

# Bibliographie de thèse

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### Références

- [1] M. AABOUD & coll. « Search for additional heavy neutral Higgs and gauge bosons in the ditau final state produced in  $36\text{ fb}^{-1}$  of  $pp$  collisions at  $\sqrt{s} = 13\text{ TeV}$  with the ATLAS detector ». *Journal of High Energy Physics* **2018.1** (jan. 2018). DOI : [10.1007/jhep01\(2018\)055](https://doi.org/10.1007/jhep01(2018)055). URL : [http://dx.doi.org/10.1007/JHEP01\(2018\)055](http://dx.doi.org/10.1007/JHEP01(2018)055).
- [2] G. Aad & coll. « Combined measurement of the Higgs boson mass in  $pp$  collisions at  $\sqrt{s} = 7$  and  $8\text{ TeV}$  with the ATLAS and CMS Experiments ». *Physical Review Letters* **114.19** (mai 2015). DOI : [10.1103/physrevlett.114.191803](https://doi.org/10.1103/physrevlett.114.191803). URL : <http://dx.doi.org/10.1103/PhysRevLett.114.191803>.
- [3] G. Aad & coll. « Measurements of the Higgs boson production and decay rates and constraints on its couplings from a combined ATLAS and CMS analysis of the LHC  $pp$  collision data at  $\sqrt{s} = 7$  and  $8\text{ TeV}$  ». *Journal of High Energy Physics* **08** (août 2016). DOI : [10.1007/jhep08\(2016\)045](https://doi.org/10.1007/jhep08(2016)045). URL : [http://dx.doi.org/10.1007/JHEP08\(2016\)045](http://dx.doi.org/10.1007/JHEP08(2016)045).
- [4] G. Aad & coll. : The ATLAS Collaboration. « Observation of a new particle in the search for the Standard Model Higgs boson with the ATLAS detector at the LHC ». *Physics Letters B* **716.1** (2012), p. 1-29. DOI : <https://doi.org/10.1016/j.physletb.2012.08.020>. URL : <http://www.sciencedirect.com/science/article/pii/S037026931200857X>.
- [5] G. Aad & coll. : The ATLAS Collaboration. « Search for the neutral Higgs bosons of the Minimal Supersymmetric Standard Model in  $pp$  collisions at  $\sqrt{s} = 7\text{ TeV}$  with the ATLAS detector ». *Journal of High Energy Physics* **02** (2013), p. 095. DOI : [10.1007/JHEP02\(2013\)095](https://doi.org/10.1007/JHEP02(2013)095). arXiv : [1211.6956](https://arxiv.org/abs/1211.6956) [hep-ex].
- [6] T. AALTONEN & coll. : The CDF Collaboration. « Search for Higgs bosons predicted in two-Higgs-doublet models via decays to tau lepton pairs in  $1.96\text{ TeV } p\bar{p}$  collisions ». *Physical Review Letters* **103** (2009), p. 201801. DOI : [10.1103/PhysRevLett.103.201801](https://doi.org/10.1103/PhysRevLett.103.201801). arXiv : [0906.1014](https://arxiv.org/abs/0906.1014) [hep-ex].
- [7] V. M. ABAZOV & coll. : The DØ Collaboration. « Search for Higgs bosons decaying to  $\tau\tau$  pairs in  $p\bar{p}$  collisions at  $\sqrt{s} = 1.96\text{ TeV}$  ». *Physics Letters B* **707** (2012), p. 323-329. DOI : [10.1016/j.physletb.2011.12.050](https://doi.org/10.1016/j.physletb.2011.12.050). arXiv : [1106.4555](https://arxiv.org/abs/1106.4555) [hep-ex].
- [8] S. ALIOLI & coll. « A general framework for implementing NLO calculations in shower Monte Carlo programs : the POWHEG BOX ». *Journal of High Energy Physics* **06** (2010), p. 043. DOI : [10.1007/jhep06\(2010\)043](https://doi.org/10.1007/jhep06(2010)043). arXiv : [1002.2581](https://arxiv.org/abs/1002.2581) [hep-ph].
- [9] J. ALLISON & coll. « Geant4 developments and applications ». *IEEE Transactions on Nuclear Science* **53.1** (fév. 2006), p. 270-278. DOI : [10.1109/tns.2006.869826](https://doi.org/10.1109/tns.2006.869826).
- [10] J. ALWALL & coll. « MadGraph 5 : Going Beyond ». *Journal of High Energy Physics* **06** (2011), p. 128. DOI : [10.1007/jhep06\(2011\)128](https://doi.org/10.1007/jhep06(2011)128). arXiv : [1106.0522](https://arxiv.org/abs/1106.0522) [hep-ph].
- [11] B. ANDERSSON & coll. « Parton fragmentation and string dynamics » (avr. 1983). URL : <http://cds.cern.ch/record/143980>.
- [12] J. ANDREJKOVIC & coll. « Data-driven background estimation of fake-tau backgrounds in di-tau final states with 2016 and 2017 data ». *CMS analysis Note* (oct. 2018).
- [13] G. ARNISON & coll. « Experimental observation of isolated large transverse energy electrons with associated missing energy at  $\sqrt{s} = 540\text{ GeV}$  ». *Physics Letters B* **122.1** (1983), p. 103-116. DOI : [https://doi.org/10.1016/0370-2693\(83\)91177-2](https://doi.org/10.1016/0370-2693(83)91177-2). URL : <http://www.sciencedirect.com/science/article/pii/0370269383911772>.

- [14] G. ARNISON & coll. « Experimental observation of lepton pairs of invariant mass around  $95\text{ GeV}\cdot c^{-2}$  at the CERN SPS collider ». *Physics Letters B* **126.5** (1983), p. 398-410. DOI : [https://doi.org/10.1016/0370-2693\(83\)90188-0](https://doi.org/10.1016/0370-2693(83)90188-0). URL : <http://www.sciencedirect.com/science/article/pii/0370269383901880>.
- [15] P. BAGNAIA & coll. « Evidence for  $Z^0 \rightarrow e^+e^-$  at the CERN  $pp$  collider ». *Physics Letters B* **129.1** (1983), p. 130-140. DOI : [https://doi.org/10.1016/0370-2693\(83\)90744-X](https://doi.org/10.1016/0370-2693(83)90744-X). URL : <http://www.sciencedirect.com/science/article/pii/037026938390744X>.
- [16] M. BANNER & coll. « Observation of single isolated electrons of high transverse momentum in events with missing transverse energy at the CERN  $pp$  collider ». *Physics Letters B* **122.5** (1983), p. 476-485. DOI : [https://doi.org/10.1016/0370-2693\(83\)91605-2](https://doi.org/10.1016/0370-2693(83)91605-2). URL : <http://www.sciencedirect.com/science/article/pii/0370269383916052>.
- [17] R. BARATE & coll. : OPAL, DELPHI, LEP Working Group for Higgs boson searches, ALEPH, L3. « Search for the standard model Higgs boson at LEP ». *Physics Letters B* **565** (2003), p. 61-75. DOI : [10.1016/S0370-2693\(03\)00614-2](https://doi.org/10.1016/S0370-2693(03)00614-2). arXiv : [hep-ex/0306033](https://arxiv.org/abs/hep-ex/0306033) [hep-ex].
- [18] C. BERNET. « Caractérisation des détecteurs Micromégas et mesure de la polarisation des gluons sur COMPASS ». Thèse de doct. Paris 7 - Denis Diderot, mai 2004. URL : <http://cds.cern.ch/record/1482660>.
- [19] C. BERNET. « Reconstruction du flux de particules et mise en évidence de la désintégration du boson de Higgs en paire de  $\tau$  avec CMS ». Thèse d'HDR (2017). URL : <https://drive.google.com/open?id=0B3nnTYQibadjVkvVUi03cGRiYlk>.
- [20] N. CABIBBO. « Unitary Symmetry and Leptonic Decays ». *Physical Review Letters* **10** (12 juin 1963), p. 531-533. DOI : [10.1103/PhysRevLett.10.531](https://doi.org/10.1103/PhysRevLett.10.531). URL : <https://link.aps.org/doi/10.1103/PhysRevLett.10.531>.
- [21] N. CABIBBO. « Unitary Symmetry and Nonleptonic Decays ». *Physical Review Letters* **12** (2 jan. 1964), p. 62-63. DOI : [10.1103/PhysRevLett.12.62](https://doi.org/10.1103/PhysRevLett.12.62). URL : <https://link.aps.org/doi/10.1103/PhysRevLett.12.62>.
- [22] M. CACCIARI, G. P. SALAM & G. SOYEZ. « FastJet user manual ». *European Physical Journal C* **72** (nov. 2012), p. 1896. DOI : [10.1140/epjc/s10052-012-1896-2](https://doi.org/10.1140/epjc/s10052-012-1896-2). arXiv : [1111.6097](https://arxiv.org/abs/1111.6097) [hep-ph].
- [23] M. CACCIARI, G. P. SALAM & G. SOYEZ. « The Anti- $k_T$  jet clustering algorithm ». *Journal of High Energy Physics* **04** (2008), p. 063. DOI : [10.1088/1126-6708/2008/04/063](https://doi.org/10.1088/1126-6708/2008/04/063). arXiv : [0802.1189](https://arxiv.org/abs/0802.1189) [hep-ph].
- [24] CERN. *The World Wide Web Project*. 1989. URL : <http://info.cern.ch/hypertext/WWW/TheProject.html>.
- [25] S. CHATRCHYAN & coll. : The CMS Collaboration. « Evidence for the 125 GeV Higgs boson decaying to a pair of  $\tau$  leptons ». *Journal of High Energy Physics* **05** (20 jan. 2014), p. 104. DOI : [10.1007/JHEP05\(2014\)104](https://doi.org/10.1007/JHEP05(2014)104). arXiv : [1401.5041v2](https://arxiv.org/abs/1401.5041v2) [hep-ex].
- [26] S. CHATRCHYAN & coll. : The CMS Collaboration. « Observation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC ». *Physics Letters B* **716.1** (2012), p. 30-61. DOI : <https://doi.org/10.1016/j.physletb.2012.08.021>. URL : <http://www.sciencedirect.com/science/article/pii/S0370269312008581>.
- [27] S. CHATRCHYAN & coll. : The CMS collaboration. « Observation of a new boson with mass near 125 GeV in  $pp$  collisions at  $\sqrt{s} = 7$  and 8 TeV ». *Journal of High Energy Physics* **06** (juin 2013). DOI : [10.1007/jhep06\(2013\)081](https://doi.org/10.1007/jhep06(2013)081).
- [28] S. CHATRCHYAN & coll. : The CMS Collaboration. « Search for a Higgs boson decaying into a  $b$ -quark pair and produced in association with  $b$  quarks in proton-proton collisions at 7 TeV ». *Physics Letters B* **722** (2013), p. 207-232. DOI : [10.1016/j.physletb.2013.04.017](https://doi.org/10.1016/j.physletb.2013.04.017). arXiv : [1302.2892](https://arxiv.org/abs/1302.2892) [hep-ex].
- [29] S. CHATRCHYAN & coll. : The CMS Collaboration. « Search for neutral Higgs bosons decaying to tau pairs in  $pp$  collisions at  $\sqrt{s} = 7$  TeV ». *Physics Letters B* **713** (2012), p. 68-90. DOI : [10.1016/j.physletb.2012.05.028](https://doi.org/10.1016/j.physletb.2012.05.028). arXiv : [1202.4083](https://arxiv.org/abs/1202.4083) [hep-ex].

- [30] N. D. CHRISTENSEN, T. HAN & S. SU. « MSSM Higgs Bosons at The LHC ». *Physical Review D* **85** (2012), p. 115018. DOI : [10.1103/PhysRevD.85.115018](https://doi.org/10.1103/PhysRevD.85.115018). arXiv : [1203.3207 \[hep-ph\]](https://arxiv.org/abs/1203.3207).
- [31] D. CLOWE & coll. « A Direct Empirical Proof of the Existence of Dark Matter ». *The Astrophysical Journal* **648.2** (août 2006). DOI : [10.1086/508162](https://doi.org/10.1086/508162). URL : <http://dx.doi.org/10.1086/508162>.
- [32] Dask : Scalable analytics in Python. URL : <https://dask.org/>.
- [33] A. DJOUADI & coll. « The post-Higgs MSSM scenario : Habemus MSSM? » *The European Physical Journal C* **73.12** (19 juil. 2013), p. 2650. DOI : [10.1140/epjc/s10052-013-2650-0](https://doi.org/10.1140/epjc/s10052-013-2650-0). arXiv : [1307.5205v1 \[hep-ph\]](https://arxiv.org/abs/1307.5205v1).
- [34] S. DÜRR & coll. « Ab Initio Determination of Light Hadron Masses ». *Science* **322**.5905 (nov. 2008), p. 1224-1227. DOI : [10.1126/science.1163233](https://doi.org/10.1126/science.1163233).
- [35] F. ENGLERT & R. BROUT. « Broken symmetry and the mass of gauge vector mesons ». *Physical Review Letters* **13.9** (9 août 1964), p. 321-323. DOI : [10.1103/PhysRevLett.13.321](https://doi.org/10.1103/PhysRevLett.13.321). URL : <https://link.aps.org/doi/10.1103/PhysRevLett.13.321>.
- [36] G. S. GURALNIK, C. R. HAGEN & T. W. B. KIBBLE. « Global Conservation Laws and Massless Particles ». *Physical Review Letters* **13.20** (20 nov. 1964), p. 585-587. DOI : [10.1103/PhysRevLett.13.585](https://doi.org/10.1103/PhysRevLett.13.585). URL : <https://link.aps.org/doi/10.1103/PhysRevLett.13.585>.
- [37] P. W. HIGGS. « Broken symmetries and the masses of gauge bosons ». *Physics Letters* **13.16** (oct. 1964), p. 132-133. DOI : [10.1103/physrevlett.13.508](https://doi.org/10.1103/physrevlett.13.508).
- [38] P. W. HIGGS. « Broken symmetries, massless particles and gauge fields ». *Physics Letters* **12.2** (sept. 1964), p. 132-133. DOI : [10.1016/0031-9163\(64\)91136-9](https://doi.org/10.1016/0031-9163(64)91136-9). URL : <https://cds.cern.ch/record/641590>.
- [39] V. KHACHATRYAN & coll. « Search for neutral MSSM Higgs bosons decaying to a pair of tau leptons in  $pp$  collisions ». *Journal of High Energy Physics* **10** (oct. 2014). DOI : [10.1007/jhep10\(2014\)160](https://doi.org/10.1007/jhep10(2014)160). URL : [http://dx.doi.org/10.1007/JHEP10\(2014\)160](http://dx.doi.org/10.1007/JHEP10(2014)160).
- [40] V. KHACHATRYAN & coll. : The CMS Collaboration. « Event generator tunes obtained from underlying event and multiparton scattering measurements ». *European Physical Journal C* **76.3** (2016), p. 155. DOI : [10.1140/epjc/s10052-016-3988-x](https://doi.org/10.1140/epjc/s10052-016-3988-x). arXiv : [1512.00815 \[hep-ex\]](https://arxiv.org/abs/1512.00815).
- [41] V. KHACHATRYAN & coll. : The CMS Collaboration. « Reconstruction and identification of tau lepton decays to hadrons and tau neutrino at CMS ». *Journal of Instrumentation* **11.1** (2016), P01019. DOI : [10.1088/1748-0221/11/01/P01019](https://doi.org/10.1088/1748-0221/11/01/P01019). arXiv : [1510.07488 \[physics.ins-det\]](https://arxiv.org/abs/1510.07488).
- [42] V. KHACHATRYAN & coll. : The CMS Collaboration. « Search for neutral MSSM Higgs bosons decaying into a pair of bottom quarks ». *Journal of High Energy Physics* **11** (2015), p. 071. DOI : [10.1007/JHEP11\(2015\)071](https://doi.org/10.1007/JHEP11(2015)071). arXiv : [1506.08329 \[hep-ex\]](https://arxiv.org/abs/1506.08329).
- [43] V. KHACHATRYAN & coll. : The CMS Collaboration. « Search for neutral MSSM Higgs bosons decaying to  $\mu^+\mu^-$  in  $pp$  collisions at  $\sqrt{s} = 7$  and 8 TeV ». *Physics Letters B* **752** (2016), p. 221-246. DOI : [10.1016/j.physletb.2015.11.042](https://doi.org/10.1016/j.physletb.2015.11.042). arXiv : [1508.01437 \[hep-ex\]](https://arxiv.org/abs/1508.01437).
- [44] M. KOBAYASHI & T. MASKAWA. « CP-Violation in the Renormalizable Theory of Weak Interaction ». *Progress of Theoretical Physics* **49.2** (fév. 1973), p. 652-657. DOI : [10.1143/PTP.49.652](https://doi.org/10.1143/PTP.49.652). eprint : <https://academic.oup.com/ptp/article-pdf/49/2/652/5257692/49-2-652.pdf>. URL : <https://doi.org/10.1143/PTP.49.652>.
- [45] A. J. LARKOSKI. « An Unorthodox Introduction to QCD » (2017). arXiv : [1709.06195 \[hep-ph\]](https://arxiv.org/abs/1709.06195).
- [46] K. OLIVE & coll. : Particle Data Group. « Review of Particle Physics ». *Chinese Physics C* **38** (2014). DOI : [10.1088/1674-1137/38/9/090001](https://doi.org/10.1088/1674-1137/38/9/090001).
- [47] C. PATRIGNANI & coll. : Particle Data Group. « Review of Particle Physics ». *Chinese Physics C* **40** (2016). DOI : [10.1088/1674-1137/40/10/100001](https://doi.org/10.1088/1674-1137/40/10/100001).
- [48] The ATLAS Collaboration, The CMS Collaboration, The LHC Higgs Combination Group. *Procedure for the LHC Higgs boson search combination in Summer 2011*. Rapp. tech. CMS-NOTE-2011-005. ATL-PHYS-PUB-2011-11. Geneva : CERN, août 2011. URL : <https://cds.cern.ch/record/1379837>.

- [49] G. P. SALAM. *Elements of QCD for hadron colliders*. 2010. arXiv : [1011.5131](https://arxiv.org/pdf/1011.5131) [hep-ph]. URL : <https://arxiv.org/pdf/1011.5131.pdf>.
- [50] S. SCHAEEL & coll. : DELPHI, OPAL, ALEPH, LEP Working Group for Higgs Boson Searches, L3. « Search for neutral MSSM Higgs bosons at LEP ». *European Physical Journal* **C47** (2006), p. 547-587. DOI : [10.1140/epjc/s2006-02569-7](https://doi.org/10.1140/epjc/s2006-02569-7). arXiv : [hep-ex/0602042](https://arxiv.org/abs/hep-ex/0602042) [hep-ex].
- [51] ATLAS Collaboration. « Search for heavy Higgs bosons decaying into two tau leptons with the ATLAS detector using  $pp$  collisions at  $\sqrt{s} = 13$  TeV » (2020). arXiv : [2002.12223](https://arxiv.org/abs/2002.12223) [hep-ex].
- [52] A. SIRUNYAN & coll. « Particle-flow reconstruction and global event description with the CMS detector ». *Journal of Instrumentation* **12.10** (juin 2017), P10003. DOI : [10.1088/1748-0221/12/10/P10003](https://doi.org/10.1088/1748-0221/12/10/P10003). arXiv : [1706.04965v2](https://arxiv.org/abs/1706.04965v2) [physics.ins-det]. URL : <http://stacks.iop.org/1748-0221/12/i=10/a=P10003>.
- [53] A. SIRUNYAN & coll. : The CMS Collaboration. « Search for additional neutral MSSM Higgs bosons in the di-tau final state in  $pp$  collisions at  $\sqrt{s} = 13$  TeV ». *Journal of High Energy Physics* **09.007** (sept. 2018). DOI : [10.1007/JHEP09\(2018\)007](https://doi.org/10.1007/JHEP09(2018)007).
- [54] A. SIRUNYAN & coll. : The CMS collaboration. « An embedding technique to determine  $\tau\tau$  backgrounds in proton-proton collision data ». *Journal of Instrumentation* **14.06** (juin 2019). DOI : [10.1088/1748-0221/14/06/p06032](https://doi.org/10.1088/1748-0221/14/06/p06032).
- [55] T. SJÖSTRAND & coll. « An Introduction to PYTHIA 8.2 ». *Computer Physics Communications* **191** (2015), p. 159-177. DOI : [10.1016/j.cpc.2015.01.024](https://doi.org/10.1016/j.cpc.2015.01.024). arXiv : [1410.3012](https://arxiv.org/abs/1410.3012) [hep-ph].
- [56] M. TANABASHI & coll. : Particle Data Group. « Review of Particle Physics ». *Phys. Rev.* **D98** (août 2018). DOI : [10.1103/PhysRevD.98.030001](https://doi.org/10.1103/PhysRevD.98.030001).
- [57] The ALICE Collaboration. « The ALICE experiment at the CERN LHC. A Large Ion Collider Experiment ». *Journal of Instrumentation* **3.S08002** (2008). DOI : [10.1088/1748-0221/3/08/S08002](https://doi.org/10.1088/1748-0221/3/08/S08002). URL : <http://cds.cern.ch/record/1129812>.
- [58] The ATLAS Collaboration. « The ATLAS Experiment at the CERN Large Hadron Collider ». *Journal of Instrumentation* **3.S08003** (2008). DOI : [10.1088/1748-0221/3/08/S08003](https://doi.org/10.1088/1748-0221/3/08/S08003). URL : <http://cds.cern.ch/record/1129811>.
- [59] The CMS Collaboration. « The CMS experiment at the CERN LHC. The Compact Muon Solenoid experiment ». *Journal of Instrumentation* **3.S08004** (2008). DOI : [10.1088/1748-0221/3/08/S08004](https://doi.org/10.1088/1748-0221/3/08/S08004). URL : <http://cds.cern.ch/record/1129810>.
- [60] The LHCb Collaboration. « The LHCb Detector at the LHC ». *Journal of Instrumentation* **3.S08005** (2008). DOI : [10.1088/1748-0221/3/08/S08005](https://doi.org/10.1088/1748-0221/3/08/S08005). URL : <http://cds.cern.ch/record/1129809>.
- [61] J.-C. WINTER, F. KRAUSS & G. SOFF. « A modified cluster-hadronisation model ». *The European Physical Journal C* **36.3** (août 2004), p. 381-395. DOI : [10.1140/epjc/s2004-01960-8](https://doi.org/10.1140/epjc/s2004-01960-8). URL : <http://dx.doi.org/10.1140/epjc/s2004-01960-8>.