}$	$4.29E{-}03^{+3.8\%}_{-3.8\%}$
127.0	$8.37E{-}02^{+10.1\%}_{-9.8\%}$	$2.28E{-}03^{+4.8\%}_{-4.7\%}$	$1.70E{-}03^{+8.8\%}_{-8.7\%}$	$2.48E{-}01^{+4.0\%}_{-4.0\%}$	$3.15E{-}02^{+4.1\%}_{-3.9\%}$	$4.37E{-}03^{+3.8\%}_{-3.7\%}$
127.5	$8.31E{-}02^{+10.0\%}_{-9.8\%}$	$2.28E{-}03^{+4.8\%}_{-4.6\%}$	$1.75E{-}03^{+8.7\%}_{-8.6\%}$	$2.57E{-}01^{+4.0\%}_{-3.9\%}$	$3.28E{-}02^{+4.0\%}_{-3.9\%}$	$4.45E{-}03^{+3.7\%}_{-3.7\%}$
128.0	$8.25E{-}02^{+10.0\%}_{-9.7\%}$	$2.27E{-}03^{+4.7\%}_{-4.6\%}$	$1.79E{-}03^{+8.7\%}_{-8.6\%}$	$2.66E{-}01^{+3.9\%}_{-3.9\%}$	$3.42E{-}02^{+3.9\%}_{-3.8\%}$	$4.53E{-}03^{+3.7\%}_{-3.6\%}$
128.5	$8.19E{-}02^{+9.9\%}_{-9.7\%}$	$2.27E{-}03^{+4.7\%}_{-4.5\%}$	$1.83E{-}03^{+8.6\%}_{-8.6\%}$	$2.75E{-}01^{+3.8\%}_{-3.8\%}$	$3.56E{-}02^{+3.9\%}_{-3.8\%}$	$4.62E{-}03^{+3.6\%}_{-3.6\%}$
129.0	$8.12E{-}02^{+9.9\%}_{-9.6\%}$	$2.26E{-}03^{+4.6\%}_{-4.5\%}$	$1.87E{-}03^{+8.5\%}_{-8.5\%}$	$2.84E{-}01^{+3.8\%}_{-3.7\%}$	$3.70E{-}02^{+3.8\%}_{-3.7\%}$	$4.71E{-}03^{+3.6\%}_{-3.5\%}$
129.5	$8.05E{-}02^{+9.8\%}_{-9.6\%}$	$2.26E{-}03^{+4.6\%}_{-4.4\%}$	$1.90E{-}03^{+8.5\%}_{-8.5\%}$	$2.93E{-}01^{+3.7\%}_{-3.7\%}$	$3.84E{-}02^{+3.7\%}_{-3.7\%}$	$4.81E{-}03^{+3.5\%}_{-3.5\%}$
130.0	$7.97E{-}02^{+9.8\%}_{-9.6\%}$	$2.25E{-}03^{+4.5\%}_{-4.4\%}$	$1.95E{-}03^{+8.4\%}_{-8.4\%}$	$3.03E{-}01^{+3.7\%}_{-3.6\%}$	$3.98E{-}02^{+3.7\%}_{-3.6\%}$	$4.91E{-}03^{+3.5\%}_{-3.4\%}$

Table 10 SM Higgs branching ratios to two gauge bosons and Higgs total width together with their total uncertainties (expressed in percentage). Low and intermediate mass range

M_H [GeV]	$H \to gg$	$H \to \gamma\gamma$	$H \to Z\gamma$	$H \to WW$	$H \to ZZ$	Γ_H [GeV]
130.5	$7.90E{-}02^{+9.8\%}_{-9.5\%}$	$2.24E{-}03^{+4.5\%}_{-4.3\%}$	$1.99E{-}03^{+8.4\%}_{-8.4\%}$	$3.12E{-}01^{+3.6\%}_{-3.5\%}$	$4.13E{-}02^{+3.6\%}_{-3.5\%}$	$5.01E{-}03^{+3.4\%}_{-3.4\%}$
131.0	$7.82E{-}02^{+9.7\%}_{-9.5\%}$	$2.23E{-}03^{+4.4\%}_{-4.3\%}$	$2.01E{-}03^{+8.3\%}_{-8.3\%}$	$3.22E{-}01^{+3.5\%}_{-3.5\%}$	$4.28E{-}02^{+3.5\%}_{-3.5\%}$	$5.12E{-}03^{+3.4\%}_{-3.3\%}$
131.5	$7.73E{-}02^{+9.7\%}_{-9.4\%}$	$2.22E{-}03^{+4.4\%}_{-4.2\%}$	$2.06E{-}03^{+8.3\%}_{-8.3\%}$	$3.31E{-}01^{+3.5\%}_{-3.4\%}$	$4.42E{-}02^{+3.5\%}_{-3.4\%}$	$5.23E{-}03^{+3.3\%}_{-3.3\%}$
132.0	$7.65E{-}02^{+9.6\%}_{-9.4\%}$	$2.21E{-}03^{+4.3\%}_{-4.2\%}$	$2.09E{-}03^{+8.2\%}_{-8.2\%}$	$3.41E{-}01^{+3.4\%}_{-3.4\%}$	$4.57E{-}02^{+3.4\%}_{-3.4\%}$	$5.35E{-}03^{+3.2\%}_{-3.2\%}$
132.5	$7.56E{-}02^{+9.6\%}_{-9.4\%}$	$2.20E{-}03^{+4.2\%}_{-4.1\%}$	$2.13E{-}03^{+8.2\%}_{-8.2\%}$	$3.51E{-}01^{+3.3\%}_{-3.3\%}$	$4.72E{-}02^{+3.3\%}_{-3.3\%}$	$5.47E{-}03^{+3.2\%}_{-3.2\%}$
133.0	$7.47E{-}02^{+9.5\%}_{-9.3\%}$	$2.19E{-}03^{+4.2\%}_{-4.1\%}$	$2.16E{-}03^{+8.1\%}_{-8.1\%}$	$3.61E{-}01^{+3.3\%}_{-3.2\%}$	$4.87E{-}02^{+3.3\%}_{-3.2\%}$	$5.60E{-}03^{+3.1\%}_{-3.1\%}$
133.5	$7.37E{-}02^{+9.5\%}_{-9.3\%}$	$2.17E{-}03^{+4.1\%}_{-4.0\%}$	$2.19E{-}03^{+8.1\%}_{-8.1\%}$	$3.70E{-}01^{+3.2\%}_{-3.2\%}$	$5.02E{-}02^{+3.2\%}_{-3.2\%}$	$5.74E{-}03^{+3.1\%}_{-3.1\%}$
134.0	$7.28E{-}02^{+9.4\%}_{-9.2\%}$	$2.16E{-}03^{+4.1\%}_{-4.0\%}$	$2.22E{-}03^{+8.0\%}_{-8.0\%}$	$3.80E{-}01^{+3.1\%}_{-3.1\%}$	$5.17E{-}02^{+3.1\%}_{-3.1\%}$	$5.88E{-}03^{+3.0\%}_{-3.0\%}$
134.5	$7.18E{-}02^{+9.4\%}_{-9.2\%}$	$2.14E{-}03^{+4.0\%}_{-3.9\%}$	$2.25E{-}03^{+8.0\%}_{-7.9\%}$	$3.90E{-}01^{+3.1\%}_{-3.0\%}$	$5.32E{-}02^{+3.1\%}_{-3.0\%}$	$6.03E{-}03^{+3.0\%}_{-3.0\%}$
135.0	$7.08E{-}02^{+9.3\%}_{-9.2\%}$	$2.13E{-}03^{+4.0\%}_{-3.9\%}$	$2.27E{-}03^{+7.9\%}_{-7.9\%}$	$4.00E{-}01^{+3.0\%}_{-3.0\%}$	$5.47E{-}02^{+3.0\%}_{-3.0\%}$	$6.18E{-}03^{+2.9\%}_{-2.9\%}$
135.5	$6.97E{-}02^{+9.2\%}_{-9.1\%}$	$2.11E{-}03^{+3.8\%}_{-3.8\%}$	$2.30E{-}03^{+7.8\%}_{-7.8\%}$	$4.10E{-}01^{+2.9\%}_{-2.8\%}$	$5.62E{-}02^{+2.9\%}_{-2.8\%}$	$6.34E{-}03^{+2.8\%}_{-2.8\%}$
136.0	$6.87E{-}02^{+9.1\%}_{-9.0\%}$	$2.09E{-}03^{+3.7\%}_{-3.6\%}$	$2.32E{-}03^{+7.7\%}_{-7.7\%}$	$4.20E{-}01^{+2.8\%}_{-2.7\%}$	$5.77E{-}02^{+2.8\%}_{-2.7\%}$	$6.51E{-}03^{+2.7\%}_{-2.7\%}$
136.5	$6.76E{-}02^{+9.0\%}_{-8.9\%}$	$2.08E{-}03^{+3.6\%}_{-3.5\%}$	$2.34E{-}03^{+7.5\%}_{-7.5\%}$	$4.30E{-}01^{+2.6\%}_{-2.6\%}$	$5.91E{-}02^{+2.6\%}_{-2.6\%}$	$6.69E{-}03^{+2.6\%}_{-2.6\%}$
137.0	$6.65E{-}02^{+8.9\%}_{-8.8\%}$	$2.06E{-}03^{+3.5\%}_{-3.4\%}$	$2.36E{-}03^{+7.4\%}_{-7.4\%}$	$4.41E{-}01^{+2.5\%}_{-2.5\%}$	$6.06E{-}02^{+2.5\%}_{-2.5\%}$	$6.87E{-}03^{+2.5\%}_{-2.5\%}$
137.5	$6.54E{-}02^{+8.8\%}_{-8.7\%}$	$2.04E{-}03^{+3.3\%}_{-3.3\%}$	$2.38E{-}03^{+7.3\%}_{-7.3\%}$	$4.51E{-}01^{+2.4\%}_{-2.3\%}$	$6.20E{-}02^{+2.4\%}_{-2.3\%}$	$7.06E{-}03^{+2.3\%}_{-2.3\%}$
138.0	$6.43E{-}02^{+8.7\%}_{-8.5\%}$	$2.02E{-}03^{+3.2\%}_{-3.2\%}$	$2.40E{-}03^{+7.2\%}_{-7.2\%}$	$4.61E{-}01^{+2.2\%}_{-2.2\%}$	$6.34E{-}02^{+2.2\%}_{-2.2\%}$	$7.27E{-}03^{+2.2\%}_{-2.2\%}$
138.5	$6.32E{-}02^{+8.6\%}_{-8.4\%}$	$2.00E{-}03^{+3.1\%}_{-3.1\%}$	$2.42E{-}03^{+7.1\%}_{-7.1\%}$	$4.71E{-}01^{+2.1\%}_{-2.1\%}$	$6.48E{-}02^{+2.1\%}_{-2.1\%}$	$7.48E{-}03^{+2.1\%}_{-2.1\%}$
139.0	$6.20E{-}02^{+8.5\%}_{-8.3\%}$	$1.98E{-}03^{+3.0\%}_{-3.0\%}$	$2.43E{-}03^{+6.9\%}_{-7.0\%}$	$4.81E{-}01^{+1.9\%}_{-1.9\%}$	$6.61E{-}02^{+2.0\%}_{-1.9\%}$	$7.70E{-}03^{+2.0\%}_{-2.0\%}$
139.5	$6.08E{-}02^{+8.4\%}_{-8.2\%}$	$1.95E{-}03^{+2.9\%}_{-2.9\%}$	$2.45E{-}03^{+6.8\%}_{-6.8\%}$	$4.91E{-}01^{+1.8\%}_{-1.8\%}$	$6.75E{-}02^{+1.8\%}_{-1.8\%}$	$7.93E{-}03^{+1.9\%}_{-1.9\%}$
140.0	$5.97E{-}02^{+8.3\%}_{-8.1\%}$	$1.93E{-}03^{+2.7\%}_{-2.8\%}$	$2.46E{-}03^{+6.7\%}_{-6.7\%}$	$5.01E{-}01^{+1.7\%}_{-1.7\%}$	$6.87E{-}02^{+1.7\%}_{-1.7\%}$	$8.18E{-}03^{+1.8\%}_{-1.7\%}$
141.0	$5.72E{-}02^{+8.2\%}_{-8.1\%}$	$1.88E{-}03^{+2.7\%}_{-2.7\%}$	$2.48E{-}03^{+6.6\%}_{-6.7\%}$	$5.21E{-}01^{+1.6\%}_{-1.6\%}$	$7.12E{-}02^{+1.6\%}_{-1.6\%}$	$8.70E{-}03^{+1.7\%}_{-1.7\%}$
142.0	$5.48E{-}02^{+8.2\%}_{-8.1\%}$	$1.84E{-}03^{+2.6\%}_{-2.6\%}$	$2.49E{-}03^{+6.6\%}_{-6.6\%}$	$5.41E{-}01^{+1.5\%}_{-1.5\%}$	$7.35E{-}02^{+1.5\%}_{-1.5\%}$	$9.28E{-}03^{+1.6\%}_{-1.6\%}$
143.0	$5.23E{-}02^{+8.2\%}_{-8.0\%}$	$1.77E{-}03^{+2.5\%}_{-2.5\%}$	$2.49E{-}03^{+6.5\%}_{-6.5\%}$	$5.61E{-}01^{+1.4\%}_{-1.4\%}$	$7.56E{-}02^{+1.4\%}_{-1.4\%}$	$9.93E{-}03^{+1.6\%}_{-1.5\%}$
144.0	$4.99E{-}02^{+8.1\%}_{-8.0\%}$	$1.73E{-}03^{+2.5\%}_{-2.4\%}$	$2.49E{-}03^{+6.5\%}_{-6.5\%}$	$5.80E{-}01^{+1.3\%}_{-1.3\%}$	$7.75E{-}02^{+1.3\%}_{-1.3\%}$	$1.07E{-}02^{+1.5\%}_{-1.5\%}$
145.0	$4.74E{-}02^{+8.1\%}_{-8.0\%}$	$1.68E{-}03^{+2.4\%}_{-2.4\%}$	$2.48E{-}03^{+6.4\%}_{-6.4\%}$	$6.00E{-}01^{+1.2\%}_{-1.3\%}$	$7.91E{-}02^{+1.2\%}_{-1.3\%}$	$1.15E{-}02^{+1.4\%}_{-1.4\%}$
146.0	$4.48E{-}02^{+8.1\%}_{-7.9\%}$	$1.62E{-}03^{+2.4\%}_{-2.3\%}$	$2.46E{-}03^{+6.3\%}_{-6.3\%}$	$6.19E{-}01^{+1.2\%}_{-1.2\%}$	$8.05E{-}02^{+1.2\%}_{-1.2\%}$	$1.23E{-}02^{+1.4\%}_{-1.3\%}$
147.0	$4.22E{-}02^{+8.0\%}_{-7.9\%}$	$1.56E{-}03^{+2.3\%}_{-2.2\%}$	$2.44E{-}03^{+6.3\%}_{-6.3\%}$	$6.39E{-}01^{+1.1\%}_{-1.1\%}$	$8.16E{-}02^{+1.1\%}_{-1.1\%}$	$1.34E{-}02^{+1.3\%}_{-1.3\%}$
148.0	$3.96E{-}02^{+8.0\%}_{-7.9\%}$	$1.49E{-}03^{+2.2\%}_{-2.2\%}$	$2.39E{-}03^{+6.2\%}_{-6.3\%}$	$6.58E{-}01^{+1.0\%}_{-1.0\%}$	$8.24E{-}02^{+1.0\%}_{-1.0\%}$	$1.45E{-}02^{+1.2\%}_{-1.2\%}$
149.0	$3.72E{-}02^{+8.0\%}_{-7.9\%}$	$1.43E{-}03^{+2.2\%}_{-2.1\%}$	$2.36E{-}03^{+6.1\%}_{-6.2\%}$	$6.77E{-}01^{+0.9\%}_{-0.9\%}$	$8.26E{-}02^{+0.9\%}_{-0.9\%}$	$1.58E{-}02^{+1.2\%}_{-1.2\%}$
150.0	$3.46E{-}02^{+7.9\%}_{-7.8\%}$	$1.37E{-}03^{+2.1\%}_{-2.1\%}$	$2.31E{-}03^{+6.0\%}_{-6.2\%}$	$6.96E{-}01^{+0.9\%}_{-0.8\%}$	$8.25E{-}02^{+0.9\%}_{-0.8\%}$	$1.73E{-}02^{+1.1\%}_{-1.1\%}$
151.0	$3.20E{-}02^{+7.9\%}_{-7.8\%}$	$1.29E{-}03^{+2.1\%}_{-2.0\%}$	$2.24E{-}03^{+6.0\%}_{-6.1\%}$	$7.16E{-}01^{+0.8\%}_{-0.8\%}$	$8.19E{-}02^{+0.8\%}_{-0.8\%}$	$1.91E{-}02^{+1.1\%}_{-1.1\%}$
152.0	$2.95E{-}02^{+7.9\%}_{-7.8\%}$	$1.22E{-}03^{+2.0\%}_{-2.0\%}$	$2.19E{-}03^{+6.0\%}_{-6.0\%}$	$7.35E{-}01^{+0.7\%}_{-0.7\%}$	$8.08E{-}02^{+0.7\%}_{-0.7\%}$	$2.11E{-}02^{+1.0\%}_{-1.0\%}$
153.0	$2.69E{-}02^{+7.9\%}_{-7.8\%}$	$1.15E{-}03^{+2.0\%}_{-1.9\%}$	$2.11E{-}03^{+6.0\%}_{-6.0\%}$	$7.54E{-}01^{+0.7\%}_{-0.7\%}$	$7.90E{-}02^{+0.7\%}_{-0.7\%}$	$2.36E{-}02^{+1.0\%}_{-1.0\%}$
154.0	$2.44E{-}02^{+7.9\%}_{-7.7\%}$	$1.07E{-}03^{+1.9\%}_{-1.9\%}$	$2.02E{-}03^{+5.9\%}_{-5.9\%}$	$7.74E{-}01^{+0.6\%}_{-0.6\%}$	$7.66E{-}02^{+0.6\%}_{-0.6\%}$	$2.66E{-}02^{+0.9\%}_{-0.9\%}$
155.0	$2.18E{-}02^{+7.8\%}_{-7.7\%}$	$9.98E{-}04^{+1.9\%}_{-1.9\%}$	$1.91E{-}03^{+5.9\%}_{-5.8\%}$	$7.94E{-}01^{+0.5\%}_{-0.5\%}$	$7.34E{-}02^{+0.5\%}_{-0.5\%}$	$3.03E{-}02^{+0.9\%}_{-0.9\%}$
156.0	$1.92E{-}02^{+7.8\%}_{-7.7\%}$	$9.14E{-}04^{+1.8\%}_{-1.8\%}$	$1.79E{-}03^{+5.8\%}_{-5.8\%}$	$8.15E{-}01^{+0.5\%}_{-0.5\%}$	$6.92E{-}02^{+0.5\%}_{-0.5\%}$	$3.51E{-}02^{+0.8\%}_{-0.8\%}$
157.0	$1.65E{-}02^{+7.8\%}_{-7.7\%}$	$8.23E{-}04^{+1.8\%}_{-1.8\%}$	$1.65E{-}03^{+5.8\%}_{-5.8\%}$	$8.37E{-}01^{+0.4\%}_{-0.4\%}$	$6.40E{-}02^{+0.4\%}_{-0.4\%}$	$4.14E{-}02^{+0.8\%}_{-0.8\%}$
158.0	$1.39E{-}02^{+7.8\%}_{-7.7\%}$	$7.29E{-}04^{+1.7\%}_{-1.7\%}$	$1.50E{-}03^{+5.7\%}_{-5.7\%}$	$8.60E{-}01^{+0.3\%}_{-0.3\%}$	$5.76E{-}02^{+0.3\%}_{-0.3\%}$	$5.02E{-}02^{+0.7\%}_{-0.7\%}$
159.0	$1.12E{-}02^{+7.8\%}_{-7.7\%}$	$6.28E{-}04^{+1.7\%}_{-1.7\%}$	$1.33E{-}03^{+5.7\%}_{-5.7\%}$	$8.84E{-}01^{+0.3\%}_{-0.3\%}$	$4.99E{-}02^{+0.3\%}_{-0.3\%}$	$6.32E{-}02^{+0.7\%}_{-0.7\%}$
160.0	$8.65E{-}03^{+7.8\%}_{-7.7\%}$	$5.32E{-}04^{+1.6\%}_{-1.6\%}$	$1.16E{-}03^{+5.6\%}_{-5.7\%}$	$9.08E{-}01^{+0.2\%}_{-0.2\%}$	$4.15E{-}02^{+0.2\%}_{-0.2\%}$	$8.31E{-}02^{+0.6\%}_{-0.6\%}$
162.0	$5.04E{-}03^{+7.7\%}_{-7.7\%}$	$3.70E{-}04^{+1.6\%}_{-1.6\%}$	$8.41E{-}04^{+5.6\%}_{-5.6\%}$	$9.43E{-}01^{+0.2\%}_{-0.2\%}$	$2.82E{-}02^{+0.2\%}_{-0.2\%}$	$1.47E{-}01^{+0.6\%}_{-0.6\%}$
164.0	$3.54E{-}03^{+7.7\%}_{-7.7\%}$	$2.60E{-}04^{+1.6\%}_{-1.6\%}$	$6.06E{-}04^{+5.6\%}_{-5.6\%}$	$9.57E{-}01^{+0.1\%}_{-0.1\%}$	$2.31E{-}02^{+0.2\%}_{-0.2\%}$	$2.15E{-}01^{+0.6\%}_{-0.6\%}$
166.0	$2.85E{-}03^{+7.7\%}_{-7.7\%}$	$2.08E{-}04^{+1.6\%}_{-1.6\%}$	$5.00E{-}04^{+5.6\%}_{-5.6\%}$	$9.62E{-}01^{+0.1\%}_{-0.1\%}$	$2.18E{-}02^{+0.1\%}_{-0.1\%}$	$2.76E{-}01^{+0.6\%}_{-0.6\%}$
168.0	$2.46E{-}03^{+7.7\%}_{-7.7\%}$	$1.79E{-}04^{+1.6\%}_{-1.6\%}$	$4.40E{-}04^{+5.6\%}_{-5.6\%}$	$9.64E{-}01^{+0.1\%}_{-0.1\%}$	$2.22E{-}02^{+0.1\%}_{-0.1\%}$	$3.30E{-}01^{+0.6\%}_{-0.6\%}$
170.0	$2.20E{-}03^{+7.7\%}_{-7.7\%}$	$1.58E{-}04^{+1.6\%}_{-1.6\%}$	$4.00E{-}04^{+5.6\%}_{-5.6\%}$	$9.64E{-}01^{+0.1\%}_{-0.1\%}$	$2.36E{-}02^{+0.1\%}_{-0.1\%}$	$3.80E{-}01^{+0.6\%}_{-0.6\%}$

Table 11 SM Higgs branching ratios to two gauge bosons and Higgs total width together with their total uncertainties (expressed in percentage). Intermediate mass range

M_H [GeV]	$H \to gg$	$H \to \gamma\gamma$	$H \to Z\gamma$	$H \to WW$	$H \to ZZ$	Γ_H [GeV]
172.0	$2.01E{-}03^{+7.7\%}_{-7.6\%}$	$1.43E{-}04^{+1.6\%}_{-1.6\%}$	$3.70E{-}04^{+5.6\%}_{-5.6\%}$	$9.63E{-}01^{+0.0\%}_{-0.0\%}$	$2.61E{-}02^{+0.1\%}_{-0.1\%}$	$4.29E{-}01^{+0.6\%}_{-0.6\%}$
174.0	$1.88E{-}03^{+7.7\%}_{-7.6\%}$	$1.32E{-}04^{+1.6\%}_{-1.6\%}$	$3.48E{-}04^{+5.6\%}_{-5.5\%}$	$9.60E{-}01^{+0.0\%}_{-0.0\%}$	$2.98E{-}02^{+0.1\%}_{-0.1\%}$	$4.77E{-}01^{+0.6\%}_{-0.6\%}$
176.0	$1.76E{-}03^{+7.7\%}_{-7.6\%}$	$1.22E{-}04^{+1.6\%}_{-1.6\%}$	$3.29E{-}04^{+5.6\%}_{-5.5\%}$	$9.55E{-}01^{+0.0\%}_{-0.0\%}$	$3.54E{-}02^{+0.1\%}_{-0.1\%}$	$5.25E{-}01^{+0.6\%}_{-0.6\%}$
178.0	$1.65E{-}03^{+7.7\%}_{-7.6\%}$	$1.14E{-}04^{+1.6\%}_{-1.6\%}$	$3.12E{-}04^{+5.6\%}_{-5.5\%}$	$9.47E{-}01^{+0.0\%}_{-0.0\%}$	$4.44E{-}02^{+0.1\%}_{-0.1\%}$	$5.75E{-}01^{+0.6\%}_{-0.6\%}$
180.0	$1.56E{-}03^{+7.7\%}_{-7.6\%}$	$1.05E{-}04^{+1.6\%}_{-1.6\%}$	$2.96E{-}04^{+5.6\%}_{-5.5\%}$	$9.32E{-}01^{+0.0\%}_{-0.0\%}$	$6.02E{-}02^{+0.1\%}_{-0.1\%}$	$6.31E{-}01^{+0.6\%}_{-0.6\%}$
182.0	$1.44E{-}03^{+7.7\%}_{-7.6\%}$	$9.69E{-}05^{+1.6\%}_{-1.6\%}$	$2.76E{-}04^{+5.6\%}_{-5.5\%}$	$9.03E{-}01^{+0.0\%}_{-0.0\%}$	$9.00E{-}02^{+0.1\%}_{-0.1\%}$	$7.00E{-}01^{+0.6\%}_{-0.6\%}$
184.0	$1.32E{-}03^{+7.7\%}_{-7.6\%}$	$8.81E{-}05^{+1.6\%}_{-1.6\%}$	$2.54E{-}04^{+5.6\%}_{-5.5\%}$	$8.62E{-}01^{+0.0\%}_{-0.0\%}$	$1.31E{-}01^{+0.0\%}_{-0.0\%}$	$7.88E{-}01^{+0.6\%}_{-0.6\%}$
186.0	$1.23E{-}03^{+7.7\%}_{-7.6\%}$	$8.09E{-}05^{+1.6\%}_{-1.6\%}$	$2.35E{-}04^{+5.6\%}_{-5.5\%}$	$8.28E{-}01^{+0.0\%}_{-0.0\%}$	$1.66E{-}01^{+0.0\%}_{-0.0\%}$	$8.76E{-}01^{+0.5\%}_{-0.6\%}$
188.0	$1.16E{-}03^{+7.7\%}_{-7.6\%}$	$7.52E{-}05^{+1.6\%}_{-1.5\%}$	$2.22E{-}04^{+5.6\%}_{-5.5\%}$	$8.03E{-}01^{+0.0\%}_{-0.0\%}$	$1.91E{-}01^{+0.0\%}_{-0.0\%}$	$9.60E{-}01^{+0.5\%}_{-0.5\%}$
190.0	$1.10E{-}03^{+7.7\%}_{-7.6\%}$	$7.05E{-}05^{+1.6\%}_{-1.5\%}$	$2.11E{-}04^{+5.6\%}_{-5.5\%}$	$7.86E{-}01^{+0.0\%}_{-0.0\%}$	$2.09E{-}01^{+0.0\%}_{-0.0\%}$	$1.04E{+}00^{+0.5\%}_{-0.5\%}$
192.0	$1.05E{-}03^{+7.7\%}_{-7.6\%}$	$6.66E{-}05^{+1.6\%}_{-1.6\%}$	$2.02E{-}04^{+5.6\%}_{-5.5\%}$	$7.72E{-}01^{+0.0\%}_{-0.0\%}$	$2.23E{-}01^{+0.0\%}_{-0.0\%}$	$1.12E{+}00^{+0.5\%}_{-0.5\%}$
194.0	$1.01E{-}03^{+7.7\%}_{-7.6\%}$	$6.32E{-}05^{+1.6\%}_{-1.6\%}$	$1.94E{-}04^{+5.6\%}_{-5.5\%}$	$7.61E{-}01^{+0.0\%}_{-0.0\%}$	$2.34E{-}01^{+0.0\%}_{-0.0\%}$	$1.20E{+}00^{+0.5\%}_{-0.5\%}$
196.0	$9.79E{-}04^{+7.7\%}_{-7.6\%}$	$6.02E{-}05^{+1.6\%}_{-1.6\%}$	$1.87E{-}04^{+5.5\%}_{-5.6\%}$	$7.53E{-}01^{+0.0\%}_{-0.0\%}$	$2.43E{-}01^{+0.0\%}_{-0.0\%}$	$1.28E{+}00^{+0.5\%}_{-0.5\%}$
198.0	$9.51E{-}04^{+7.6\%}_{-7.6\%}$	$5.75E{-}05^{+1.6\%}_{-1.6\%}$	$1.81E{-}04^{+5.5\%}_{-5.6\%}$	$7.46E{-}01^{+0.0\%}_{-0.0\%}$	$2.50E{-}01^{+0.0\%}_{-0.0\%}$	$1.35E{+}00^{+0.5\%}_{-0.5\%}$
200.0	$9.26E{-}04^{+7.6\%}_{-7.6\%}$	$5.51E{-}05^{+1.6\%}_{-1.6\%}$	$1.75E{-}04^{+5.5\%}_{-5.6\%}$	$7.41E{-}01^{+0.0\%}_{-0.0\%}$	$2.55E{-}01^{+0.0\%}_{-0.0\%}$	$1.43E{+}00^{+0.5\%}_{-0.5\%}$
202.0	$9.04E{-}04^{+7.6\%}_{-7.5\%}$	$5.28E{-}05^{+1.6\%}_{-1.6\%}$	$1.70E{-}04^{+5.5\%}_{-5.6\%}$	$7.36E{-}01^{+0.0\%}_{-0.0\%}$	$2.60E{-}01^{+0.0\%}_{-0.0\%}$	$1.51E{+}00^{+0.5\%}_{-0.5\%}$
204.0	$8.84E{-}04^{+7.6\%}_{-7.5\%}$	$5.08E{-}05^{+1.6\%}_{-1.6\%}$	$1.65E{-}04^{+5.6\%}_{-5.6\%}$	$7.32E{-}01^{+0.0\%}_{-0.0\%}$	$2.65E{-}01^{+0.0\%}_{-0.0\%}$	$1.59E{+}00^{+0.5\%}_{-0.5\%}$
206.0	$8.66E{-}04^{+7.6\%}_{-7.5\%}$	$4.89E{-}05^{+1.6\%}_{-1.6\%}$	$1.61E{-}04^{+5.6\%}_{-5.6\%}$	$7.28E{-}01^{+0.0\%}_{-0.0\%}$	$2.68E{-}01^{+0.0\%}_{-0.0\%}$	$1.68E{+}00^{+0.5\%}_{-0.5\%}$
208.0	$8.51E{-}04^{+7.6\%}_{-7.5\%}$	$4.71E{-}05^{+1.6\%}_{-1.6\%}$	$1.57E{-}04^{+5.6\%}_{-5.6\%}$	$7.25E{-}01^{+0.0\%}_{-0.0\%}$	$2.71E{-}01^{+0.0\%}_{-0.0\%}$	$1.76E{+}00^{+0.5\%}_{-0.5\%}$
210.0	$8.36E{-}04^{+7.6\%}_{-7.5\%}$	$4.55E{-}05^{+1.7\%}_{-1.6\%}$	$1.53E{-}04^{+5.6\%}_{-5.5\%}$	$7.23E{-}01^{+0.0\%}_{-0.0\%}$	$2.74E{-}01^{+0.0\%}_{-0.0\%}$	$1.85E{+}00^{+0.5\%}_{-0.5\%}$
212.0	$8.22E{-}04^{+7.6\%}_{-7.5\%}$	$4.39E{-}05^{+1.6\%}_{-1.6\%}$	$1.49E{-}04^{+5.6\%}_{-5.5\%}$	$7.20E{-}01^{+0.0\%}_{-0.0\%}$	$2.76E{-}01^{+0.0\%}_{-0.0\%}$	$1.93E{+}00^{+0.5\%}_{-0.5\%}$
214.0	$8.09E{-}04^{+7.6\%}_{-7.5\%}$	$4.24E{-}05^{+1.6\%}_{-1.6\%}$	$1.45E{-}04^{+5.6\%}_{-5.5\%}$	$7.18E{-}01^{+0.0\%}_{-0.0\%}$	$2.78E{-}01^{+0.0\%}_{-0.0\%}$	$2.02E{+}00^{+0.5\%}_{-0.5\%}$
216.0	$7.98E{-}04^{+7.6\%}_{-7.5\%}$	$4.10E{-}05^{+1.6\%}_{-1.6\%}$	$1.41E{-}04^{+5.6\%}_{-5.6\%}$	$7.17E{-}01^{+0.0\%}_{-0.0\%}$	$2.80E{-}01^{+0.0\%}_{-0.0\%}$	$2.12E{+}00^{+0.5\%}_{-0.5\%}$
218.0	$7.87E{-}04^{+7.6\%}_{-7.5\%}$	$3.96E{-}05^{+1.6\%}_{-1.6\%}$	$1.38E{-}04^{+5.6\%}_{-5.6\%}$	$7.15E{-}01^{+0.0\%}_{-0.0\%}$	$2.82E{-}01^{+0.0\%}_{-0.0\%}$	$2.21E{+}00^{+0.5\%}_{-0.5\%}$
220.0	$7.77E{-}04^{+7.6\%}_{-7.5\%}$	$3.83E{-}05^{+1.6\%}_{-1.6\%}$	$1.35E{-}04^{+5.6\%}_{-5.6\%}$	$7.14E{-}01^{+0.0\%}_{-0.0\%}$	$2.84E{-}01^{+0.0\%}_{-0.0\%}$	$2.31E{+}00^{+0.5\%}_{-0.5\%}$
222.0	$7.67E{-}04^{+7.6\%}_{-7.5\%}$	$3.72E{-}05^{+1.6\%}_{-1.6\%}$	$1.31E{-}04^{+5.6\%}_{-5.5\%}$	$7.12E{-}01^{+0.0\%}_{-0.0\%}$	$2.85E{-}01^{+0.0\%}_{-0.0\%}$	$2.40E{+}00^{+0.5\%}_{-0.5\%}$
224.0	$7.59E{-}04^{+7.6\%}_{-7.5\%}$	$3.60E{-}05^{+1.6\%}_{-1.6\%}$	$1.28E{-}04^{+5.6\%}_{-5.5\%}$	$7.11E{-}01^{+0.0\%}_{-0.0\%}$	$2.86E{-}01^{+0.0\%}_{-0.0\%}$	$2.50E{+}00^{+0.5\%}_{-0.5\%}$
226.0	$7.51E{-}04^{+7.6\%}_{-7.5\%}$	$3.49E{-}05^{+1.6\%}_{-1.6\%}$	$1.25E{-}04^{+5.6\%}_{-5.5\%}$	$7.10E{-}01^{+0.0\%}_{-0.0\%}$	$2.87E{-}01^{+0.0\%}_{-0.0\%}$	$2.61E{+}00^{+0.5\%}_{-0.5\%}$
228.0	$7.43E{-}04^{+7.6\%}_{-7.5\%}$	$3.39E{-}05^{+1.6\%}_{-1.6\%}$	$1.22E{-}04^{+5.6\%}_{-5.5\%}$	$7.09E{-}01^{+0.0\%}_{-0.0\%}$	$2.88E{-}01^{+0.0\%}_{-0.0\%}$	$2.71E{+}00^{+0.5\%}_{-0.5\%}$
230.0	$7.35E{-}04^{+7.6\%}_{-7.5\%}$	$3.28E{-}05^{+1.6\%}_{-1.6\%}$	$1.19E{-}04^{+5.6\%}_{-5.5\%}$	$7.08E{-}01^{+0.0\%}_{-0.0\%}$	$2.89E{-}01^{+0.0\%}_{-0.0\%}$	$2.82E{+}00^{+0.5\%}_{-0.5\%}$
232.0	$7.28E{-}04^{+7.6\%}_{-7.5\%}$	$3.19E{-}05^{+1.6\%}_{-1.6\%}$	$1.17E{-}04^{+5.6\%}_{-5.5\%}$	$7.07E{-}01^{+0.0\%}_{-0.0\%}$	$2.90E{-}01^{+0.0\%}_{-0.0\%}$	$2.93E{+}00^{+0.5\%}_{-0.5\%}$
234.0	$7.22E{-}04^{+7.6\%}_{-7.5\%}$	$3.09E{-}05^{+1.6\%}_{-1.6\%}$	$1.14E{-}04^{+5.6\%}_{-5.5\%}$	$7.06E{-}01^{+0.0\%}_{-0.0\%}$	$2.91E{-}01^{+0.0\%}_{-0.0\%}$	$3.04E{+}00^{+0.5\%}_{-0.5\%}$
236.0	$7.16E{-}04^{+7.6\%}_{-7.5\%}$	$3.00E{-}05^{+1.6\%}_{-1.6\%}$	$1.11E{-}04^{+5.5\%}_{-5.6\%}$	$7.06E{-}01^{+0.0\%}_{-0.0\%}$	$2.92E{-}01^{+0.0\%}_{-0.0\%}$	$3.16E{+}00^{+0.5\%}_{-0.5\%}$
238.0	$7.11E{-}04^{+7.6\%}_{-7.5\%}$	$2.92E{-}05^{+1.6\%}_{-1.6\%}$	$1.09E{-}04^{+5.5\%}_{-5.6\%}$	$7.05E{-}01^{+0.0\%}_{-0.0\%}$	$2.93E{-}01^{+0.0\%}_{-0.0\%}$	$3.27E{+}00^{+0.5\%}_{-0.5\%}$
240.0	$7.05E{-}04^{+7.6\%}_{-7.5\%}$	$2.84E{-}05^{+1.7\%}_{-1.6\%}$	$1.06E{-}04^{+5.5\%}_{-5.6\%}$	$7.04E{-}01^{+0.0\%}_{-0.0\%}$	$2.94E{-}01^{+0.0\%}_{-0.0\%}$	$3.40E{+}00^{+0.5\%}_{-0.5\%}$
242.0	$7.00E{-}04^{+7.6\%}_{-7.5\%}$	$2.76E{-}05^{+1.7\%}_{-1.6\%}$	$1.04E{-}04^{+5.5\%}_{-5.6\%}$	$7.04E{-}01^{+0.0\%}_{-0.0\%}$	$2.94E{-}01^{+0.0\%}_{-0.0\%}$	$3.52E{+}00^{+0.5\%}_{-0.5\%}$
244.0	$6.95E{-}04^{+7.6\%}_{-7.5\%}$	$2.68E{-}05^{+1.7\%}_{-1.7\%}$	$1.02E{-}04^{+5.5\%}_{-5.6\%}$	$7.03E{-}01^{+0.0\%}_{-0.0\%}$	$2.95E{-}01^{+0.0\%}_{-0.0\%}$	$3.64E{+}00^{+0.5\%}_{-0.5\%}$
246.0	$6.90E{-}04^{+7.6\%}_{-7.5\%}$	$2.61E{-}05^{+1.7\%}_{-1.7\%}$	$9.96E{-}05^{+5.5\%}_{-5.6\%}$	$7.02E{-}01^{+0.0\%}_{-0.0\%}$	$2.96E{-}01^{+0.0\%}_{-0.0\%}$	$3.77E{+}00^{+0.5\%}_{-0.5\%}$
248.0	$6.86E{-}04^{+7.6\%}_{-7.5\%}$	$2.54E{-}05^{+1.7\%}_{-1.7\%}$	$9.75E{-}05^{+5.6\%}_{-5.6\%}$	$7.02E{-}01^{+0.0\%}_{-0.0\%}$	$2.96E{-}01^{+0.0\%}_{-0.0\%}$	$3.91E{+}00^{+0.5\%}_{-0.5\%}$
250.0	$6.82E{-}04^{+7.6\%}_{-7.5\%}$	$2.47E{-}05^{+1.7\%}_{-1.7\%}$	$9.54E{-}05^{+5.6\%}_{-5.6\%}$	$7.01E{-}01^{+0.0\%}_{-0.0\%}$	$2.97E{-}01^{+0.0\%}_{-0.0\%}$	$4.04E{+}00^{+0.5\%}_{-0.5\%}$
252.0	$6.78E{-}04^{+7.6\%}_{-7.5\%}$	$2.40E{-}05^{+1.7\%}_{-1.7\%}$	$9.34E{-}05^{+5.6\%}_{-5.6\%}$	$7.01E{-}01^{+0.0\%}_{-0.0\%}$	$2.97E{-}01^{+0.0\%}_{-0.0\%}$	$4.18E{+}00^{+0.5\%}_{-0.5\%}$
254.0	$6.75E{-}04^{+7.6\%}_{-7.5\%}$	$2.34E{-}05^{+1.7\%}_{-1.7\%}$	$9.14E{-}05^{+5.6\%}_{-5.6\%}$	$7.00E{-}01^{+0.0\%}_{-0.0\%}$	$2.98E{-}01^{+0.0\%}_{-0.0\%}$	$4.32E{+}00^{+0.5\%}_{-0.5\%}$
256.0	$6.72E{-}04^{+7.6\%}_{-7.5\%}$	$2.29E{-}05^{+1.7\%}_{-1.7\%}$	$8.94E{-}05^{+5.6\%}_{-5.6\%}$	$7.00E{-}01^{+0.0\%}_{-0.0\%}$	$2.98E{-}01^{+0.0\%}_{-0.0\%}$	$4.46E{+}00^{+0.5\%}_{-0.5\%}$
258.0	$6.69E{-}04^{+7.6\%}_{-7.5\%}$	$2.23E{-}05^{+1.7\%}_{-1.7\%}$	$8.75E{-}05^{+5.6\%}_{-5.6\%}$	$6.99E{-}01^{+0.0\%}_{-0.0\%}$	$2.99E{-}01^{+0.0\%}_{-0.0\%}$	$4.61E{+}00^{+0.5\%}_{-0.5\%}$
260.0	$6.66E{-}04^{+7.7\%}_{-7.5\%}$	$2.17E{-}05^{+1.7\%}_{-1.7\%}$	$8.57E{-}05^{+5.6\%}_{-5.6\%}$	$6.99E{-}01^{+0.0\%}_{-0.0\%}$	$2.99E{-}01^{+0.0\%}_{-0.0\%}$	$4.76E{+}00^{+0.5\%}_{-0.5\%}$

Table 12 SM Higgs branching ratios to two gauge bosons and Higgs total width together with their total uncertainties (expressed in percentage). High mass range

M_H [GeV]	$H \to gg$	$H \to \gamma\gamma$	$H \to Z\gamma$	$H \to WW$	$H \to ZZ$	Γ_H [GeV]
262.0	$6.64E{-}04^{+7.7\%}_{-7.5\%}$	$2.11E{-}05^{+1.7\%}_{-1.7\%}$	$8.39E{-}05^{+5.6\%}_{-5.6\%}$	$6.98E{-}01^{+0.0\%}_{-0.0\%}$	$3.00E{-}01^{+0.0\%}_{-0.0\%}$	$4.91E{+}00^{+0.5\%}_{-0.5\%}$
264.0	$6.61E{-}04^{+7.7\%}_{-7.5\%}$	$2.06E{-}05^{+1.7\%}_{-1.7\%}$	$8.21E{-}05^{+5.6\%}_{-5.6\%}$	$6.98E{-}01^{+0.0\%}_{-0.0\%}$	$3.00E{-}01^{+0.0\%}_{-0.0\%}$	$5.07E{+}00^{+0.5\%}_{-0.5\%}$
266.0	$6.59E{-}04^{+7.7\%}_{-7.6\%}$	$2.01E{-}05^{+1.7\%}_{-1.7\%}$	$8.04E{-}05^{+5.6\%}_{-5.6\%}$	$6.98E{-}01^{+0.0\%}_{-0.0\%}$	$3.01E{-}01^{+0.0\%}_{-0.0\%}$	$5.23E{+}00^{+0.5\%}_{-0.5\%}$
268.0	$6.57E{-}04^{+7.7\%}_{-7.6\%}$	$1.96E{-}05^{+1.7\%}_{-1.7\%}$	$7.88E{-}05^{+5.6\%}_{-5.6\%}$	$6.97E{-}01^{+0.0\%}_{-0.0\%}$	$3.01E{-}01^{+0.0\%}_{-0.0\%}$	$5.39E{+}00^{+0.5\%}_{-0.5\%}$
270.0	$6.55E{-}04^{+7.7\%}_{-7.6\%}$	$1.91E{-}05^{+1.7\%}_{-1.7\%}$	$7.72E{-}05^{+5.6\%}_{-5.6\%}$	$6.97E{-}01^{+0.0\%}_{-0.0\%}$	$3.02E{-}01^{+0.0\%}_{-0.0\%}$	$5.55E{+}00^{+0.5\%}_{-0.5\%}$
272.0	$6.54E{-}04^{+7.7\%}_{-7.6\%}$	$1.87E{-}05^{+1.7\%}_{-1.7\%}$	$7.56E{-}05^{+5.6\%}_{-5.6\%}$	$6.96E{-}01^{+0.0\%}_{-0.0\%}$	$3.02E{-}01^{+0.0\%}_{-0.0\%}$	$5.72E{+}00^{+0.5\%}_{-0.5\%}$
274.0	$6.53E{-}04^{+7.7\%}_{-7.6\%}$	$1.82E{-}05^{+1.7\%}_{-1.7\%}$	$7.41E{-}05^{+5.6\%}_{-5.6\%}$	$6.96E{-}01^{+0.0\%}_{-0.0\%}$	$3.02E{-}01^{+0.0\%}_{-0.0\%}$	$5.89E{+}00^{+0.5\%}_{-0.5\%}$
276.0	$6.51E{-}04^{+7.7\%}_{-7.6\%}$	$1.78E{-}05^{+1.8\%}_{-1.7\%}$	$7.26E{-}05^{+5.6\%}_{-5.6\%}$	$6.96E{-}01^{+0.0\%}_{-0.0\%}$	$3.03E{-}01^{+0.0\%}_{-0.0\%}$	$6.07E{+}00^{+0.5\%}_{-0.5\%}$
278.0	$6.51E{-}04^{+7.7\%}_{-7.6\%}$	$1.74E{-}05^{+1.8\%}_{-1.7\%}$	$7.12E{-}05^{+5.6\%}_{-5.6\%}$	$6.95E{-}01^{+0.0\%}_{-0.0\%}$	$3.03E{-}01^{+0.0\%}_{-0.0\%}$	$6.25E{+}00^{+0.5\%}_{-0.5\%}$
280.0	$6.50E{-}04^{+7.7\%}_{-7.6\%}$	$1.68E{-}05^{+1.8\%}_{-1.8\%}$	$6.98E{-}05^{+5.6\%}_{-5.6\%}$	$6.95E{-}01^{+0.0\%}_{-0.0\%}$	$3.04E{-}01^{+0.0\%}_{-0.0\%}$	$6.43E{+}00^{+0.5\%}_{-0.5\%}$
282.0	$6.49E{-}04^{+7.8\%}_{-7.6\%}$	$1.65E{-}05^{+1.8\%}_{-1.8\%}$	$6.84E{-}05^{+5.6\%}_{-5.6\%}$	$6.95E{-}01^{+0.0\%}_{-0.0\%}$	$3.04E{-}01^{+0.0\%}_{-0.0\%}$	$6.61E{+}00^{+0.5\%}_{-0.5\%}$
284.0	$6.49E{-}04^{+7.8\%}_{-7.7\%}$	$1.61E{-}05^{+1.8\%}_{-1.8\%}$	$6.71E{-}05^{+5.6\%}_{-5.6\%}$	$6.94E{-}01^{+0.0\%}_{-0.0\%}$	$3.04E{-}01^{+0.0\%}_{-0.0\%}$	$6.80E{+}00^{+0.5\%}_{-0.5\%}$
286.0	$6.49E{-}04^{+7.8\%}_{-7.7\%}$	$1.57E{-}05^{+1.8\%}_{-1.8\%}$	$6.58E{-}05^{+5.6\%}_{-5.6\%}$	$6.94E{-}01^{+0.0\%}_{-0.0\%}$	$3.05E{-}01^{+0.0\%}_{-0.0\%}$	$6.99E{+}00^{+0.5\%}_{-0.5\%}$
288.0	$6.49E{-}04^{+7.8\%}_{-7.7\%}$	$1.53E{-}05^{+1.8\%}_{-1.8\%}$	$6.45E{-}05^{+5.6\%}_{-5.6\%}$	$6.93E{-}01^{+0.0\%}_{-0.0\%}$	$3.05E{-}01^{+0.0\%}_{-0.0\%}$	$7.19E{+}00^{+0.5\%}_{-0.5\%}$
290.0	$6.49E{-}04^{+7.9\%}_{-7.7\%}$	$1.50E{-}05^{+1.8\%}_{-1.8\%}$	$6.32E{-}05^{+5.6\%}_{-5.6\%}$	$6.93E{-}01^{+0.0\%}_{-0.0\%}$	$3.05E{-}01^{+0.0\%}_{-0.0\%}$	$7.39E{+}00^{+0.5\%}_{-0.5\%}$
295.0	$6.51E{-}04^{+7.9\%}_{-7.8\%}$	$1.42E{-}05^{+1.8\%}_{-1.8\%}$	$6.03E{-}05^{+5.6\%}_{-5.6\%}$	$6.92E{-}01^{+0.0\%}_{-0.0\%}$	$3.06E{-}01^{+0.0\%}_{-0.0\%}$	$7.90E{+}00^{+0.5\%}_{-0.5\%}$
300.0	$6.54E{-}04^{+8.0\%}_{-7.8\%}$	$1.34E{-}05^{+1.8\%}_{-1.8\%}$	$5.75E{-}05^{+5.6\%}_{-5.6\%}$	$6.92E{-}01^{+0.0\%}_{-0.0\%}$	$3.07E{-}01^{+0.0\%}_{-0.0\%}$	$8.43E{+}00^{+0.5\%}_{-0.5\%}$
305.0	$6.58E{-}04^{+8.1\%}_{-7.9\%}$	$1.27E{-}05^{+1.8\%}_{-1.8\%}$	$5.49E{-}05^{+5.6\%}_{-5.6\%}$	$6.91E{-}01^{+0.0\%}_{-0.0\%}$	$3.08E{-}01^{+0.0\%}_{-0.0\%}$	$8.99E{+}00^{+0.5\%}_{-0.5\%}$
310.0	$6.64E{-}04^{+8.2\%}_{-8.0\%}$	$1.20E{-}05^{+1.9\%}_{-1.9\%}$	$5.23E{-}05^{+5.6\%}_{-5.6\%}$	$6.90E{-}01^{+0.0\%}_{-0.0\%}$	$3.08E{-}01^{+0.0\%}_{-0.0\%}$	$9.57E{+}00^{+0.5\%}_{-0.5\%}$
315.0	$6.71E{-}04^{+8.4\%}_{-8.1\%}$	$1.14E{-}05^{+1.9\%}_{-1.9\%}$	$5.00E{-}05^{+5.6\%}_{-5.6\%}$	$6.90E{-}01^{+0.0\%}_{-0.0\%}$	$3.09E{-}01^{+0.0\%}_{-0.0\%}$	$1.02E{+}01^{+0.5\%}_{-0.5\%}$
320.0	$6.80E{-}04^{+8.6\%}_{-8.2\%}$	$1.09E{-}05^{+1.9\%}_{-1.9\%}$	$4.79E{-}05^{+5.7\%}_{-5.5\%}$	$6.89E{-}01^{+0.0\%}_{-0.0\%}$	$3.09E{-}01^{+0.0\%}_{-0.0\%}$	$1.08E{+}01^{+0.5\%}_{-0.5\%}$
325.0	$6.92E{-}04^{+8.9\%}_{-8.4\%}$	$1.03E{-}05^{+1.9\%}_{-1.9\%}$	$4.58E{-}05^{+5.7\%}_{-5.5\%}$	$6.88E{-}01^{+0.0\%}_{-0.0\%}$	$3.10E{-}01^{+0.1\%}_{-0.1\%}$	$1.14E{+}01^{+0.5\%}_{-0.6\%}$
330.0	$7.07E{-}04^{+9.1\%}_{-8.6\%}$	$9.83E{-}06^{+1.9\%}_{-2.0\%}$	$4.39E{-}05^{+5.6\%}_{-5.5\%}$	$6.88E{-}01^{+0.0\%}_{-0.0\%}$	$3.10E{-}01^{+0.1\%}_{-0.1\%}$	$1.21E{+}01^{+0.5\%}_{-0.6\%}$
335.0	$7.26E{-}04^{+10.0\%}_{-9.0\%}$	$9.37E{-}06^{+2.0\%}_{-2.2\%}$	$4.21E{-}05^{+5.6\%}_{-5.5\%}$	$6.87E{-}01^{+0.0\%}_{-0.1\%}$	$3.11E{-}01^{+0.1\%}_{-0.2\%}$	$1.28E{+}01^{+0.6\%}_{-0.7\%}$
340.0	$7.51E{-}04^{+10.8\%}_{-9.4\%}$	$8.92E{-}06^{+2.1\%}_{-2.5\%}$	$4.03E{-}05^{+5.6\%}_{-5.5\%}$	$6.87E{-}01^{+0.0\%}_{-0.2\%}$	$3.11E{-}01^{+0.1\%}_{-0.3\%}$	$1.35E{+}01^{+0.7\%}_{-0.7\%}$
345.0	$7.83E{-}04^{+10.1\%}_{-9.9\%}$	$8.44E{-}06^{+4.1\%}_{-5.2\%}$	$3.88E{-}05^{+6.7\%}_{-7.1\%}$	$6.85E{-}01^{+0.7\%}_{-1.1\%}$	$3.11E{-}01^{+0.8\%}_{-1.2\%}$	$1.42E{+}01^{+1.8\%}_{-1.4\%}$
350.0	$8.14E{-}04^{+9.5\%}_{-10.5\%}$	$7.73E{-}06^{+6.1\%}_{-7.9\%}$	$3.65E{-}05^{+7.7\%}_{-8.6\%}$	$6.76E{-}01^{+1.4\%}_{-2.0\%}$	$3.07E{-}01^{+1.5\%}_{-2.1\%}$	$1.52E{+}01^{+2.9\%}_{-2.1\%}$
360.0	$8.51E{-}04^{+8.6\%}_{-8.4\%}$	$6.25E{-}06^{+9.4\%}_{-8.7\%}$	$3.18E{-}05^{+9.5\%}_{-8.8\%}$	$6.51E{-}01^{+2.6\%}_{-2.3\%}$	$2.97E{-}01^{+2.7\%}_{-2.3\%}$	$1.76E{+}01^{+2.9\%}_{-3.4\%}$
370.0	$8.64E{-}04^{+8.4\%}_{-7.7\%}$	$5.04E{-}06^{+10.4\%}_{-9.0\%}$	$2.77E{-}05^{+9.8\%}_{-8.7\%}$	$6.28E{-}01^{+2.9\%}_{-2.3\%}$	$2.87E{-}01^{+2.9\%}_{-2.3\%}$	$2.02E{+}01^{+2.7\%}_{-3.7\%}$
380.0	$8.61E{-}04^{+8.5\%}_{-7.5\%}$	$4.06E{-}06^{+10.9\%}_{-9.4\%}$	$2.43E{-}05^{+9.9\%}_{-8.6\%}$	$6.09E{-}01^{+3.1\%}_{-2.3\%}$	$2.80E{-}01^{+3.0\%}_{-2.3\%}$	$2.31E{+}01^{+2.6\%}_{-3.7\%}$
390.0	$8.50E{-}04^{+8.7\%}_{-7.5\%}$	$3.28E{-}06^{+11.3\%}_{-9.5\%}$	$2.14E{-}05^{+9.9\%}_{-8.5\%}$	$5.94E{-}01^{+3.1\%}_{-2.2\%}$	$2.74E{-}01^{+3.1\%}_{-2.2\%}$	$2.61E{+}01^{+2.5\%}_{-3.7\%}$
400.0	$8.32E{-}04^{+8.9\%}_{-7.6\%}$	$2.65E{-}06^{+11.5\%}_{-9.7\%}$	$1.90E{-}05^{+9.9\%}_{-8.4\%}$	$5.82E{-}01^{+3.1\%}_{-2.1\%}$	$2.69E{-}01^{+3.1\%}_{-2.1\%}$	$2.92E{+}01^{+2.3\%}_{-3.6\%}$
410.0	$8.11E{-}04^{+9.1\%}_{-7.7\%}$	$2.15E{-}06^{+11.8\%}_{-9.7\%}$	$1.70E{-}05^{+9.8\%}_{-8.2\%}$	$5.72E{-}01^{+3.1\%}_{-2.0\%}$	$2.66E{-}01^{+3.0\%}_{-2.0\%}$	$3.25E{+}01^{+2.2\%}_{-3.6\%}$
420.0	$7.89E{-}04^{+9.2\%}_{-7.8\%}$	$1.74E{-}06^{+11.9\%}_{-9.7\%}$	$1.53E{-}05^{+9.6\%}_{-8.1\%}$	$5.65E{-}01^{+3.1\%}_{-1.9\%}$	$2.63E{-}01^{+3.0\%}_{-1.9\%}$	$3.59E{+}01^{+2.1\%}_{-3.5\%}$
430.0	$7.65E{-}04^{+9.3\%}_{-7.9\%}$	$1.41E{-}06^{+12.2\%}_{-9.9\%}$	$1.39E{-}05^{+9.5\%}_{-8.0\%}$	$5.59E{-}01^{+3.0\%}_{-1.9\%}$	$2.61E{-}01^{+3.0\%}_{-1.8\%}$	$3.94E{+}01^{+1.9\%}_{-3.4\%}$
440.0	$7.41E{-}04^{+9.4\%}_{-8.0\%}$	$1.15E{-}06^{+12.1\%}_{-10.0\%}$	$1.26E{-}05^{+9.4\%}_{-7.8\%}$	$5.55E{-}01^{+3.0\%}_{-1.8\%}$	$2.60E{-}01^{+2.9\%}_{-1.7\%}$	$4.30E{+}01^{+1.8\%}_{-3.3\%}$
450.0	$7.18E{-}04^{+9.5\%}_{-8.0\%}$	$9.28E{-}07^{+12.3\%}_{-10.0\%}$	$1.15E{-}05^{+9.2\%}_{-7.6\%}$	$5.51E{-}01^{+2.9\%}_{-1.7\%}$	$2.59E{-}01^{+2.8\%}_{-1.6\%}$	$4.68E{+}01^{+1.7\%}_{-3.2\%}$
460.0	$6.94E{-}04^{+9.6\%}_{-8.1\%}$	$7.51E{-}07^{+12.2\%}_{-10.0\%}$	$1.05E{-}05^{+9.1\%}_{-7.4\%}$	$5.49E{-}01^{+2.8\%}_{-1.6\%}$	$2.59E{-}01^{+2.8\%}_{-1.6\%}$	$5.08E{+}01^{+1.6\%}_{-3.1\%}$
470.0	$6.71E{-}04^{+9.6\%}_{-8.1\%}$	$6.05E{-}07^{+12.5\%}_{-9.7\%}$	$9.64E{-}06^{+9.0\%}_{-7.4\%}$	$5.47E{-}01^{+2.8\%}_{-1.6\%}$	$2.59E{-}01^{+2.7\%}_{-1.5\%}$	$5.49E{+}01^{+1.6\%}_{-3.1\%}$
480.0	$6.48E{-}04^{+9.7\%}_{-8.1\%}$	$4.87E{-}07^{+12.4\%}_{-9.6\%}$	$8.88E{-}06^{+8.8\%}_{-7.2\%}$	$5.46E{-}01^{+2.7\%}_{-1.5\%}$	$2.60E{-}01^{+2.6\%}_{-1.4\%}$	$5.91E{+}01^{+1.5\%}_{-3.0\%}$
490.0	$6.26E{-}04^{+9.7\%}_{-8.2\%}$	$3.90E{-}07^{+12.1\%}_{-9.4\%}$	$8.19E{-}06^{+8.7\%}_{-7.1\%}$	$5.46E{-}01^{+2.6\%}_{-1.4\%}$	$2.60E{-}01^{+2.6\%}_{-1.4\%}$	$6.35E{+}01^{+1.4\%}_{-2.9\%}$
500.0	$6.04E{-}04^{+9.9\%}_{-7.9\%}$	$3.12E{-}07^{+11.9\%}_{-8.7\%}$	$7.58E{-}06^{+8.7\%}_{-6.7\%}$	$5.46E{-}01^{+2.4\%}_{-1.1\%}$	$2.61E{-}01^{+2.3\%}_{-1.1\%}$	$6.80E{+}01^{+1.1\%}_{-3.0\%}$
510.0	$5.83E{-}04^{+9.9\%}_{-8.0\%}$	$2.47E{-}07^{+11.6\%}_{-8.0\%}$	$7.03E{-}06^{+8.7\%}_{-6.6\%}$	$5.46E{-}01^{+2.3\%}_{-1.1\%}$	$2.62E{-}01^{+2.4\%}_{-1.1\%}$	$7.27E{+}01^{+1.1\%}_{-3.0\%}$
520.0	$5.62E{-}04^{+10.1\%}_{-8.0\%}$	$1.96E{-}07^{+10.9\%}_{-7.2\%}$	$6.53E{-}06^{+8.6\%}_{-6.5\%}$	$5.47E{-}01^{+2.4\%}_{-1.1\%}$	$2.63E{-}01^{+2.4\%}_{-1.2\%}$	$7.75E{+}01^{+1.2\%}_{-3.1\%}$
530.0	$5.42E{-}04^{+10.1\%}_{-8.2\%}$	$1.56E{-}07^{+9.8\%}_{-5.9\%}$	$6.08E{-}06^{+8.6\%}_{-6.5\%}$	$5.48E{-}01^{+2.4\%}_{-1.1\%}$	$2.64E{-}01^{+2.4\%}_{-1.2\%}$	$8.25E{+}01^{+1.3\%}_{-3.3\%}$
540.0	$5.24E{-}04^{+10.2\%}_{-8.3\%}$	$1.24E{-}07^{+8.3\%}_{-4.2\%}$	$5.67E{-}06^{+8.6\%}_{-6.5\%}$	$5.49E{-}01^{+2.4\%}_{-1.2\%}$	$2.65E{-}01^{+2.5\%}_{-1.2\%}$	$8.77E{+}01^{+1.5\%}_{-3.4\%}$

Table 13 SM Higgs branching ratios to two gauge bosons and Higgs total width together with their total uncertainties (expressed in percentage). Very high mass range

M_H [GeV]	$H \to gg$	$H \to \gamma\gamma$	$H \to Z\gamma$	$H \to WW$	$H \to ZZ$	Γ_H [GeV]
550.0	$5.05E{-}04^{+10.4\%}_{-8.4\%}$	$9.90E{-}08^{+6.1\%}_{-2.7\%}$	$5.30E{-}06^{+8.6\%}_{-6.6\%}$	$5.50E{-}01^{+2.4\%}_{-1.2\%}$	$2.66E{-}01^{+2.5\%}_{-1.2\%}$	$9.30E{+}01^{+1.6\%}_{-3.5\%}$
560.0	$4.88E{-}04^{+10.5\%}_{-8.6\%}$	$8.10E{-}08^{+8.7\%}_{-3.2\%}$	$4.95E{-}06^{+8.6\%}_{-6.6\%}$	$5.52E{-}01^{+2.5\%}_{-1.2\%}$	$2.67E{-}01^{+2.5\%}_{-1.2\%}$	$9.86E{+}01^{+1.7\%}_{-3.6\%}$
570.0	$4.71E{-}04^{+10.6\%}_{-8.7\%}$	$6.83E{-}08^{+11.5\%}_{-7.2\%}$	$4.64E{-}06^{+8.6\%}_{-6.7\%}$	$5.53E{-}01^{+2.5\%}_{-1.2\%}$	$2.68E{-}01^{+2.5\%}_{-1.3\%}$	$1.04E{+}02^{+1.9\%}_{-3.7\%}$
580.0	$4.55E{-}04^{+10.7\%}_{-8.9\%}$	$5.91E{-}08^{+15.2\%}_{-10.3\%}$	$4.35E{-}06^{+8.7\%}_{-6.9\%}$	$5.55E{-}01^{+2.5\%}_{-1.2\%}$	$2.70E{-}01^{+2.5\%}_{-1.3\%}$	$1.10E{+}02^{+2.0\%}_{-3.8\%}$
590.0	$4.39E{-}04^{+10.9\%}_{-8.9\%}$	$5.33E{-}08^{+17.8\%}_{-13.5\%}$	$4.08E{-}06^{+8.9\%}_{-6.9\%}$	$5.57E{-}01^{+2.5\%}_{-1.3\%}$	$2.71E{-}01^{+2.5\%}_{-1.3\%}$	$1.16E{+}02^{+2.2\%}_{-3.9\%}$
600.0	$4.24E{-}04^{+11.1\%}_{-9.1\%}$	$5.03E{-}08^{+20.7\%}_{-16.0\%}$	$3.84E{-}06^{+9.2\%}_{-7.1\%}$	$5.58E{-}01^{+2.5\%}_{-1.3\%}$	$2.72E{-}01^{+2.5\%}_{-1.3\%}$	$1.23E{+}02^{+2.3\%}_{-4.0\%}$
610.0	$4.10E{-}04^{+11.0\%}_{-9.3\%}$	$4.86E{-}08^{+22.0\%}_{-17.2\%}$	$3.61E{-}06^{+9.3\%}_{-7.5\%}$	$5.60E{-}01^{+2.5\%}_{-1.3\%}$	$2.74E{-}01^{+2.6\%}_{-1.3\%}$	$1.29E{+}02^{+2.5\%}_{-4.2\%}$
620.0	$3.96E{-}04^{+11.2\%}_{-9.4\%}$	$4.82E{-}08^{+24.2\%}_{-19.1\%}$	$3.40E{-}06^{+9.4\%}_{-7.6\%}$	$5.62E{-}01^{+2.6\%}_{-1.3\%}$	$2.75E{-}01^{+2.6\%}_{-1.3\%}$	$1.36E{+}02^{+2.6\%}_{-4.3\%}$
630.0	$3.82E{-}04^{+11.4\%}_{-9.5\%}$	$4.93E{-}08^{+27.1\%}_{-20.8\%}$	$3.21E{-}06^{+9.7\%}_{-7.8\%}$	$5.64E{-}01^{+2.5\%}_{-1.3\%}$	$2.76E{-}01^{+2.6\%}_{-1.3\%}$	$1.43E{+}02^{+2.8\%}_{-4.5\%}$
640.0	$3.69E{-}04^{+11.6\%}_{-9.8\%}$	$5.29E{-}08^{+28.1\%}_{-22.8\%}$	$3.03E{-}06^{+9.9\%}_{-8.1\%}$	$5.66E{-}01^{+2.6\%}_{-1.3\%}$	$2.77E{-}01^{+2.6\%}_{-1.3\%}$	$1.50E{+}02^{+3.0\%}_{-4.6\%}$
650.0	$3.57E{-}04^{+11.8\%}_{-9.9\%}$	$5.82E{-}08^{+28.0\%}_{-23.9\%}$	$2.86E{-}06^{+10.1\%}_{-8.3\%}$	$5.68E{-}01^{+2.6\%}_{-1.3\%}$	$2.79E{-}01^{+2.6\%}_{-1.3\%}$	$1.58E{+}02^{+3.1\%}_{-4.8\%}$
660.0	$3.45E{-}04^{+11.9\%}_{-10.2\%}$	$6.60E{-}08^{+27.1\%}_{-23.1\%}$	$2.70E{-}06^{+10.3\%}_{-8.5\%}$	$5.70E{-}01^{+2.6\%}_{-1.3\%}$	$2.80E{-}01^{+2.6\%}_{-1.3\%}$	$1.65E{+}02^{+3.3\%}_{-4.9\%}$
670.0	$3.33E{-}04^{+12.1\%}_{-10.3\%}$	$7.56E{-}08^{+25.1\%}_{-21.7\%}$	$2.56E{-}06^{+10.6\%}_{-8.7\%}$	$5.71E{-}01^{+2.6\%}_{-1.3\%}$	$2.81E{-}01^{+2.6\%}_{-1.3\%}$	$1.73E{+}02^{+3.5\%}_{-5.1\%}$
680.0	$3.22E{-}04^{+12.4\%}_{-10.5\%}$	$8.65E{-}08^{+22.7\%}_{-20.2\%}$	$2.42E{-}06^{+10.8\%}_{-8.9\%}$	$5.73E{-}01^{+2.6\%}_{-1.3\%}$	$2.82E{-}01^{+2.6\%}_{-1.3\%}$	$1.82E{+}02^{+3.7\%}_{-5.3\%}$
690.0	$3.12E{-}04^{+12.5\%}_{-10.8\%}$	$9.86E{-}08^{+21.2\%}_{-18.5\%}$	$2.30E{-}06^{+11.1\%}_{-9.2\%}$	$5.75E{-}01^{+2.6\%}_{-1.3\%}$	$2.84E{-}01^{+2.6\%}_{-1.3\%}$	$1.90E{+}02^{+3.9\%}_{-5.5\%}$
700.0	$3.01E{-}04^{+12.7\%}_{-11.0\%}$	$1.11E{-}07^{+20.1\%}_{-17.1\%}$	$2.18E{-}06^{+11.4\%}_{-9.5\%}$	$5.77E{-}01^{+2.6\%}_{-1.3\%}$	$2.85E{-}01^{+2.6\%}_{-1.3\%}$	$1.99E{+}02^{+4.1\%}_{-5.6\%}$
710.0	$2.91E{-}04^{+13.0\%}_{-11.2\%}$	$1.24E{-}07^{+18.8\%}_{-16.0\%}$	$2.07E{-}06^{+11.6\%}_{-9.8\%}$	$5.79E{-}01^{+2.6\%}_{-1.3\%}$	$2.86E{-}01^{+2.6\%}_{-1.3\%}$	$2.08E{+}02^{+4.3\%}_{-5.9\%}$
720.0	$2.81E{-}04^{+13.3\%}_{-11.5\%}$	$1.38E{-}07^{+17.6\%}_{-15.3\%}$	$1.96E{-}06^{+12.0\%}_{-10.0\%}$	$5.81E{-}01^{+2.6\%}_{-1.3\%}$	$2.87E{-}01^{+2.6\%}_{-1.3\%}$	$2.17E{+}02^{+4.6\%}_{-6.1\%}$
730.0	$2.73E{-}04^{+13.6\%}_{-11.7\%}$	$1.52E{-}07^{+17.0\%}_{-14.4\%}$	$1.87E{-}06^{+12.2\%}_{-10.3\%}$	$5.83E{-}01^{+2.6\%}_{-1.3\%}$	$2.88E{-}01^{+2.6\%}_{-1.3\%}$	$2.27E{+}02^{+4.8\%}_{-6.3\%}$
740.0	$2.63E{-}04^{+13.9\%}_{-11.9\%}$	$1.65E{-}07^{+16.4\%}_{-14.0\%}$	$1.77E{-}06^{+12.5\%}_{-10.6\%}$	$5.84E{-}01^{+2.6\%}_{-1.3\%}$	$2.89E{-}01^{+2.6\%}_{-1.3\%}$	$2.37E{+}02^{+5.1\%}_{-6.5\%}$
750.0	$2.54E{-}04^{+14.1\%}_{-12.2\%}$	$1.79E{-}07^{+16.0\%}_{-13.6\%}$	$1.69E{-}06^{+12.9\%}_{-10.9\%}$	$5.86E{-}01^{+2.6\%}_{-1.3\%}$	$2.90E{-}01^{+2.6\%}_{-1.3\%}$	$2.47E{+}02^{+5.3\%}_{-6.8\%}$
760.0	$2.46E{-}04^{+14.4\%}_{-12.4\%}$	$1.92E{-}07^{+15.6\%}_{-13.2\%}$	$1.61E{-}06^{+13.2\%}_{-11.2\%}$	$5.88E{-}01^{+2.6\%}_{-1.3\%}$	$2.91E{-}01^{+2.6\%}_{-1.3\%}$	$2.58E{+}02^{+5.6\%}_{-7.0\%}$
770.0	$2.38E{-}04^{+14.7\%}_{-12.8\%}$	$2.05E{-}07^{+15.6\%}_{-13.0\%}$	$1.53E{-}06^{+13.6\%}_{-11.4\%}$	$5.89E{-}01^{+2.6\%}_{-1.3\%}$	$2.93E{-}01^{+2.6\%}_{-1.2\%}$	$2.69E{+}02^{+5.9\%}_{-7.3\%}$
780.0	$2.30E{-}04^{+15.1\%}_{-13.0\%}$	$2.18E{-}07^{+15.1\%}_{-12.9\%}$	$1.46E{-}06^{+13.9\%}_{-11.8\%}$	$5.91E{-}01^{+2.6\%}_{-1.3\%}$	$2.94E{-}01^{+2.6\%}_{-1.3\%}$	$2.80E{+}02^{+6.2\%}_{-7.6\%}$
790.0	$2.23E{-}04^{+15.5\%}_{-13.3\%}$	$2.31E{-}07^{+15.0\%}_{-12.7\%}$	$1.40E{-}06^{+14.4\%}_{-12.2\%}$	$5.93E{-}01^{+2.7\%}_{-1.3\%}$	$2.95E{-}01^{+2.6\%}_{-1.3\%}$	$2.92E{+}02^{+6.5\%}_{-7.9\%}$
800.0	$2.16E{-}04^{+15.8\%}_{-13.6\%}$	$2.44E{-}07^{+15.2\%}_{-12.7\%}$	$1.33E{-}06^{+14.8\%}_{-12.5\%}$	$5.94E{-}01^{+2.7\%}_{-1.3\%}$	$2.96E{-}01^{+2.7\%}_{-1.3\%}$	$3.04E{+}02^{+6.8\%}_{-8.2\%}$
810.0	$2.09E{-}04^{+16.3\%}_{-13.9\%}$	$2.57E{-}07^{+15.0\%}_{-12.7\%}$	$1.27E{-}06^{+15.1\%}_{-12.8\%}$	$5.96E{-}01^{+2.7\%}_{-1.3\%}$	$2.96E{-}01^{+2.7\%}_{-1.3\%}$	$3.17E{+}02^{+7.1\%}_{-8.6\%}$
820.0	$2.02E{-}04^{+16.8\%}_{-14.2\%}$	$2.69E{-}07^{+15.3\%}_{-12.6\%}$	$1.22E{-}06^{+15.6\%}_{-13.2\%}$	$5.98E{-}01^{+2.7\%}_{-1.4\%}$	$2.97E{-}01^{+2.7\%}_{-1.3\%}$	$3.30E{+}02^{+7.5\%}_{-8.9\%}$
830.0	$1.96E{-}04^{+17.1\%}_{-14.6\%}$	$2.82E{-}07^{+15.3\%}_{-12.6\%}$	$1.16E{-}06^{+16.2\%}_{-13.5\%}$	$5.99E{-}01^{+2.7\%}_{-1.4\%}$	$2.98E{-}01^{+2.7\%}_{-1.4\%}$	$3.43E{+}02^{+7.8\%}_{-9.2\%}$
840.0	$1.90E{-}04^{+17.6\%}_{-14.9\%}$	$2.93E{-}07^{+15.4\%}_{-12.8\%}$	$1.12E{-}06^{+16.6\%}_{-13.9\%}$	$6.01E{-}01^{+2.7\%}_{-1.4\%}$	$2.99E{-}01^{+2.7\%}_{-1.4\%}$	$3.57E{+}02^{+8.2\%}_{-9.6\%}$
850.0	$1.84E{-}04^{+18.1\%}_{-15.2\%}$	$3.03E{-}07^{+15.7\%}_{-12.8\%}$	$1.07E{-}06^{+17.1\%}_{-14.2\%}$	$6.02E{-}01^{+2.7\%}_{-1.4\%}$	$3.00E{-}01^{+2.7\%}_{-1.4\%}$	$3.71E{+}02^{+8.6\%}_{-10.0\%}$
860.0	$1.78E{-}04^{+18.6\%}_{-15.7\%}$	$3.15E{-}07^{+16.1\%}_{-12.9\%}$	$1.02E{-}06^{+17.6\%}_{-14.7\%}$	$6.04E{-}01^{+2.7\%}_{-1.4\%}$	$3.01E{-}01^{+2.7\%}_{-1.4\%}$	$3.86E{+}02^{+9.0\%}_{-10.4\%}$
870.0	$1.72E{-}04^{+19.1\%}_{-16.0\%}$	$3.27E{-}07^{+16.2\%}_{-13.2\%}$	$9.83E{-}07^{+18.1\%}_{-15.1\%}$	$6.05E{-}01^{+2.7\%}_{-1.4\%}$	$3.02E{-}01^{+2.7\%}_{-1.4\%}$	$4.01E{+}02^{+9.4\%}_{-10.8\%}$
880.0	$1.67E{-}04^{+19.7\%}_{-16.3\%}$	$3.38E{-}07^{+16.6\%}_{-13.3\%}$	$9.44E{-}07^{+18.7\%}_{-15.4\%}$	$6.06E{-}01^{+2.8\%}_{-1.5\%}$	$3.03E{-}01^{+2.7\%}_{-1.4\%}$	$4.16E{+}02^{+9.8\%}_{-11.3\%}$
890.0	$1.62E{-}04^{+20.2\%}_{-16.9\%}$	$3.48E{-}07^{+17.0\%}_{-13.5\%}$	$9.06E{-}07^{+19.3\%}_{-15.9\%}$	$6.08E{-}01^{+2.8\%}_{-1.5\%}$	$3.03E{-}01^{+2.7\%}_{-1.5\%}$	$4.32E{+}02^{+10.3\%}_{-11.7\%}$
900.0	$1.57E{-}04^{+20.9\%}_{-17.1\%}$	$3.58E{-}07^{+17.1\%}_{-13.8\%}$	$8.71E{-}07^{+19.9\%}_{-16.3\%}$	$6.09E{-}01^{+2.8\%}_{-1.5\%}$	$3.04E{-}01^{+2.8\%}_{-1.5\%}$	$4.49E{+}02^{+10.8\%}_{-12.2\%}$
910.0	$1.52E{-}04^{+21.4\%}_{-17.6\%}$	$3.67E{-}07^{+17.9\%}_{-13.8\%}$	$8.39E{-}07^{+20.6\%}_{-16.7\%}$	$6.10E{-}01^{+2.8\%}_{-1.5\%}$	$3.05E{-}01^{+2.8\%}_{-1.5\%}$	$4.66E{+}02^{+11.2\%}_{-12.7\%}$
920.0	$1.48E{-}04^{+22.1\%}_{-18.0\%}$	$3.77E{-}07^{+18.8\%}_{-14.1\%}$	$8.07E{-}07^{+21.2\%}_{-17.2\%}$	$6.12E{-}01^{+2.8\%}_{-1.5\%}$	$3.06E{-}01^{+2.8\%}_{-1.5\%}$	$4.84E{+}02^{+11.7\%}_{-13.2\%}$
930.0	$1.44E{-}04^{+22.8\%}_{-18.5\%}$	$3.86E{-}07^{+18.9\%}_{-15.0\%}$	$7.77E{-}07^{+21.9\%}_{-17.6\%}$	$6.13E{-}01^{+2.8\%}_{-1.6\%}$	$3.06E{-}01^{+2.8\%}_{-1.5\%}$	$5.02E{+}02^{+12.2\%}_{-13.7\%}$
940.0	$1.39E{-}04^{+23.4\%}_{-18.9\%}$	$3.93E{-}07^{+19.5\%}_{-15.0\%}$	$7.49E{-}07^{+22.7\%}_{-18.1\%}$	$6.14E{-}01^{+2.8\%}_{-1.6\%}$	$3.07E{-}01^{+2.8\%}_{-1.5\%}$	$5.21E{+}02^{+12.8\%}_{-14.2\%}$
950.0	$1.35E{-}04^{+24.3\%}_{-19.3\%}$	$4.00E{-}07^{+20.1\%}_{-15.3\%}$	$7.22E{-}07^{+23.4\%}_{-18.5\%}$	$6.16E{-}01^{+2.8\%}_{-1.6\%}$	$3.08E{-}01^{+2.8\%}_{-1.6\%}$	$5.40E{+}02^{+13.3\%}_{-14.8\%}$
960.0	$1.31E{-}04^{+25.1\%}_{-19.8\%}$	$4.09E{-}07^{+20.9\%}_{-15.6\%}$	$6.97E{-}07^{+24.3\%}_{-19.0\%}$	$6.17E{-}01^{+2.8\%}_{-1.6\%}$	$3.09E{-}01^{+2.8\%}_{-1.6\%}$	$5.60E{+}02^{+13.9\%}_{-15.3\%}$
970.0	$1.27E{-}04^{+25.8\%}_{-20.3\%}$	$4.17E{-}07^{+21.5\%}_{-16.0\%}$	$6.74E{-}07^{+25.1\%}_{-19.5\%}$	$6.18E{-}01^{+2.8\%}_{-1.6\%}$	$3.09E{-}01^{+2.8\%}_{-1.6\%}$	$5.81E{+}02^{+14.5\%}_{-15.9\%}$
980.0	$1.23E{-}04^{+26.8\%}_{-20.8\%}$	$4.26E{-}07^{+22.3\%}_{-16.3\%}$	$6.51E{-}07^{+26.0\%}_{-20.0\%}$	$6.19E{-}01^{+2.9\%}_{-1.6\%}$	$3.10E{-}01^{+2.8\%}_{-1.6\%}$	$6.02E{+}02^{+15.1\%}_{-16.6\%}$
990.0	$1.19E{-}04^{+27.7\%}_{-21.3\%}$	$4.33E{-}07^{+23.0\%}_{-16.8\%}$	$6.29E{-}07^{+26.9\%}_{-20.5\%}$	$6.20E{-}01^{+2.9\%}_{-1.6\%}$	$3.10E{-}01^{+2.8\%}_{-1.6\%}$	$6.24E{+}02^{+15.7\%}_{-17.2\%}$
1000.0	$1.16E{-}04^{+28.6\%}_{-21.8\%}$	$4.39E{-}07^{+24.0\%}_{-17.1\%}$	$6.08E{-}07^{+27.8\%}_{-21.0\%}$	$6.21E{-}01^{+2.9\%}_{-1.7\%}$	$3.11E{-}01^{+2.8\%}_{-1.6\%}$	$6.47E{+}02^{+16.3\%}_{-17.8\%}$

Table 14 SM Higgs branching ratios and their relative parametric (PU), theoretical (TU) and total uncertainties for a selection of Higgs masses. For PU, all the single contributions are shown. For these four columns, the upper percentage value (with its sign) refers to the positive variation of the parameter, while the lower one refers to the negative variation of the parameter. Results for the full mass range, including the total uncertainties, are listed in tables at the end of the document

Channel	M_H [GeV]	BR	Δm_c	Δm_b	Δm_t	$\Delta\alpha_s$	PU	TU	Total
$H \to b\bar{b}$	120	6.48E−01	−0.2% +0.2%	+1.1% −1.2%	+0.0% −0.0%	−1.0% +0.9%	+1.5% −1.5%	+1.3% −1.3%	+2.8% −2.8%
	150	1.57E−01	−0.1% +0.1%	+2.7% −2.7%	+0.1% −0.1%	−2.2% +2.1%	+3.4% −3.5%	+0.6% −0.6%	+4.0% −4.0%
	200	2.40E−03	−0.0% +0.0%	+3.2% −3.2%	+0.0% −0.1%	−2.5% +2.5%	+4.1% −4.1%	+0.5% −0.5%	+4.6% −4.6%
	500	1.09E−04	−0.0% +0.0%	+3.2% −3.2%	+0.1% −0.1%	−2.8% +2.8%	+4.3% −4.3%	+3.0% −1.1%	+7.2% −5.4%
$H \to \tau^+\tau^-$	120	7.04E−02	−0.2% +0.2%	−2.0% +2.1%	+0.1% −0.1%	+1.4% −1.3%	+2.5% −2.4%	+3.6% −3.6%	+6.1% −6.0%
	150	1.79E−02	−0.1% +0.1%	−0.5% +0.5%	+0.1% −0.1%	+0.3% −0.3%	+0.6% −0.6%	+2.5% −2.5%	+3.0% −3.1%
	200	2.87E−04	−0.0% +0.0%	−0.0% +0.0%	+0.0% −0.1%	+0.0% −0.0%	+0.0% −0.1%	+2.5% −2.5%	+2.5% −2.6%
	500	1.53E−05	−0.0% +0.0%	−0.0% +0.0%	+0.1% −0.1%	−0.1% +0.0%	+0.1% −0.1%	+5.0% −3.1%	+5.0% −3.2%
$H \to \mu^+\mu^-$	120	2.44E−04	−0.2% +0.2%	−2.0% +2.1%	+0.1% −0.1%	+1.4% −1.3%	+2.5% −2.5%	+3.9% −3.9%	+6.4% −6.3%
	150	6.19E−05	−0.0% +0.0%	−0.5% +0.5%	+0.1% −0.1%	+0.3% −0.3%	+0.6% −0.6%	+2.5% −2.5%	+3.1% −3.2%
	200	9.96E−07	−0.0% −0.0%	−0.0% +0.0%	+0.1% −0.1%	+0.0% −0.0%	+0.1% −0.1%	+2.5% −2.5%	+2.6% −2.6%
	500	5.31E−08	−0.0% +0.0%	−0.0% +0.0%	+0.1% −0.1%	−0.0% +0.0%	+0.1% −0.1%	+5.0% −3.1%	+5.1% −3.1%
$H \to c\bar{c}$	120	3.27E−02	+6.0% −5.8%	−2.1% +2.2%	+0.1% −0.1%	−5.8% +5.6%	+8.5% −8.5%	+3.8% −3.7%	+12.2% −12.2%
	150	7.93E−03	+6.2% −6.0%	−0.6% +0.6%	+0.1% −0.1%	−6.9% +6.8%	+9.2% −9.2%	+0.6% −0.6%	+9.7% −9.7%
	200	1.21E−04	+6.2% −6.1%	−0.2% +0.1%	+0.1% −0.2%	−7.2% +7.2%	+9.5% −9.5%	+0.5% −0.5%	+10.0% −10.0%
	500	5.47E−06	+6.2% −6.0%	−0.1% +0.1%	+0.1% −0.1%	−7.6% +7.6%	+9.8% −9.7%	+3.0% −1.1%	+12.8% −10.7%
$H \to t\bar{t}$	350	1.56E−02	+0.0% +0.0%	−0.0% +0.0%	−78.6% +120.9%	+0.9% −0.9%	+120.9% −78.6%	+6.9% −12.7%	+127.8% −91.3%
	360	5.14E−02	−0.0% −0.0%	−0.0% +0.0%	−36.2% +35.6%	+0.7% −0.7%	+35.6% −36.2%	+6.6% −12.2%	+42.2% −48.4%
	400	1.48E−01	+0.0% +0.0%	−0.0% +0.0%	−6.8% +6.2%	+0.4% −0.3%	+6.2% −6.8%	+5.9% −11.1%	+12.2% −17.8%
	500	1.92E−01	−0.0% +0.0%	−0.0% +0.0%	−0.3% +0.1%	+0.1% −0.2%	+0.1% −0.3%	+4.5% −9.5%	+4.6% −9.8%
$H \to gg$	120	8.82E−02	−0.2% +0.2%	−2.2% +2.2%	−0.2% +0.2%	+5.7% −5.4%	+6.1% −5.8%	+4.5% −4.5%	+10.6% −10.3%
	150	3.46E−02	−0.1% +0.1%	−0.7% +0.6%	−0.3% +0.3%	+4.4% −4.2%	+4.4% −4.3%	+3.5% −3.5%	+7.9% −7.8%
	200	9.26E−04	−0.0% −0.0%	−0.1% +0.1%	−0.6% +0.6%	+3.9% −3.8%	+3.9% −3.9%	+3.7% −3.7%	+7.6% −7.6%
	500	6.04E−04	−0.0% +0.0%	−0.0% +0.0%	+1.6% −1.6%	+3.4% −3.3%	+3.7% −3.7%	+6.2% −4.3%	+9.9% −7.9%
$H \to \gamma\gamma$	120	2.23E−03	−0.2% +0.2%	−2.0% +2.1%	+0.0% +0.0%	+1.4% −1.3%	+2.5% −2.4%	+2.9% −2.9%	+5.4% −5.3%
	150	1.37E−03	+0.0% +0.1%	−0.5% +0.5%	+0.1% −0.0%	+0.3% −0.3%	+0.6% −0.6%	+1.6% −1.5%	+2.1% −2.1%
	200	5.51E−05	−0.0% −0.0%	−0.0% +0.0%	+0.1% −0.1%	+0.0% −0.0%	+0.1% −0.1%	+1.5% −1.5%	+1.6% −1.6%
	500	3.12E−07	−0.0% +0.0%	−0.0% +0.0%	+8.0% −6.5%	−0.7% +0.7%	+8.0% −6.6%	+4.0% −2.1%	+11.9% −8.7%
$H \to Z\gamma$	120	1.11E−03	−0.3% +0.2%	−2.1% +2.1%	+0.0% −0.1%	+1.4% −1.4%	+2.5% −2.5%	+6.9% −6.8%	+9.4% −9.3%
	150	2.31E−03	−0.1% +0.0%	−0.6% +0.5%	+0.0% −0.1%	+0.2% −0.3%	+0.5% −0.6%	+5.5% −5.5%	+6.0% −6.2%
	200	1.75E−04	−0.0% −0.0%	−0.0% +0.0%	+0.0% −0.1%	+0.0% −0.0%	+0.0% −0.1%	+5.5% −5.5%	+5.5% −5.6%
	500	7.58E−06	−0.0% +0.0%	−0.0% +0.0%	+0.8% −0.6%	−0.0% +0.0%	+0.8% −0.6%	+8.0% −6.1%	+8.7% −6.7%
$H \to WW$	120	1.41E−01	−0.2% +0.2%	−2.0% +2.1%	−0.0% +0.0%	+1.4% −1.4%	+2.5% −2.5%	+2.2% −2.2%	+4.8% −4.7%
	150	6.96E−01	−0.1% +0.1%	−0.5% +0.5%	−0.0% +0.0%	+0.3% −0.3%	+0.6% −0.6%	+0.3% −0.3%	+0.9% −0.8%
	200	7.41E−01	−0.0% −0.0%	−0.0% +0.0%	−0.0% +0.0%	+0.0% −0.0%	+0.0% −0.0%	+0.0% −0.0%	+0.0% −0.0%
	500	5.46E−01	−0.0% +0.0%	−0.0% +0.0%	+0.1% −0.0%	−0.0% +0.0%	+0.1% −0.1%	+2.3% −1.1%	+2.4% −1.1%
$H \to ZZ$	120	1.59E−02	−0.2% +0.2%	−2.0% +2.1%	−0.0% +0.0%	+1.4% −1.4%	+2.5% −2.5%	+2.2% −2.2%	+4.8% −4.7%
	150	8.25E−02	−0.1% +0.1%	−0.5% +0.5%	+0.0% +0.0%	+0.3% −0.3%	+0.6% −0.6%	+0.3% −0.3%	+0.9% −0.8%
	200	2.55E−01	−0.0% +0.0%	−0.0% +0.0%	+0.0% −0.0%	+0.0% −0.0%	+0.0% −0.0%	+0.0% −0.0%	+0.0% −0.0%
	500	2.61E−01	+0.0% −0.0%	−0.0% +0.0%	+0.0% +0.0%	−0.0% +0.0%	+0.1% −0.0%	+2.3% −1.1%	+2.3% −1.1%

Table 15 SM Higgs branching ratios for the different $H \to 4l$ and $H \to 2l2\nu$ final states and their total uncertainties (expressed in percentage). Very low mass range

M_H [GeV]	$H \to 4l$ $l = e, \mu, \tau$	$H \to 4l$ $l = e, \mu$	$H \to eeee$	$H \to ee\mu\mu$	$H \to 2l2\nu$ $l = e, \mu, \tau$ $\nu =$ any	$H \to 2l2\nu$ $l = e, \mu$ $\nu =$ any	$H \to e\nu e\nu$	$H \to e\nu\mu\nu$	ΔBR [%]
90.0	4.89E−06	2.33E−06	7.01E−07	9.30E−07	2.10E−04	9.12E−05	1.75E−05	2.43E−05	±5.8
95.0	7.73E−06	3.67E−06	1.10E−06	1.48E−06	4.80E−04	2.10E−04	4.42E−05	5.49E−05	±5.8
100.0	1.28E−05	6.06E−06	1.78E−06	2.49E−06	1.14E−03	5.03E−04	1.13E−04	1.29E−04	±5.7
105.0	2.37E−05	1.11E−05	3.18E−06	4.74E−06	2.53E−03	1.12E−03	2.59E−04	2.83E−04	±5.6
110.0	4.72E−05	2.18E−05	6.04E−06	9.69E−06	5.08E−03	2.26E−03	5.32E−04	5.61E−04	±5.4
110.5	5.06E−05	2.33E−05	6.45E−06	1.04E−05	5.41E−03	2.41E−03	5.68E−04	5.97E−04	±5.4
111.0	5.42E−05	2.49E−05	6.88E−06	1.12E−05	5.76E−03	2.57E−03	6.06E−04	6.35E−04	±5.4
111.5	5.80E−05	2.67E−05	7.34E−06	1.20E−05	6.13E−03	2.74E−03	6.45E−04	6.75E−04	±5.4
112.0	6.21E−05	2.85E−05	7.82E−06	1.29E−05	6.52E−03	2.91E−03	6.87E−04	7.17E−04	±5.3
112.5	6.64E−05	3.05E−05	8.34E−06	1.38E−05	6.92E−03	3.09E−03	7.31E−04	7.61E−04	±5.3
113.0	7.10E−05	3.26E−05	8.88E−06	1.48E−05	7.35E−03	3.28E−03	7.76E−04	8.07E−04	±5.3
113.5	7.59E−05	3.47E−05	9.46E−06	1.58E−05	7.79E−03	3.48E−03	8.23E−04	8.54E−04	±5.2
114.0	8.10E−05	3.71E−05	1.01E−05	1.69E−05	8.25E−03	3.69E−03	8.73E−04	9.04E−04	±5.2
114.5	8.64E−05	3.95E−05	1.07E−05	1.81E−05	8.73E−03	3.91E−03	9.25E−04	9.56E−04	±5.2
115.0	9.22E−05	4.21E−05	1.14E−05	1.93E−05	9.23E−03	4.13E−03	9.79E−04	1.01E−03	±5.2
115.5	9.82E−05	4.48E−05	1.21E−05	2.06E−05	9.74E−03	4.36E−03	1.03E−03	1.06E−03	±5.1
116.0	1.05E−04	4.77E−05	1.28E−05	2.20E−05	1.03E−02	4.61E−03	1.09E−03	1.12E−03	±5.1
116.5	1.11E−04	5.07E−05	1.36E−05	2.35E−05	1.08E−02	4.86E−03	1.15E−03	1.18E−03	±5.0
117.0	1.18E−04	5.38E−05	1.44E−05	2.50E−05	1.14E−02	5.12E−03	1.22E−03	1.24E−03	±5.0
117.5	1.26E−04	5.71E−05	1.53E−05	2.65E−05	1.20E−02	5.39E−03	1.28E−03	1.31E−03	±5.0
118.0	1.33E−04	6.06E−05	1.62E−05	2.82E−05	1.26E−02	5.67E−03	1.35E−03	1.38E−03	±4.9
118.5	1.41E−04	6.42E−05	1.71E−05	2.99E−05	1.33E−02	5.96E−03	1.42E−03	1.44E−03	±4.9
119.0	1.50E−04	6.79E−05	1.81E−05	3.18E−05	1.39E−02	6.26E−03	1.49E−03	1.51E−03	±4.8
119.5	1.58E−04	7.18E−05	1.91E−05	3.37E−05	1.46E−02	6.57E−03	1.56E−03	1.59E−03	±4.8
120.0	1.67E−04	7.59E−05	2.01E−05	3.56E−05	1.53E−02	6.89E−03	1.64E−03	1.66E−03	±4.8
120.5	1.77E−04	8.01E−05	2.12E−05	3.76E−05	1.60E−02	7.21E−03	1.72E−03	1.74E−03	±4.7
121.0	1.86E−04	8.45E−05	2.24E−05	3.98E−05	1.68E−02	7.55E−03	1.80E−03	1.82E−03	±4.7
121.5	1.96E−04	8.90E−05	2.35E−05	4.19E−05	1.75E−02	7.90E−03	1.88E−03	1.90E−03	±4.6
122.0	2.07E−04	9.36E−05	2.47E−05	4.42E−05	1.83E−02	8.25E−03	1.97E−03	1.98E−03	±4.6
122.5	2.18E−04	9.85E−05	2.60E−05	4.65E−05	1.91E−02	8.61E−03	2.05E−03	2.07E−03	±4.5
123.0	2.29E−04	1.03E−04	2.72E−05	4.90E−05	1.99E−02	8.99E−03	2.14E−03	2.16E−03	±4.5
123.5	2.40E−04	1.09E−04	2.86E−05	5.14E−05	2.08E−02	9.37E−03	2.23E−03	2.24E−03	±4.4
124.0	2.52E−04	1.14E−04	2.99E−05	5.40E−05	2.16E−02	9.76E−03	2.33E−03	2.34E−03	±4.4
124.5	2.64E−04	1.19E−04	3.13E−05	5.66E−05	2.25E−02	1.02E−02	2.42E−03	2.43E−03	±4.3
125.0	2.76E−04	1.25E−04	3.27E−05	5.93E−05	2.34E−02	1.06E−02	2.52E−03	2.52E−03	±4.3
125.5	2.89E−04	1.30E−04	3.42E−05	6.21E−05	2.43E−02	1.10E−02	2.62E−03	2.62E−03	±4.2
126.0	3.02E−04	1.36E−04	3.56E−05	6.49E−05	2.53E−02	1.14E−02	2.72E−03	2.72E−03	±4.1
126.5	3.15E−04	1.42E−04	3.72E−05	6.78E−05	2.62E−02	1.18E−02	2.83E−03	2.82E−03	±4.1
127.0	3.28E−04	1.48E−04	3.87E−05	7.08E−05	2.72E−02	1.23E−02	2.93E−03	2.92E−03	±4.0
127.5	3.42E−04	1.54E−04	4.03E−05	7.38E−05	2.81E−02	1.27E−02	3.04E−03	3.02E−03	±4.0
128.0	3.56E−04	1.61E−04	4.19E−05	7.68E−05	2.91E−02	1.32E−02	3.15E−03	3.13E−03	±3.9
128.5	3.70E−04	1.67E−04	4.35E−05	8.00E−05	3.01E−02	1.36E−02	3.26E−03	3.24E−03	±3.8
129.0	3.85E−04	1.73E−04	4.52E−05	8.31E−05	3.12E−02	1.41E−02	3.37E−03	3.34E−03	±3.8
129.5	3.99E−04	1.80E−04	4.68E−05	8.63E−05	3.22E−02	1.46E−02	3.48E−03	3.45E−03	±3.7
130.0	4.14E−04	1.87E−04	4.85E−05	8.96E−05	3.32E−02	1.50E−02	3.60E−03	3.56E−03	±3.7

Table 16 SM Higgs branching ratios for the different $H \to 4l$ and $H \to 2l2\nu$ final states and their total uncertainties (expressed in percentage). Low and intermediate mass range

M_H [GeV]	$H \to 4l$ $l = e, \mu, \tau$	$H \to 4l$ $l = e, \mu$	$H \to eeee$	$H \to ee\mu\mu$	$H \to 2l2\nu$ $l = e, \mu, \tau$ $\nu =$ any	$H \to 2l2\nu$ $l = e, \mu$ $\nu =$ any	$H \to e\nu e\nu$	$H \to e\nu\mu\nu$	ΔBR [%]
130.5	4.29E−04	1.93E−04	5.02E−05	9.29E−05	3.43E−02	1.55E−02	3.71E−03	3.67E−03	±3.6
131.0	4.44E−04	2.00E−04	5.19E−05	9.62E−05	3.54E−02	1.60E−02	3.83E−03	3.79E−03	±3.5
131.5	4.59E−04	2.07E−04	5.37E−05	9.95E−05	3.64E−02	1.65E−02	3.94E−03	3.90E−03	±3.5
132.0	4.75E−04	2.14E−04	5.54E−05	1.03E−04	3.75E−02	1.70E−02	4.06E−03	4.01E−03	±3.4
132.5	4.90E−04	2.21E−04	5.71E−05	1.06E−04	3.86E−02	1.75E−02	4.18E−03	4.13E−03	±3.3
133.0	5.05E−04	2.27E−04	5.89E−05	1.10E−04	3.97E−02	1.80E−02	4.30E−03	4.24E−03	±3.3
133.5	5.21E−04	2.34E−04	6.06E−05	1.13E−04	4.08E−02	1.85E−02	4.43E−03	4.36E−03	±3.2
134.0	5.36E−04	2.41E−04	6.24E−05	1.16E−04	4.19E−02	1.90E−02	4.55E−03	4.48E−03	±3.1
134.5	5.52E−04	2.48E−04	6.41E−05	1.20E−04	4.30E−02	1.95E−02	4.67E−03	4.59E−03	±3.1
135.0	5.67E−04	2.55E−04	6.58E−05	1.23E−04	4.41E−02	2.00E−02	4.79E−03	4.71E−03	±3.0
135.5	5.82E−04	2.62E−04	6.76E−05	1.26E−04	4.52E−02	2.05E−02	4.92E−03	4.83E−03	±2.9
136.0	5.97E−04	2.68E−04	6.93E−05	1.30E−04	4.64E−02	2.10E−02	5.04E−03	4.95E−03	±2.8
136.5	6.12E−04	2.75E−04	7.10E−05	1.33E−04	4.75E−02	2.15E−02	5.16E−03	5.07E−03	±2.6
137.0	6.27E−04	2.82E−04	7.26E−05	1.36E−04	4.86E−02	2.20E−02	5.29E−03	5.19E−03	±2.5
137.5	6.42E−04	2.88E−04	7.43E−05	1.40E−04	4.97E−02	2.25E−02	5.41E−03	5.31E−03	±2.4
138.0	6.56E−04	2.94E−04	7.59E−05	1.43E−04	5.09E−02	2.31E−02	5.54E−03	5.42E−03	±2.2
138.5	6.70E−04	3.01E−04	7.75E−05	1.46E−04	5.20E−02	2.36E−02	5.66E−03	5.54E−03	±2.1
139.0	6.84E−04	3.07E−04	7.90E−05	1.49E−04	5.31E−02	2.41E−02	5.78E−03	5.66E−03	±1.9
139.5	6.97E−04	3.13E−04	8.05E−05	1.52E−04	5.42E−02	2.46E−02	5.91E−03	5.78E−03	±1.8
140.0	7.11E−04	3.19E−04	8.20E−05	1.55E−04	5.53E−02	2.51E−02	6.03E−03	5.90E−03	±1.7
141.0	7.36E−04	3.30E−04	8.48E−05	1.60E−04	5.76E−02	2.61E−02	6.28E−03	6.14E−03	±1.6
142.0	7.59E−04	3.41E−04	8.75E−05	1.66E−04	5.98E−02	2.71E−02	6.52E−03	6.37E−03	±1.5
143.0	7.81E−04	3.50E−04	8.99E−05	1.70E−04	6.20E−02	2.81E−02	6.76E−03	6.61E−03	±1.4
144.0	8.00E−04	3.59E−04	9.20E−05	1.75E−04	6.41E−02	2.91E−02	7.00E−03	6.84E−03	±1.3
145.0	8.17E−04	3.66E−04	9.38E−05	1.78E−04	6.63E−02	3.00E−02	7.24E−03	7.07E−03	±1.2
146.0	8.31E−04	3.72E−04	9.53E−05	1.82E−04	6.84E−02	3.10E−02	7.48E−03	7.30E−03	±1.2
147.0	8.41E−04	3.77E−04	9.65E−05	1.84E−04	7.05E−02	3.20E−02	7.72E−03	7.53E−03	±1.1
148.0	8.48E−04	3.80E−04	9.72E−05	1.86E−04	7.26E−02	3.29E−02	7.95E−03	7.75E−03	±1.0
149.0	8.51E−04	3.81E−04	9.75E−05	1.86E−04	7.46E−02	3.38E−02	8.18E−03	7.98E−03	±0.9
150.0	8.50E−04	3.81E−04	9.72E−05	1.86E−04	7.67E−02	3.47E−02	8.41E−03	8.20E−03	±0.9
151.0	8.43E−04	3.78E−04	9.64E−05	1.85E−04	7.87E−02	3.56E−02	8.64E−03	8.43E−03	±0.8
152.0	8.31E−04	3.72E−04	9.50E−05	1.82E−04	8.07E−02	3.65E−02	8.86E−03	8.66E−03	±0.7
153.0	8.13E−04	3.64E−04	9.29E−05	1.78E−04	8.27E−02	3.74E−02	9.10E−03	8.89E−03	±0.7
154.0	7.88E−04	3.53E−04	8.99E−05	1.73E−04	8.48E−02	3.83E−02	9.33E−03	9.12E−03	±0.6
155.0	7.55E−04	3.38E−04	8.60E−05	1.65E−04	8.69E−02	3.92E−02	9.57E−03	9.36E−03	±0.5
156.0	7.11E−04	3.18E−04	8.11E−05	1.56E−04	8.90E−02	4.01E−02	9.81E−03	9.61E−03	±0.5
157.0	6.57E−04	2.94E−04	7.49E−05	1.44E−04	9.11E−02	4.10E−02	1.01E−02	9.87E−03	±0.4
158.0	5.91E−04	2.64E−04	6.73E−05	1.30E−04	9.33E−02	4.19E−02	1.03E−02	1.01E−02	±0.3
159.0	5.12E−04	2.29E−04	5.82E−05	1.12E−04	9.56E−02	4.29E−02	1.06E−02	1.04E−02	±0.3
160.0	4.25E−04	1.90E−04	4.83E−05	9.34E−05	9.79E−02	4.38E−02	1.08E−02	1.07E−02	±0.2
162.0	2.89E−04	1.29E−04	3.28E−05	6.35E−05	1.01E−01	4.52E−02	1.12E−02	1.11E−02	±0.2
164.0	2.37E−04	1.06E−04	2.69E−05	5.21E−05	1.02E−01	4.57E−02	1.14E−02	1.13E−02	±0.1
166.0	2.23E−04	9.98E−05	2.53E−05	4.92E−05	1.03E−01	4.59E−02	1.14E−02	1.13E−02	±0.1
168.0	2.27E−04	1.01E−04	2.57E−05	5.00E−05	1.03E−01	4.60E−02	1.15E−02	1.14E−02	±0.1
170.0	2.41E−04	1.08E−04	2.73E−05	5.32E−05	1.03E−01	4.61E−02	1.15E−02	1.14E−02	±0.1

Table 17 SM Higgs branching ratios for the different $H \to 4l$ and $H \to 2l2\nu$ final states and their total uncertainties (expressed in percentage). Intermediate mass range

M_H [GeV]	$H \to 4l$ $l = e, \mu, \tau$	$H \to 4l$ $l = e, \mu$	$H \to eeee$	$H \to ee\mu\mu$	$H \to 2l2\nu$ $l = e, \mu, \tau$ $\nu =$ any	$H \to 2l2\nu$ $l = e, \mu$ $\nu =$ any	$H \to e\nu e\nu$	$H \to e\nu\mu\nu$	ΔBR [%]
172.0	2.66E−04	1.19E−04	3.00E−05	5.87E−05	1.03E−01	4.61E−02	1.15E−02	1.14E−02	±0.0
174.0	3.04E−04	1.36E−04	3.42E−05	6.71E−05	1.03E−01	4.61E−02	1.14E−02	1.13E−02	±0.0
176.0	3.61E−04	1.61E−04	4.06E−05	7.98E−05	1.03E−01	4.60E−02	1.14E−02	1.13E−02	±0.0
178.0	4.52E−04	2.01E−04	5.07E−05	9.99E−05	1.02E−01	4.58E−02	1.13E−02	1.12E−02	±0.0
180.0	6.12E−04	2.73E−04	6.85E−05	1.36E−04	1.01E−01	4.55E−02	1.12E−02	1.10E−02	±0.0
182.0	9.14E−04	4.07E−04	1.02E−04	2.03E−04	9.94E−02	4.50E−02	1.10E−02	1.06E−02	±0.0
184.0	1.33E−03	5.93E−04	1.49E−04	2.96E−04	9.67E−02	4.42E−02	1.07E−02	1.02E−02	±0.0
186.0	1.69E−03	7.50E−04	1.88E−04	3.75E−04	9.45E−02	4.35E−02	1.05E−02	9.76E−03	±0.0
188.0	1.94E−03	8.62E−04	2.16E−04	4.31E−04	9.29E−02	4.30E−02	1.03E−02	9.47E−03	±0.0
190.0	2.12E−03	9.44E−04	2.36E−04	4.72E−04	9.18E−02	4.27E−02	1.02E−02	9.26E−03	±0.0
192.0	2.26E−03	1.01E−03	2.52E−04	5.03E−04	9.09E−02	4.24E−02	1.01E−02	9.10E−03	±0.0
194.0	2.37E−03	1.05E−03	2.64E−04	5.27E−04	9.02E−02	4.22E−02	1.00E−02	8.98E−03	±0.0
196.0	2.46E−03	1.09E−03	2.74E−04	5.46E−04	8.97E−02	4.20E−02	9.96E−03	8.88E−03	±0.0
198.0	2.53E−03	1.12E−03	2.81E−04	5.62E−04	8.92E−02	4.19E−02	9.91E−03	8.80E−03	±0.0
200.0	2.59E−03	1.15E−03	2.88E−04	5.75E−04	8.89E−02	4.18E−02	9.87E−03	8.73E−03	±0.0
202.0	2.64E−03	1.17E−03	2.93E−04	5.86E−04	8.86E−02	4.17E−02	9.84E−03	8.67E−03	±0.0
204.0	2.68E−03	1.19E−03	2.98E−04	5.96E−04	8.83E−02	4.16E−02	9.81E−03	8.62E−03	±0.0
206.0	2.72E−03	1.21E−03	3.02E−04	6.04E−04	8.81E−02	4.16E−02	9.78E−03	8.58E−03	±0.0
208.0	2.75E−03	1.22E−03	3.05E−04	6.11E−04	8.79E−02	4.15E−02	9.76E−03	8.55E−03	±0.0
210.0	2.78E−03	1.23E−03	3.08E−04	6.17E−04	8.77E−02	4.14E−02	9.74E−03	8.52E−03	±0.0
212.0	2.80E−03	1.24E−03	3.11E−04	6.22E−04	8.76E−02	4.14E−02	9.73E−03	8.49E−03	±0.0
214.0	2.82E−03	1.25E−03	3.13E−04	6.27E−04	8.74E−02	4.14E−02	9.71E−03	8.47E−03	±0.0
216.0	2.84E−03	1.26E−03	3.16E−04	6.31E−04	8.73E−02	4.13E−02	9.70E−03	8.45E−03	±0.0
218.0	2.86E−03	1.27E−03	3.17E−04	6.35E−04	8.72E−02	4.13E−02	9.69E−03	8.43E−03	±0.0
220.0	2.87E−03	1.28E−03	3.19E−04	6.38E−04	8.71E−02	4.13E−02	9.68E−03	8.41E−03	±0.0
222.0	2.89E−03	1.28E−03	3.21E−04	6.41E−04	8.70E−02	4.12E−02	9.67E−03	8.39E−03	±0.0
224.0	2.90E−03	1.29E−03	3.22E−04	6.44E−04	8.70E−02	4.12E−02	9.66E−03	8.38E−03	±0.0
226.0	2.91E−03	1.29E−03	3.24E−04	6.47E−04	8.69E−02	4.12E−02	9.65E−03	8.36E−03	±0.0
228.0	2.92E−03	1.30E−03	3.25E−04	6.49E−04	8.68E−02	4.12E−02	9.65E−03	8.35E−03	±0.0
230.0	2.93E−03	1.30E−03	3.26E−04	6.52E−04	8.68E−02	4.12E−02	9.64E−03	8.34E−03	±0.0
232.0	2.94E−03	1.31E−03	3.27E−04	6.54E−04	8.67E−02	4.11E−02	9.63E−03	8.33E−03	±0.0
234.0	2.95E−03	1.31E−03	3.28E−04	6.56E−04	8.67E−02	4.11E−02	9.63E−03	8.32E−03	±0.0
236.0	2.96E−03	1.32E−03	3.29E−04	6.58E−04	8.66E−02	4.11E−02	9.62E−03	8.31E−03	±0.0
238.0	2.97E−03	1.32E−03	3.30E−04	6.59E−04	8.66E−02	4.11E−02	9.62E−03	8.30E−03	±0.0
240.0	2.97E−03	1.32E−03	3.31E−04	6.61E−04	8.65E−02	4.11E−02	9.61E−03	8.29E−03	±0.0
242.0	2.98E−03	1.32E−03	3.31E−04	6.62E−04	8.65E−02	4.11E−02	9.61E−03	8.29E−03	±0.0
244.0	2.99E−03	1.33E−03	3.32E−04	6.64E−04	8.64E−02	4.11E−02	9.60E−03	8.28E−03	±0.0
246.0	2.99E−03	1.33E−03	3.33E−04	6.65E−04	8.64E−02	4.10E−02	9.60E−03	8.27E−03	±0.0
248.0	3.00E−03	1.33E−03	3.33E−04	6.67E−04	8.64E−02	4.10E−02	9.59E−03	8.27E−03	±0.0
250.0	3.01E−03	1.34E−03	3.34E−04	6.68E−04	8.63E−02	4.10E−02	9.59E−03	8.26E−03	±0.0
252.0	3.01E−03	1.34E−03	3.35E−04	6.69E−04	8.63E−02	4.10E−02	9.59E−03	8.25E−03	±0.0
254.0	3.02E−03	1.34E−03	3.35E−04	6.70E−04	8.62E−02	4.10E−02	9.58E−03	8.25E−03	±0.0
256.0	3.02E−03	1.34E−03	3.36E−04	6.71E−04	8.62E−02	4.10E−02	9.58E−03	8.24E−03	±0.0
258.0	3.03E−03	1.35E−03	3.37E−04	6.73E−04	8.62E−02	4.10E−02	9.58E−03	8.24E−03	±0.0
260.0	3.03E−03	1.35E−03	3.37E−04	6.74E−04	8.62E−02	4.10E−02	9.57E−03	8.23E−03	±0.0

Table 18 SM Higgs branching ratios for the different $H \to 4l$ and $H \to 2l2\nu$ final states and their total uncertainties (expressed in percentage). High mass range

M_H [GeV]	$H \to 4l$ $l = e, \mu, \tau$	$H \to 4l$ $l = e, \mu$	$H \to eeee$	$H \to ee\mu\mu$	$H \to 2l2\nu$ $l = e, \mu, \tau$ $\nu =$ any	$H \to 2l2\nu$ $l = e, \mu$ $\nu =$ any	$H \to e\nu e\nu$	$H \to e\nu\mu\nu$	ΔBR [%]
262.0	3.04E−03	1.35E−03	3.38E−04	6.75E−04	8.61E−02	4.10E−02	9.57E−03	8.22E−03	±0.0
264.0	3.04E−03	1.35E−03	3.38E−04	6.76E−04	8.61E−02	4.10E−02	9.57E−03	8.22E−03	±0.0
266.0	3.05E−03	1.35E−03	3.39E−04	6.77E−04	8.61E−02	4.09E−02	9.56E−03	8.21E−03	±0.0
268.0	3.05E−03	1.36E−03	3.39E−04	6.78E−04	8.60E−02	4.09E−02	9.56E−03	8.21E−03	±0.0
270.0	3.05E−03	1.36E−03	3.40E−04	6.79E−04	8.60E−02	4.09E−02	9.56E−03	8.21E−03	±0.0
272.0	3.06E−03	1.36E−03	3.40E−04	6.80E−04	8.60E−02	4.09E−02	9.55E−03	8.20E−03	±0.0
274.0	3.06E−03	1.36E−03	3.40E−04	6.80E−04	8.60E−02	4.09E−02	9.55E−03	8.20E−03	±0.0
276.0	3.07E−03	1.36E−03	3.41E−04	6.81E−04	8.59E−02	4.09E−02	9.55E−03	8.19E−03	±0.0
278.0	3.07E−03	1.36E−03	3.41E−04	6.82E−04	8.59E−02	4.09E−02	9.55E−03	8.19E−03	±0.0
280.0	3.07E−03	1.37E−03	3.42E−04	6.83E−04	8.59E−02	4.09E−02	9.54E−03	8.18E−03	±0.0
282.0	3.08E−03	1.37E−03	3.42E−04	6.84E−04	8.59E−02	4.09E−02	9.54E−03	8.18E−03	±0.0
284.0	3.08E−03	1.37E−03	3.43E−04	6.85E−04	8.59E−02	4.09E−02	9.54E−03	8.18E−03	±0.0
286.0	3.08E−03	1.37E−03	3.43E−04	6.85E−04	8.58E−02	4.09E−02	9.54E−03	8.17E−03	±0.0
288.0	3.09E−03	1.37E−03	3.43E−04	6.86E−04	8.58E−02	4.09E−02	9.53E−03	8.17E−03	±0.0
290.0	3.09E−03	1.37E−03	3.44E−04	6.87E−04	8.58E−02	4.09E−02	9.53E−03	8.16E−03	±0.0
295.0	3.10E−03	1.38E−03	3.45E−04	6.88E−04	8.57E−02	4.08E−02	9.53E−03	8.15E−03	±0.0
300.0	3.11E−03	1.38E−03	3.45E−04	6.90E−04	8.57E−02	4.08E−02	9.52E−03	8.15E−03	±0.0
305.0	3.11E−03	1.38E−03	3.46E−04	6.92E−04	8.56E−02	4.08E−02	9.52E−03	8.14E−03	±0.0
310.0	3.12E−03	1.39E−03	3.47E−04	6.93E−04	8.56E−02	4.08E−02	9.51E−03	8.13E−03	±0.0
315.0	3.13E−03	1.39E−03	3.48E−04	6.94E−04	8.56E−02	4.08E−02	9.51E−03	8.12E−03	±0.0
320.0	3.13E−03	1.39E−03	3.48E−04	6.96E−04	8.55E−02	4.08E−02	9.50E−03	8.11E−03	±0.0
325.0	3.14E−03	1.39E−03	3.49E−04	6.97E−04	8.55E−02	4.08E−02	9.49E−03	8.11E−03	±0.0
330.0	3.14E−03	1.40E−03	3.49E−04	6.98E−04	8.54E−02	4.07E−02	9.49E−03	8.10E−03	±0.0
335.0	3.14E−03	1.40E−03	3.50E−04	6.99E−04	8.54E−02	4.07E−02	9.48E−03	8.09E−03	±0.0
340.0	3.15E−03	1.40E−03	3.50E−04	6.99E−04	8.53E−02	4.07E−02	9.48E−03	8.08E−03	±0.0
345.0	3.14E−03	1.40E−03	3.49E−04	6.98E−04	8.51E−02	4.06E−02	9.45E−03	8.06E−03	±0.7
350.0	3.11E−03	1.38E−03	3.45E−04	6.90E−04	8.40E−02	4.01E−02	9.33E−03	7.96E−03	±1.4
360.0	3.00E−03	1.33E−03	3.34E−04	6.67E−04	8.09E−02	3.86E−02	8.99E−03	7.66E−03	±2.6
370.0	2.91E−03	1.29E−03	3.23E−04	6.46E−04	7.82E−02	3.73E−02	8.68E−03	7.40E−03	±2.9
380.0	2.83E−03	1.26E−03	3.15E−04	6.29E−04	7.59E−02	3.62E−02	8.43E−03	7.18E−03	±3.1
390.0	2.77E−03	1.23E−03	3.08E−04	6.16E−04	7.40E−02	3.54E−02	8.23E−03	7.00E−03	±3.1
400.0	2.73E−03	1.21E−03	3.03E−04	6.06E−04	7.26E−02	3.47E−02	8.06E−03	6.86E−03	±3.1
410.0	2.69E−03	1.20E−03	2.99E−04	5.98E−04	7.14E−02	3.41E−02	7.94E−03	6.75E−03	±3.1
420.0	2.67E−03	1.19E−03	2.96E−04	5.93E−04	7.06E−02	3.37E−02	7.84E−03	6.66E−03	±3.1
430.0	2.65E−03	1.18E−03	2.94E−04	5.89E−04	6.99E−02	3.34E−02	7.76E−03	6.59E−03	±3.0
440.0	2.64E−03	1.17E−03	2.93E−04	5.86E−04	6.94E−02	3.32E−02	7.71E−03	6.54E−03	±3.0
450.0	2.63E−03	1.17E−03	2.92E−04	5.85E−04	6.90E−02	3.30E−02	7.67E−03	6.50E−03	±2.9
460.0	2.63E−03	1.17E−03	2.92E−04	5.84E−04	6.88E−02	3.29E−02	7.64E−03	6.48E−03	±2.8
470.0	2.63E−03	1.17E−03	2.92E−04	5.84E−04	6.86E−02	3.28E−02	7.62E−03	6.46E−03	±2.8
480.0	2.63E−03	1.17E−03	2.93E−04	5.85E−04	6.85E−02	3.28E−02	7.61E−03	6.45E−03	±2.7
490.0	2.64E−03	1.17E−03	2.93E−04	5.87E−04	6.85E−02	3.28E−02	7.61E−03	6.44E−03	±2.6
500.0	2.65E−03	1.18E−03	2.94E−04	5.88E−04	6.85E−02	3.28E−02	7.61E−03	6.44E−03	±2.4
510.0	2.66E−03	1.18E−03	2.95E−04	5.90E−04	6.86E−02	3.28E−02	7.62E−03	6.45E−03	±2.3
520.0	2.67E−03	1.18E−03	2.96E−04	5.92E−04	6.87E−02	3.29E−02	7.64E−03	6.46E−03	±2.4
530.0	2.68E−03	1.19E−03	2.97E−04	5.95E−04	6.89E−02	3.30E−02	7.65E−03	6.47E−03	±2.4
540.0	2.69E−03	1.19E−03	2.99E−04	5.97E−04	6.90E−02	3.31E−02	7.67E−03	6.48E−03	±2.4

Table 19 SM Higgs branching ratios for the different $H \to 4l$ and $H \to 2l2\nu$ final states and their total uncertainties (expressed in percentage). Very high mass range

M_H [GeV]	$H \to 4l$ $l = e, \mu, \tau$	$H \to 4l$ $l = e, \mu$	$H \to eeee$	$H \to ee\mu\mu$	$H \to 2l2\nu$ $l = e, \mu, \tau$ $\nu =$ any	$H \to 2l2\nu$ $l = e, \mu$ $\nu =$ any	$H \to e\nu e\nu$	$H \to e\nu\mu\nu$	ΔBR [%]
550.0	2.70E−03	1.20E−03	3.00E−04	6.00E−04	6.92E−02	3.32E−02	7.69E−03	6.50E−03	±2.4
560.0	2.71E−03	1.21E−03	3.01E−04	6.03E−04	6.94E−02	3.33E−02	7.71E−03	6.51E−03	±2.5
570.0	2.73E−03	1.21E−03	3.03E−04	6.06E−04	6.96E−02	3.34E−02	7.74E−03	6.53E−03	±2.5
580.0	2.74E−03	1.22E−03	3.04E−04	6.09E−04	6.99E−02	3.35E−02	7.76E−03	6.55E−03	±2.5
590.0	2.75E−03	1.22E−03	3.06E−04	6.12E−04	7.01E−02	3.36E−02	7.79E−03	6.57E−03	±2.5
600.0	2.77E−03	1.23E−03	3.07E−04	6.15E−04	7.03E−02	3.37E−02	7.82E−03	6.59E−03	±2.5
610.0	2.78E−03	1.24E−03	3.09E−04	6.18E−04	7.06E−02	3.38E−02	7.84E−03	6.61E−03	±2.5
620.0	2.79E−03	1.24E−03	3.10E−04	6.21E−04	7.08E−02	3.40E−02	7.87E−03	6.64E−03	±2.6
630.0	2.81E−03	1.25E−03	3.12E−04	6.24E−04	7.11E−02	3.41E−02	7.90E−03	6.66E−03	±2.5
640.0	2.82E−03	1.25E−03	3.13E−04	6.27E−04	7.14E−02	3.42E−02	7.93E−03	6.68E−03	±2.6
650.0	2.83E−03	1.26E−03	3.15E−04	6.29E−04	7.16E−02	3.43E−02	7.96E−03	6.71E−03	±2.6
660.0	2.85E−03	1.26E−03	3.16E−04	6.32E−04	7.19E−02	3.45E−02	7.99E−03	6.73E−03	±2.6
670.0	2.86E−03	1.27E−03	3.18E−04	6.35E−04	7.21E−02	3.46E−02	8.02E−03	6.75E−03	±2.6
680.0	2.87E−03	1.28E−03	3.19E−04	6.38E−04	7.24E−02	3.47E−02	8.04E−03	6.77E−03	±2.6
690.0	2.88E−03	1.28E−03	3.20E−04	6.41E−04	7.26E−02	3.48E−02	8.07E−03	6.80E−03	±2.6
700.0	2.90E−03	1.29E−03	3.22E−04	6.44E−04	7.29E−02	3.50E−02	8.10E−03	6.82E−03	±2.6
710.0	2.91E−03	1.29E−03	3.23E−04	6.46E−04	7.31E−02	3.51E−02	8.13E−03	6.84E−03	±2.6
720.0	2.92E−03	1.30E−03	3.24E−04	6.49E−04	7.34E−02	3.52E−02	8.16E−03	6.86E−03	±2.6
730.0	2.93E−03	1.30E−03	3.26E−04	6.52E−04	7.37E−02	3.53E−02	8.18E−03	6.89E−03	±2.6
740.0	2.94E−03	1.31E−03	3.27E−04	6.54E−04	7.39E−02	3.54E−02	8.21E−03	6.91E−03	±2.6
750.0	2.95E−03	1.31E−03	3.28E−04	6.57E−04	7.41E−02	3.56E−02	8.24E−03	6.93E−03	±2.6
760.0	2.97E−03	1.32E−03	3.30E−04	6.59E−04	7.44E−02	3.57E−02	8.26E−03	6.95E−03	±2.6
770.0	2.98E−03	1.32E−03	3.31E−04	6.62E−04	7.46E−02	3.58E−02	8.29E−03	6.97E−03	±2.6
780.0	2.99E−03	1.33E−03	3.32E−04	6.64E−04	7.48E−02	3.59E−02	8.32E−03	6.99E−03	±2.6
790.0	3.00E−03	1.33E−03	3.33E−04	6.67E−04	7.51E−02	3.60E−02	8.34E−03	7.02E−03	±2.7
800.0	3.01E−03	1.34E−03	3.34E−04	6.69E−04	7.53E−02	3.61E−02	8.37E−03	7.04E−03	±2.7
810.0	3.02E−03	1.34E−03	3.35E−04	6.71E−04	7.55E−02	3.62E−02	8.39E−03	7.06E−03	±2.7
820.0	3.03E−03	1.35E−03	3.37E−04	6.73E−04	7.57E−02	3.63E−02	8.42E−03	7.08E−03	±2.7
830.0	3.04E−03	1.35E−03	3.38E−04	6.75E−04	7.60E−02	3.64E−02	8.44E−03	7.10E−03	±2.7
840.0	3.05E−03	1.36E−03	3.39E−04	6.78E−04	7.62E−02	3.65E−02	8.46E−03	7.12E−03	±2.7
850.0	3.06E−03	1.36E−03	3.40E−04	6.80E−04	7.64E−02	3.67E−02	8.49E−03	7.13E−03	±2.7
860.0	3.07E−03	1.36E−03	3.41E−04	6.82E−04	7.66E−02	3.67E−02	8.51E−03	7.15E−03	±2.7
870.0	3.08E−03	1.37E−03	3.42E−04	6.84E−04	7.68E−02	3.68E−02	8.53E−03	7.17E−03	±2.7
880.0	3.09E−03	1.37E−03	3.43E−04	6.86E−04	7.70E−02	3.69E−02	8.55E−03	7.19E−03	±2.8
890.0	3.09E−03	1.38E−03	3.44E−04	6.88E−04	7.72E−02	3.70E−02	8.58E−03	7.21E−03	±2.8
900.0	3.10E−03	1.38E−03	3.45E−04	6.89E−04	7.74E−02	3.71E−02	8.60E−03	7.23E−03	±2.8
910.0	3.11E−03	1.38E−03	3.46E−04	6.91E−04	7.76E−02	3.72E−02	8.62E−03	7.24E−03	±2.8
920.0	3.12E−03	1.39E−03	3.47E−04	6.93E−04	7.78E−02	3.73E−02	8.64E−03	7.26E−03	±2.8
930.0	3.13E−03	1.39E−03	3.48E−04	6.95E−04	7.79E−02	3.74E−02	8.66E−03	7.28E−03	±2.8
940.0	3.14E−03	1.39E−03	3.48E−04	6.97E−04	7.81E−02	3.75E−02	8.68E−03	7.29E−03	±2.8
950.0	3.14E−03	1.40E−03	3.49E−04	6.98E−04	7.83E−02	3.76E−02	8.70E−03	7.31E−03	±2.8
960.0	3.15E−03	1.40E−03	3.50E−04	7.00E−04	7.85E−02	3.77E−02	8.72E−03	7.33E−03	±2.8
970.0	3.16E−03	1.40E−03	3.51E−04	7.02E−04	7.86E−02	3.77E−02	8.74E−03	7.34E−03	±2.8
980.0	3.17E−03	1.41E−03	3.52E−04	7.04E−04	7.88E−02	3.78E−02	8.76E−03	7.36E−03	±2.9
990.0	3.17E−03	1.41E−03	3.53E−04	7.05E−04	7.90E−02	3.79E−02	8.78E−03	7.37E−03	±2.9
1000.0	3.18E−03	1.41E−03	3.53E−04	7.07E−04	7.91E−02	3.80E−02	8.80E−03	7.39E−03	±2.9

Table 20 SM Higgs branching ratios for the different four-fermion final states and their total uncertainties (expressed in percentage). Very low mass range

M_H [GeV]	$H \to 2l2q$ $l = e, \mu, \tau$ $q = udcsb$	$H \to 2l2q$ $l = e, \mu$ $q = udcsb$	$H \to l\nu_l qq$ $l = e, \mu$ $q = udcsb$	$H \to \nu\nu qq$ $\nu = any$ $q = udcsb$	$H \to 4q$ $q = udcsb$	$H \to 4f$ $f = any$ fermion	ΔBR [%]
90.0	5.87E−05	3.91E−05	3.03E−04	1.18E−04	1.05E−03	2.37E−03	±5.8
95.0	9.31E−05	6.21E−05	6.85E−04	1.87E−04	2.32E−03	5.17E−03	±5.8
100.0	1.57E−04	1.04E−04	1.61E−03	3.14E−04	5.34E−03	1.18E−02	±5.7
105.0	2.97E−04	1.98E−04	3.52E−03	5.95E−04	1.17E−02	2.58E−02	±5.6
110.0	6.06E−04	4.04E−04	6.99E−03	1.21E−03	2.34E−02	5.15E−02	±5.4
110.5	6.50E−04	4.34E−04	7.44E−03	1.30E−03	2.50E−02	5.49E−02	±5.4
111.0	6.98E−04	4.66E−04	7.92E−03	1.40E−03	2.66E−02	5.85E−02	±5.4
111.5	7.50E−04	5.00E−04	8.42E−03	1.50E−03	2.83E−02	6.23E−02	±5.4
112.0	8.04E−04	5.36E−04	8.94E−03	1.61E−03	3.01E−02	6.62E−02	±5.3
112.5	8.62E−04	5.75E−04	9.48E−03	1.72E−03	3.20E−02	7.03E−02	±5.3
113.0	9.23E−04	6.16E−04	1.01E−02	1.85E−03	3.40E−02	7.46E−02	±5.3
113.5	9.89E−04	6.59E−04	1.06E−02	1.98E−03	3.60E−02	7.91E−02	±5.2
114.0	1.06E−03	7.05E−04	1.13E−02	2.11E−03	3.81E−02	8.38E−02	±5.2
114.5	1.13E−03	7.54E−04	1.19E−02	2.26E−03	4.04E−02	8.87E−02	±5.2
115.0	1.21E−03	8.05E−04	1.26E−02	2.41E−03	4.27E−02	9.38E−02	±5.2
115.5	1.29E−03	8.59E−04	1.33E−02	2.58E−03	4.51E−02	9.90E−02	±5.1
116.0	1.37E−03	9.16E−04	1.40E−02	2.75E−03	4.76E−02	1.05E−01	±5.1
116.5	1.46E−03	9.76E−04	1.47E−02	2.93E−03	5.03E−02	1.10E−01	±5.0
117.0	1.56E−03	1.04E−03	1.55E−02	3.11E−03	5.30E−02	1.16E−01	±5.0
117.5	1.66E−03	1.10E−03	1.63E−02	3.31E−03	5.58E−02	1.22E−01	±5.0
118.0	1.76E−03	1.17E−03	1.71E−02	3.52E−03	5.87E−02	1.29E−01	±4.9
118.5	1.87E−03	1.25E−03	1.80E−02	3.73E−03	6.17E−02	1.35E−01	±4.9
119.0	1.98E−03	1.32E−03	1.89E−02	3.96E−03	6.48E−02	1.42E−01	±4.8
119.5	2.10E−03	1.40E−03	1.98E−02	4.19E−03	6.80E−02	1.49E−01	±4.8
120.0	2.22E−03	1.48E−03	2.07E−02	4.44E−03	7.13E−02	1.56E−01	±4.8
120.5	2.35E−03	1.57E−03	2.16E−02	4.69E−03	7.47E−02	1.64E−01	±4.7
121.0	2.48E−03	1.65E−03	2.26E−02	4.95E−03	7.82E−02	1.71E−01	±4.7
121.5	2.62E−03	1.74E−03	2.36E−02	5.22E−03	8.18E−02	1.79E−01	±4.6
122.0	2.76E−03	1.84E−03	2.47E−02	5.50E−03	8.55E−02	1.87E−01	±4.6
122.5	2.90E−03	1.94E−03	2.57E−02	5.80E−03	8.92E−02	1.95E−01	±4.5
123.0	3.06E−03	2.04E−03	2.68E−02	6.10E−03	9.31E−02	2.04E−01	±4.5
123.5	3.21E−03	2.14E−03	2.79E−02	6.40E−03	9.71E−02	2.13E−01	±4.4
124.0	3.37E−03	2.25E−03	2.91E−02	6.72E−03	1.01E−01	2.21E−01	±4.4
124.5	3.53E−03	2.36E−03	3.02E−02	7.05E−03	1.05E−01	2.30E−01	±4.3
125.0	3.70E−03	2.47E−03	3.14E−02	7.38E−03	1.10E−01	2.40E−01	±4.3
125.5	3.87E−03	2.58E−03	3.26E−02	7.73E−03	1.14E−01	2.49E−01	±4.2
126.0	4.05E−03	2.70E−03	3.38E−02	8.08E−03	1.18E−01	2.59E−01	±4.1
126.5	4.23E−03	2.82E−03	3.51E−02	8.44E−03	1.23E−01	2.68E−01	±4.1
127.0	4.42E−03	2.94E−03	3.64E−02	8.81E−03	1.27E−01	2.78E−01	±4.0
127.5	4.60E−03	3.07E−03	3.76E−02	9.18E−03	1.32E−01	2.89E−01	±4.0
128.0	4.79E−03	3.20E−03	3.89E−02	9.56E−03	1.37E−01	2.99E−01	±3.9
128.5	4.99E−03	3.32E−03	4.03E−02	9.94E−03	1.41E−01	3.09E−01	±3.8
129.0	5.18E−03	3.46E−03	4.16E−02	1.03E−02	1.46E−01	3.20E−01	±3.8
129.5	5.38E−03	3.59E−03	4.30E−02	1.07E−02	1.51E−01	3.30E−01	±3.7
130.0	5.59E−03	3.72E−03	4.43E−02	1.11E−02	1.56E−01	3.41E−01	±3.7

Table 21 SM Higgs branching ratios for the different four-fermion final states and their total uncertainties (expressed in percentage). Low and intermediate mass range

M_H [GeV]	$H \to 2l2q$ $l = e, \mu, \tau$ $q = udcsb$	$H \to 2l2q$ $l = e, \mu$ $q = udcsb$	$H \to l\nu_l qq$ $l = e, \mu$ $q = udcsb$	$H \to \nu\nu qq$ $\nu = any$ $q = udcsb$	$H \to 4q$ $q = udcsb$	$H \to 4f$ $f = any$ fermion	ΔBR [%]
130.5	5.79E−03	3.86E−03	4.57E−02	1.15E−02	1.61E−01	3.52E−01	±3.6
131.0	6.00E−03	4.00E−03	4.71E−02	1.20E−02	1.66E−01	3.63E−01	±3.5
131.5	6.21E−03	4.14E−03	4.85E−02	1.24E−02	1.71E−01	3.74E−01	±3.5
132.0	6.41E−03	4.28E−03	4.99E−02	1.28E−02	1.76E−01	3.85E−01	±3.4
132.5	6.62E−03	4.42E−03	5.14E−02	1.32E−02	1.81E−01	3.96E−01	±3.3
133.0	6.83E−03	4.56E−03	5.28E−02	1.36E−02	1.87E−01	4.08E−01	±3.3
133.5	7.05E−03	4.70E−03	5.42E−02	1.40E−02	1.92E−01	4.19E−01	±3.2
134.0	7.26E−03	4.84E−03	5.57E−02	1.45E−02	1.97E−01	4.31E−01	±3.1
134.5	7.47E−03	4.98E−03	5.72E−02	1.49E−02	2.02E−01	4.42E−01	±3.1
135.0	7.68E−03	5.12E−03	5.86E−02	1.53E−02	2.08E−01	4.53E−01	±3.0
135.5	7.89E−03	5.26E−03	6.01E−02	1.57E−02	2.13E−01	4.65E−01	±2.9
136.0	8.09E−03	5.39E−03	6.16E−02	1.61E−02	2.18E−01	4.76E−01	±2.8
136.5	8.30E−03	5.53E−03	6.30E−02	1.65E−02	2.23E−01	4.88E−01	±2.6
137.0	8.50E−03	5.67E−03	6.45E−02	1.69E−02	2.29E−01	4.99E−01	±2.5
137.5	8.70E−03	5.80E−03	6.60E−02	1.73E−02	2.34E−01	5.11E−01	±2.4
138.0	8.90E−03	5.93E−03	6.75E−02	1.77E−02	2.39E−01	5.22E−01	±2.2
138.5	9.10E−03	6.06E−03	6.90E−02	1.81E−02	2.45E−01	5.34E−01	±2.1
139.0	9.29E−03	6.19E−03	7.04E−02	1.85E−02	2.50E−01	5.45E−01	±1.9
139.5	9.47E−03	6.31E−03	7.19E−02	1.89E−02	2.55E−01	5.57E−01	±1.8
140.0	9.65E−03	6.44E−03	7.34E−02	1.92E−02	2.60E−01	5.68E−01	±1.7
141.0	1.00E−02	6.67E−03	7.63E−02	1.99E−02	2.70E−01	5.91E−01	±1.6
142.0	1.03E−02	6.89E−03	7.92E−02	2.06E−02	2.81E−01	6.13E−01	±1.5
143.0	1.06E−02	7.08E−03	8.21E−02	2.11E−02	2.91E−01	6.35E−01	±1.4
144.0	1.09E−02	7.26E−03	8.50E−02	2.17E−02	3.00E−01	6.56E−01	±1.3
145.0	1.11E−02	7.42E−03	8.79E−02	2.21E−02	3.10E−01	6.77E−01	±1.2
146.0	1.13E−02	7.55E−03	9.07E−02	2.25E−02	3.20E−01	6.98E−01	±1.2
147.0	1.15E−02	7.65E−03	9.36E−02	2.28E−02	3.29E−01	7.19E−01	±1.1
148.0	1.16E−02	7.71E−03	9.64E−02	2.30E−02	3.38E−01	7.39E−01	±1.0
149.0	1.16E−02	7.74E−03	9.92E−02	2.31E−02	3.47E−01	7.58E−01	±0.9
150.0	1.16E−02	7.73E−03	1.02E−01	2.31E−02	3.56E−01	7.77E−01	±0.9
151.0	1.15E−02	7.68E−03	1.05E−01	2.29E−02	3.64E−01	7.96E−01	±0.8
152.0	1.14E−02	7.57E−03	1.08E−01	2.26E−02	3.72E−01	8.14E−01	±0.7
153.0	1.11E−02	7.41E−03	1.10E−01	2.21E−02	3.80E−01	8.32E−01	±0.7
154.0	1.08E−02	7.18E−03	1.13E−01	2.14E−02	3.88E−01	8.49E−01	±0.6
155.0	1.03E−02	6.88E−03	1.16E−01	2.05E−02	3.96E−01	8.67E−01	±0.5
156.0	9.73E−03	6.49E−03	1.19E−01	1.94E−02	4.04E−01	8.84E−01	±0.5
157.0	9.00E−03	6.00E−03	1.23E−01	1.79E−02	4.11E−01	9.01E−01	±0.4
158.0	8.09E−03	5.39E−03	1.26E−01	1.61E−02	4.18E−01	9.17E−01	±0.3
159.0	7.01E−03	4.68E−03	1.30E−01	1.39E−02	4.25E−01	9.33E−01	±0.3
160.0	5.83E−03	3.88E−03	1.33E−01	1.16E−02	4.32E−01	9.49E−01	±0.2
162.0	3.96E−03	2.64E−03	1.38E−01	7.88E−03	4.42E−01	9.70E−01	±0.2
164.0	3.25E−03	2.17E−03	1.40E−01	6.47E−03	4.46E−01	9.79E−01	±0.1
166.0	3.07E−03	2.04E−03	1.41E−01	6.11E−03	4.48E−01	9.84E−01	±0.1
168.0	3.12E−03	2.08E−03	1.41E−01	6.21E−03	4.49E−01	9.86E−01	±0.1
170.0	3.32E−03	2.21E−03	1.41E−01	6.61E−03	4.50E−01	9.88E−01	±0.1

Table 22 SM Higgs branching ratios for the different four-fermion final states and their total uncertainties (expressed in percentage). Intermediate mass range

M_H [GeV]	$H \to 2l2q$ $l = e, \mu, \tau$ $q = udcsb$	$H \to 2l2q$ $l = e, \mu$ $q = udcsb$	$H \to l\nu_l qq$ $l = e, \mu$ $q = udcsb$	$H \to \nu\nu qq$ $\nu = any$ $q = udcsb$	$H \to 4q$ $q = udcsb$	$H \to 4f$ $f = any$ fermion	ΔBR [%]
172.0	3.67E−03	2.44E−03	1.41E−01	7.30E−03	4.50E−01	9.89E−01	±0.0
174.0	4.19E−03	2.79E−03	1.41E−01	8.34E−03	4.51E−01	9.90E−01	±0.0
176.0	4.98E−03	3.32E−03	1.40E−01	9.92E−03	4.51E−01	9.91E−01	±0.0
178.0	6.24E−03	4.16E−03	1.39E−01	1.24E−02	4.52E−01	9.91E−01	±0.0
180.0	8.47E−03	5.65E−03	1.37E−01	1.69E−02	4.53E−01	9.92E−01	±0.0
182.0	1.27E−02	8.44E−03	1.32E−01	2.52E−02	4.54E−01	9.93E−01	±0.0
184.0	1.85E−02	1.23E−02	1.26E−01	3.69E−02	4.56E−01	9.93E−01	±0.0
186.0	2.34E−02	1.56E−02	1.21E−01	4.66E−02	4.57E−01	9.94E−01	±0.0
188.0	2.69E−02	1.79E−02	1.18E−01	5.36E−02	4.58E−01	9.94E−01	±0.0
190.0	2.95E−02	1.97E−02	1.15E−01	5.87E−02	4.59E−01	9.95E−01	±0.0
192.0	3.14E−02	2.09E−02	1.13E−01	6.26E−02	4.60E−01	9.95E−01	±0.0
194.0	3.29E−02	2.20E−02	1.12E−01	6.56E−02	4.60E−01	9.95E−01	±0.0
196.0	3.42E−02	2.28E−02	1.10E−01	6.80E−02	4.61E−01	9.96E−01	±0.0
198.0	3.51E−02	2.34E−02	1.09E−01	7.00E−02	4.61E−01	9.96E−01	±0.0
200.0	3.60E−02	2.40E−02	1.08E−01	7.16E−02	4.61E−01	9.96E−01	±0.0
202.0	3.67E−02	2.44E−02	1.08E−01	7.30E−02	4.61E−01	9.96E−01	±0.0
204.0	3.72E−02	2.48E−02	1.07E−01	7.42E−02	4.62E−01	9.96E−01	±0.0
206.0	3.77E−02	2.52E−02	1.07E−01	7.52E−02	4.62E−01	9.96E−01	±0.0
208.0	3.82E−02	2.55E−02	1.06E−01	7.61E−02	4.62E−01	9.97E−01	±0.0
210.0	3.86E−02	2.57E−02	1.06E−01	7.68E−02	4.62E−01	9.97E−01	±0.0
212.0	3.89E−02	2.59E−02	1.06E−01	7.75E−02	4.62E−01	9.97E−01	±0.0
214.0	3.92E−02	2.61E−02	1.05E−01	7.81E−02	4.62E−01	9.97E−01	±0.0
216.0	3.95E−02	2.63E−02	1.05E−01	7.86E−02	4.63E−01	9.97E−01	±0.0
218.0	3.97E−02	2.65E−02	1.05E−01	7.91E−02	4.63E−01	9.97E−01	±0.0
220.0	3.99E−02	2.66E−02	1.05E−01	7.95E−02	4.63E−01	9.97E−01	±0.0
222.0	4.01E−02	2.67E−02	1.04E−01	7.99E−02	4.63E−01	9.97E−01	±0.0
224.0	4.03E−02	2.69E−02	1.04E−01	8.02E−02	4.63E−01	9.97E−01	±0.0
226.0	4.04E−02	2.70E−02	1.04E−01	8.06E−02	4.63E−01	9.97E−01	±0.0
228.0	4.06E−02	2.71E−02	1.04E−01	8.09E−02	4.63E−01	9.97E−01	±0.0
230.0	4.07E−02	2.72E−02	1.04E−01	8.12E−02	4.63E−01	9.98E−01	±0.0
232.0	4.09E−02	2.73E−02	1.04E−01	8.14E−02	4.63E−01	9.98E−01	±0.0
234.0	4.10E−02	2.73E−02	1.03E−01	8.17E−02	4.63E−01	9.98E−01	±0.0
236.0	4.11E−02	2.74E−02	1.03E−01	8.19E−02	4.63E−01	9.98E−01	±0.0
238.0	4.12E−02	2.75E−02	1.03E−01	8.21E−02	4.63E−01	9.98E−01	±0.0
240.0	4.13E−02	2.76E−02	1.03E−01	8.23E−02	4.63E−01	9.98E−01	±0.0
242.0	4.14E−02	2.76E−02	1.03E−01	8.25E−02	4.63E−01	9.98E−01	±0.0
244.0	4.15E−02	2.77E−02	1.03E−01	8.27E−02	4.64E−01	9.98E−01	±0.0
246.0	4.16E−02	2.77E−02	1.03E−01	8.29E−02	4.64E−01	9.98E−01	±0.0
248.0	4.17E−02	2.78E−02	1.03E−01	8.30E−02	4.64E−01	9.98E−01	±0.0
250.0	4.18E−02	2.78E−02	1.03E−01	8.32E−02	4.64E−01	9.98E−01	±0.0
252.0	4.18E−02	2.79E−02	1.03E−01	8.34E−02	4.64E−01	9.98E−01	±0.0
254.0	4.19E−02	2.79E−02	1.03E−01	8.35E−02	4.64E−01	9.98E−01	±0.0
256.0	4.20E−02	2.80E−02	1.02E−01	8.37E−02	4.64E−01	9.98E−01	±0.0
258.0	4.21E−02	2.80E−02	1.02E−01	8.38E−02	4.64E−01	9.98E−01	±0.0
260.0	4.21E−02	2.81E−02	1.02E−01	8.39E−02	4.64E−01	9.98E−01	±0.0

Table 23 SM Higgs branching ratios for the different four-fermion final states and their total uncertainties (expressed in percentage). High mass range

M_H [GeV]	$H \to 2l2q$ $l = e, \mu, \tau$ $q = udcsb$	$H \to 2l2q$ $l = e, \mu$ $q = udcsb$	$H \to l\nu_l qq$ $l = e, \mu$ $q = udcsb$	$H \to \nu\nu qq$ $\nu = any$ $q = udcsb$	$H \to 4q$ $q = udcsb$	$H \to 4f$ $f = any$ fermion	ΔBR [%]
262.0	4.22E−02	2.81E−02	1.02E−01	8.41E−02	4.64E−01	9.98E−01	±0.0
264.0	4.23E−02	2.82E−02	1.02E−01	8.42E−02	4.64E−01	9.98E−01	±0.0
266.0	4.23E−02	2.82E−02	1.02E−01	8.43E−02	4.64E−01	9.98E−01	±0.0
268.0	4.24E−02	2.83E−02	1.02E−01	8.44E−02	4.64E−01	9.98E−01	±0.0
270.0	4.24E−02	2.83E−02	1.02E−01	8.45E−02	4.64E−01	9.98E−01	±0.0
272.0	4.25E−02	2.83E−02	1.02E−01	8.47E−02	4.64E−01	9.98E−01	±0.0
274.0	4.26E−02	2.84E−02	1.02E−01	8.48E−02	4.64E−01	9.98E−01	±0.0
276.0	4.26E−02	2.84E−02	1.02E−01	8.49E−02	4.64E−01	9.98E−01	±0.0
278.0	4.27E−02	2.84E−02	1.02E−01	8.50E−02	4.64E−01	9.98E−01	±0.0
280.0	4.27E−02	2.85E−02	1.02E−01	8.51E−02	4.64E−01	9.98E−01	±0.0
282.0	4.28E−02	2.85E−02	1.02E−01	8.52E−02	4.64E−01	9.98E−01	±0.0
284.0	4.28E−02	2.85E−02	1.02E−01	8.53E−02	4.64E−01	9.98E−01	±0.0
286.0	4.29E−02	2.86E−02	1.02E−01	8.54E−02	4.64E−01	9.98E−01	±0.0
288.0	4.29E−02	2.86E−02	1.02E−01	8.55E−02	4.64E−01	9.98E−01	±0.0
290.0	4.30E−02	2.86E−02	1.02E−01	8.56E−02	4.64E−01	9.98E−01	±0.0
295.0	4.31E−02	2.87E−02	1.01E−01	8.58E−02	4.64E−01	9.98E−01	±0.0
300.0	4.32E−02	2.88E−02	1.01E−01	8.60E−02	4.64E−01	9.99E−01	±0.0
305.0	4.33E−02	2.88E−02	1.01E−01	8.62E−02	4.64E−01	9.99E−01	±0.0
310.0	4.34E−02	2.89E−02	1.01E−01	8.64E−02	4.64E−01	9.99E−01	±0.0
315.0	4.34E−02	2.90E−02	1.01E−01	8.66E−02	4.64E−01	9.99E−01	±0.0
320.0	4.35E−02	2.90E−02	1.01E−01	8.67E−02	4.64E−01	9.98E−01	±0.0
325.0	4.36E−02	2.91E−02	1.01E−01	8.68E−02	4.64E−01	9.98E−01	±0.0
330.0	4.37E−02	2.91E−02	1.01E−01	8.70E−02	4.64E−01	9.98E−01	±0.0
335.0	4.37E−02	2.91E−02	1.01E−01	8.71E−02	4.64E−01	9.98E−01	±0.0
340.0	4.37E−02	2.92E−02	1.01E−01	8.72E−02	4.64E−01	9.98E−01	±0.0
345.0	4.37E−02	2.91E−02	1.00E−01	8.71E−02	4.63E−01	9.95E−01	±0.7
350.0	4.32E−02	2.88E−02	9.90E−02	8.61E−02	4.57E−01	9.83E−01	±1.4
360.0	4.17E−02	2.78E−02	9.53E−02	8.31E−02	4.41E−01	9.47E−01	±2.6
370.0	4.04E−02	2.69E−02	9.20E−02	8.05E−02	4.26E−01	9.15E−01	±2.9
380.0	3.93E−02	2.62E−02	8.92E−02	7.84E−02	4.14E−01	8.89E−01	±3.1
390.0	3.85E−02	2.57E−02	8.70E−02	7.67E−02	4.04E−01	8.68E−01	±3.1
400.0	3.79E−02	2.52E−02	8.52E−02	7.54E−02	3.96E−01	8.51E−01	±3.1
410.0	3.74E−02	2.49E−02	8.38E−02	7.44E−02	3.90E−01	8.38E−01	±3.1
420.0	3.70E−02	2.47E−02	8.27E−02	7.37E−02	3.85E−01	8.28E−01	±3.1
430.0	3.68E−02	2.45E−02	8.19E−02	7.32E−02	3.82E−01	8.20E−01	±3.0
440.0	3.66E−02	2.44E−02	8.12E−02	7.29E−02	3.79E−01	8.15E−01	±3.0
450.0	3.65E−02	2.44E−02	8.08E−02	7.27E−02	3.77E−01	8.11E−01	±2.9
460.0	3.65E−02	2.43E−02	8.04E−02	7.27E−02	3.76E−01	8.08E−01	±2.8
470.0	3.65E−02	2.43E−02	8.02E−02	7.27E−02	3.75E−01	8.07E−01	±2.8
480.0	3.65E−02	2.44E−02	8.01E−02	7.28E−02	3.75E−01	8.06E−01	±2.7
490.0	3.66E−02	2.44E−02	8.00E−02	7.29E−02	3.75E−01	8.06E−01	±2.6
500.0	3.67E−02	2.45E−02	8.00E−02	7.31E−02	3.75E−01	8.07E−01	±2.4
510.0	3.68E−02	2.46E−02	8.01E−02	7.33E−02	3.76E−01	8.08E−01	±2.3
520.0	3.70E−02	2.47E−02	8.02E−02	7.36E−02	3.77E−01	8.10E−01	±2.4
530.0	3.71E−02	2.48E−02	8.03E−02	7.39E−02	3.78E−01	8.12E−01	±2.4
540.0	3.73E−02	2.49E−02	8.05E−02	7.42E−02	3.79E−01	8.14E−01	±2.4

Table 24 SM Higgs branching ratios for the different four-fermion final states and their total uncertainties (expressed in percentage). Very high mass range

M_H [GeV]	$H \to 2l2q$ $l = e, \mu, \tau$ $q =$ udcsb	$H \to 2l2q$ $l = e, \mu$ $q =$ udcsb	$H \to l\nu_l qq$ $l = e, \mu$ $q =$ udcsb	$H \to \nu\nu qq$ $\nu =$ any $q =$ udcsb	$H \to 4q$ $q =$ udcsb	$H \to 4f$ $f =$ any fermion	ΔBR [%]
550.0	3.75E−02	2.50E−02	8.06E−02	7.45E−02	3.80E−01	8.16E−01	±2.4
560.0	3.76E−02	2.51E−02	8.09E−02	7.49E−02	3.81E−01	8.19E−01	±2.5
570.0	3.78E−02	2.52E−02	8.11E−02	7.52E−02	3.82E−01	8.22E−01	±2.5
580.0	3.80E−02	2.53E−02	8.13E−02	7.56E−02	3.84E−01	8.25E−01	±2.5
590.0	3.82E−02	2.54E−02	8.16E−02	7.60E−02	3.85E−01	8.28E−01	±2.5
600.0	3.83E−02	2.56E−02	8.18E−02	7.63E−02	3.87E−01	8.31E−01	±2.5
610.0	3.85E−02	2.57E−02	8.21E−02	7.67E−02	3.88E−01	8.34E−01	±2.5
620.0	3.87E−02	2.58E−02	8.24E−02	7.70E−02	3.89E−01	8.37E−01	±2.6
630.0	3.89E−02	2.59E−02	8.27E−02	7.74E−02	3.91E−01	8.40E−01	±2.5
640.0	3.91E−02	2.61E−02	8.29E−02	7.78E−02	3.92E−01	8.43E−01	±2.6
650.0	3.93E−02	2.62E−02	8.32E−02	7.81E−02	3.94E−01	8.46E−01	±2.6
660.0	3.94E−02	2.63E−02	8.35E−02	7.85E−02	3.95E−01	8.50E−01	±2.6
670.0	3.96E−02	2.64E−02	8.38E−02	7.88E−02	3.97E−01	8.53E−01	±2.6
680.0	3.98E−02	2.65E−02	8.40E−02	7.92E−02	3.98E−01	8.56E−01	±2.6
690.0	4.00E−02	2.66E−02	8.43E−02	7.95E−02	3.99E−01	8.59E−01	±2.6
700.0	4.01E−02	2.68E−02	8.46E−02	7.98E−02	4.01E−01	8.62E−01	±2.6
710.0	4.03E−02	2.69E−02	8.48E−02	8.02E−02	4.02E−01	8.65E−01	±2.6
720.0	4.05E−02	2.70E−02	8.51E−02	8.05E−02	4.04E−01	8.68E−01	±2.6
730.0	4.06E−02	2.71E−02	8.54E−02	8.08E−02	4.05E−01	8.71E−01	±2.6
740.0	4.08E−02	2.72E−02	8.56E−02	8.11E−02	4.06E−01	8.74E−01	±2.6
750.0	4.09E−02	2.73E−02	8.59E−02	8.14E−02	4.08E−01	8.76E−01	±2.6
760.0	4.11E−02	2.74E−02	8.62E−02	8.17E−02	4.09E−01	8.79E−01	±2.6
770.0	4.12E−02	2.75E−02	8.64E−02	8.20E−02	4.10E−01	8.82E−01	±2.6
780.0	4.14E−02	2.76E−02	8.67E−02	8.23E−02	4.11E−01	8.85E−01	±2.6
790.0	4.15E−02	2.77E−02	8.69E−02	8.26E−02	4.13E−01	8.87E−01	±2.7
800.0	4.17E−02	2.78E−02	8.72E−02	8.29E−02	4.14E−01	8.90E−01	±2.7
810.0	4.18E−02	2.79E−02	8.74E−02	8.31E−02	4.15E−01	8.93E−01	±2.7
820.0	4.19E−02	2.80E−02	8.76E−02	8.34E−02	4.16E−01	8.95E−01	±2.7
830.0	4.21E−02	2.80E−02	8.79E−02	8.37E−02	4.17E−01	8.98E−01	±2.7
840.0	4.22E−02	2.81E−02	8.81E−02	8.39E−02	4.18E−01	9.00E−01	±2.7
850.0	4.23E−02	2.82E−02	8.83E−02	8.42E−02	4.19E−01	9.02E−01	±2.7
860.0	4.24E−02	2.83E−02	8.85E−02	8.44E−02	4.20E−01	9.05E−01	±2.7
870.0	4.26E−02	2.84E−02	8.87E−02	8.46E−02	4.21E−01	9.07E−01	±2.7
880.0	4.27E−02	2.85E−02	8.90E−02	8.49E−02	4.22E−01	9.09E−01	±2.8
890.0	4.28E−02	2.85E−02	8.92E−02	8.51E−02	4.23E−01	9.11E−01	±2.8
900.0	4.29E−02	2.86E−02	8.94E−02	8.53E−02	4.24E−01	9.13E−01	±2.8
910.0	4.30E−02	2.87E−02	8.96E−02	8.55E−02	4.25E−01	9.16E−01	±2.8
920.0	4.31E−02	2.88E−02	8.98E−02	8.57E−02	4.26E−01	9.18E−01	±2.8
930.0	4.32E−02	2.88E−02	9.00E−02	8.59E−02	4.27E−01	9.20E−01	±2.8
940.0	4.33E−02	2.89E−02	9.02E−02	8.62E−02	4.28E−01	9.22E−01	±2.8
950.0	4.34E−02	2.90E−02	9.03E−02	8.64E−02	4.29E−01	9.24E−01	±2.8
960.0	4.35E−02	2.90E−02	9.05E−02	8.65E−02	4.30E−01	9.25E−01	±2.8
970.0	4.36E−02	2.91E−02	9.07E−02	8.67E−02	4.31E−01	9.27E−01	±2.8
980.0	4.37E−02	2.92E−02	9.09E−02	8.69E−02	4.31E−01	9.29E−01	±2.9
990.0	4.38E−02	2.92E−02	9.10E−02	8.71E−02	4.32E−01	9.31E−01	±2.9
1000.0	4.39E−02	2.93E−02	9.12E−02	8.73E−02	4.33E−01	9.33E−01	±2.9

We would like to remark that, when possible, the branching ratios for Higgs into four fermions, explicitly calculated and listed in Tables 15–24, should be preferred to the option of calculating

$$\mathrm{BR}(\mathrm{H}\to\mathrm{VV})\times\mathrm{BR}\bigl(\mathrm{V}\to\mathrm{f}\bar{\mathrm{f}}\bigr)\times\mathrm{BR}\bigl(\mathrm{V}\to\mathrm{f}\bar{\mathrm{f}}\bigr)\times(\text{statistical factor}) \tag{5}$$

where $\mathrm{V}=\mathrm{W},\mathrm{Z}$. The formula (5) is based on narrow Higgs-width approximation and supposes the W and Z gauge bosons to be on shell and thus neglects, in particular, all interferences between different four-fermion final states. This approximation is generally not accurate enough for Higgs masses below and near the WW/ZZ threshold. A study of the ratio of (5) over the PROPHECY4F prediction is reported and discussed in [80].

6 Comparison with previous calculations

The results presented in the previous sections can be compared to other estimates of the SM Higgs-boson BR uncertainties. An early evaluation can be found in [81], where basically the same method has been applied to the parametric uncertainties as the one used here, see Sect. 4.[5] Differences in the size of the uncertainties exist due to the improved experimental determinations in the quark masses. At the same time as [81] another work [82] appeared which studied the parametric uncertainties of the SM Higgs branching ratios, too. However, their treatment of the running $\overline{\mathrm{MS}}$ bottom and charm quark masses is not consistent with the extractions of their values from QCD sum rules.

Very recently an analysis of the uncertainties in the SM Higgs-boson BR calculations was published in [83].[6] That analysis differs from ours in various ways. Most importantly, [83] uses the PDG errors of m_b and m_c relative to their two-loop $\overline{\mathrm{MS}}$ value, which exhibits a significant sensitivity to α_s. In our analysis, on the other hand we used the 1-loop pole masses of the charm and bottom quarks which develop only a small dependence on the strong coupling α_s [33]. Moreover, we adopted smaller uncertainties, as discussed in Sect. 4, which are considered more realistic than the PDG values. We furthermore included the parametric uncertainty on m_t, which is relevant for large values of M_H. The values and uncertainties used in the two analyses are summarized in Table 25. Theory errors due to missing higher-order corrections, see Sect. 4, are included in our error analysis, but have been neglected in [83]. Owing to the larger set of uncertainties included, the analysis shown in Sect. 5 should be considered as more complete than the one presented in [83].

Table 25 Comparison of the uncertainties of the input parameter values used in this work and in [83]. An uncertainty due to the top mass was not included in [83]

Parameter	This work	Ref. [83]
$\alpha_\mathrm{s}(M_\mathrm{Z})$	0.119 ± 0.002	0.1171 ± 0.0014
$\overline{\mathrm{MS}}$ mass m_b [GeV]	4.16 ± 0.06	$4.19^{+0.18}_{-0.06}$
$\overline{\mathrm{MS}}$ mass m_c [GeV]	1.28 ± 0.03	$1.27^{+0.07}_{-0.09}$
pole mass m_t [GeV]	172.5 ± 2.5	173.1

The largest numerical differences between the uncertainties presented in Sect. 5 and in [83] originate from the different values of the quark-mass uncertainties, as shown in Table 25. A direct comparison shows that the (more appropriate) choice taken here, even taking into account the additional sources of uncertainties, leads to a reduction of the total uncertainty in $\mathrm{BR}(\mathrm{H}\to\mathrm{b}\bar{\mathrm{b}})$ by up to a factor of 3. For the channel $\mathrm{BR}(\mathrm{H}\to\mathrm{WW})$ a reduction of up to a factor of 4 can be observed. The $\mathrm{BR}(\mathrm{H}\to\mathrm{c}\bar{\mathrm{c}})$ uncertainties are effectively lowered by a factor of 2, while for $\mathrm{BR}(\mathrm{H}\to\mathrm{gg})$ the central values differ and slightly larger uncertainties are observed.[7] Especially the substantially reduced uncertainty in $\mathrm{BR}(\mathrm{H}\to\mathrm{WW})$ is crucial for the correct interpretation of Tevatron and LHC Higgs search data around $M_\mathrm{H}=2M_\mathrm{W}$ [7–10]. The substantially smaller uncertainty in $\mathrm{BR}(\mathrm{H}\to\mathrm{b}\bar{\mathrm{b}})$ will be important for the accurate interpretation of the LHC Higgs search data for $M_\mathrm{H}\leq135\,\mathrm{GeV}$.

7 Summary and conclusion

For the Higgs searches of the experimental collaborations at the LHC and Tevatron precise predictions of the cross sections and decay branching ratios are required. In this note we have presented updated numbers for the total Higgs-boson decay width and all experimentally relevant branching ratios. We have supplemented the predictions by uncertainties, which have been estimated based on missing higher orders in the theoretical calculations and from experimental uncertainties in the input parameters. Specifically we took variations of the masses of the charm, bottom and top quarks, as well as in the strong coupling constant into account. Uncertainties of other parameters are irrelevant. As most of the error sources are systematic or theoretical, the uncertainties should be considered as conservative upper bounds rather than Gaussian errors. Including an accurate estimate of these

[5] The theoretical uncertainties have been omitted in [81], while we did not include the parametric uncertainties due to the strange mass, since these only affect the $\mathrm{H}\to\mathrm{s}\bar{\mathrm{s}}$ decays but have a negligible impact on all other branching ratios.

[6] The uncertainties on the decays $\mathrm{H}\to\mathrm{t}\bar{\mathrm{t}}$ and $\mathrm{H}\to\mathrm{gg}$ have not been considered in detail in [83], because they cannot be measured at the LHC.

[7] The central values for $\mathrm{BR}(\mathrm{H}\to\mathrm{gg})$ in [83] differ due to a bug in their implementation of HDECAY.

uncertainties is crucial for a correct interpretation of LHC (and Tevatron) Higgs-boson searches.

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