Bibliographie de thèse

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Références

- [1] G. AAD & coll. « Combined measurement of the Higgs boson mass in pp collisions at $\sqrt{s}=7$ and 8 TeV with the ATLAS and CMS Experiments ». Physical Review Letters 114.19 (mai 2015). DOI: 10.1103/physrevlett.114.191803. URL: http://dx.doi.org/10.1103/PhysRevLett.114.191803.
- [2] 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 TeV ». *Journal of High Energy Physics* **08** (août 2016). DOI: 10.1007/jhep08(2016) 045. URL: http://dx.doi.org/10.1007/JHEP08(2016)045.
- [3] M. Abadi & coll. TensorFlow: Large-scale machine learning on heterogeneous distributed systems. Software available from tensorflow.org. 2015. URL: https://www.tensorflow.org/.
- [4] P. A. R. Ade & coll. « Planck 2013 results. I. Overview of products and scientific results ». *Astronomy & Astrophysics* **571** (oct. 2014). DOI: 10.1051/0004-6361/201321529. URL: http://dx.doi.org/10.1051/0004-6361/201321529.
- [5] 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. arXiv: 1002.2581 [hep-ph].
- [6] 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.
- [7] J. Alwall & coll. « MadGraph 5 : Going Beyond ». *Journal of High Energy Physics* **06** (2011), p. 128. doi: 10.1007/jhep06(2011)128. arXiv: 1106.0522 [hep-ph].
- [8] B. Andersson & coll. « Parton fragmentation and string dynamics » (avr. 1983). url: http://cds.cern.ch/record/143980.
- [9] 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).
- [10] G. Arnison & coll. « Experimental observation of isolated large transverse energy electrons with associated missing energy at $\sqrt{s}=540\,\mathrm{GeV}$ ». Physics Letters B122.1 (1983), p. 103-116. DOI: https://doi.org/10.1016/0370-2693(83)91177-2. URL: http://www.sciencedirect.com/science/article/pii/0370269383911772.
- [11] 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* **B126**.5 (1983), p. 398-410. Doi: https://doi.org/10.1016/0370-2693(83)90188-0. URL: http://www.sciencedirect.com/science/article/pii/0370269383901880.
- [12] G. ARNISON & coll. « Further evidence for charged intermediate vector bosons at the SPS collider ». Physics Letters B129.3 (1983), p. 273-282. DOI: https://doi.org/10.1016/0370-2693(83)90860-2. URL: http://www.sciencedirect.com/science/article/pii/0370269383908602.
- [13] P. BAGNAIA & coll. « Evidence for $Z^0 \rightarrow e^+e^-$ at the CERN pp collider ». Physics Letters **B129.1** (1983), p. 130-140. DOI: https://doi.org/10.1016/0370-2693(83)90744-X. URL: http://www.sciencedirect.com/science/article/pii/037026938390744X.
- [14] 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 B122.5 (1983), p. 476-485. DOI: https://doi.org/10.1016/0370-2693(83)91605-2. URL: http://www.sciencedirect.com/science/article/pii/0370269383916052.

- [15] P. BÄRTSCHI & coll. « Reconstruction of τ lepton pair invariant mass using an artificial neural network ». Nuclear Instruments and Methods in Physics Research A929 (2019), p. 29-33. DOI: https://doi.org/10.1016/j.nima.2019.03.029. URL: http://www.sciencedirect.com/science/article/pii/S0168900219303377.
- [16] G. Bellini, I. Bigi & P. Dornan. « Lifetimes of charm and beauty hadrons ». *Physics Reports* **289**.1 (1997), p. 1-155. doi: https://doi.org/10.1016/S0370-1573(97)00005-7. URL: http://www.sciencedirect.com/science/article/pii/S0370157397000057.
- [17] J. Bellm & coll. « Herwig 7.0/Herwig++ 3.0 release note ». European Physical Journal C76.196 (avr. 2016). DOI: 10.1140/epjc/s10052-016-4018-8.
- [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 τ avec CMS ». Thèse d'HDR (2017). url : https://drive.google.com/open?id=0B3nnTYQibadjVkVvUi03cGRiYlk.
- [20] L. BIANCHINI & coll. « Reconstruction of the Higgs mass in $H \to \tau\tau$ Events by Dynamical Likelihood techniques ». *Journal of Physics : Conference Series* **513**.2 (juin 2014), p. 022035. DOI: 10.1088/1742-6596/513/2/022035. URL: https://doi.org/10.1088%2F1742-6596%2F513%2F2%2F022035.
- [21] P. Bolzoni & coll. « Vector boson fusion at next-to-next-to-leading order in QCD: Standard model Higgs boson and beyond ». *Physical Review* **D85** (3 fév. 2012). DOI: 10.1103/PhysRevD. 85.035002. URL: https://link.aps.org/doi/10.1103/PhysRevD.85.035002.
- [22] B. Bullock, K. Hagiwara & A. Martin. « Tau polarization and its correlations as a probe of new physics ». *Nuclear Physics* B395.3 (1993), p. 499-533. DOI: https://doi.org/10.1016/0550-3213(93)90045-Q. URL: http://www.sciencedirect.com/science/article/pii/055032139390045Q.
- [23] N. Cabibbo. « Unitary Symmetry and Leptonic Decays ». *Physical Review Letters* **10** (12 juin 1963), p. 531-533. doi: 10.1103/PhysRevLett.10.531. url: https://link.aps.org/doi/10.1103/PhysRevLett.10.531.
- [24] N. Cabibbo. « Unitary Symmetry and Nonleptonic Decays ». *Physical Review Letters* 12 (2 jan. 1964), p. 62-63. doi: 10.1103/PhysRevLett.12.62. url: https://link.aps.org/doi/10.1103/PhysRevLett.12.62.
- [25] M. CACCIARI & G. P. SALAM. « Dispelling the N^3 myth for the k_T jet-finder ». *Physics Letters* **B641**.1 (sept. 2006), p. 57-61. DOI: 10.1016/j.physletb.2006.08.037. URL: http://dx.doi.org/10.1016/j.physletb.2006.08.037.
- [26] M. CACCIARI & G. P. SALAM. « Pileup subtraction using jet areas ». *Physics Letters* **B659** (jan. 2008), p. 119-126. doi: 10.1016/j.physletb.2007.09.077. URL: http://dx.doi.org/10.1016/j.physletb.2007.09.077.
- [27] M. CACCIARI, G. P. SALAM & G. SOYEZ. « FASTJET user manual ». European Physical Journal C72 (nov. 2012), p. 1896. DOI: 10.1140/epjc/s10052-012-1896-2. arXiv: 1111.6097 [hep-ph].
- [28] M. CACCIARI, G. P. SALAM & G. SOYEZ. «The Anti- $k_{\rm T}$ jet clustering algorithm ». *Journal of High Energy Physics* **04** (avr. 2008), p. 63. doi: 10.1088/1126-6708/2008/04/063. arXiv: 0802.1189 [hep-ph].
- [29] M. CARENA & coll. « MSSM Higgs boson searches at the LHC: benchmark scenarios after the discovery of a Higgs-like particle ». European Physical Journal C73.9 (sept. 2013). DOI: 10.1140/epjc/s10052-013-2552-1. URL: http://dx.doi.org/10.1140/epjc/s10052-013-2552-1.
- [30] CERN. The World Wide Web Project. 1989. URL: http://info.cern.ch/hypertext/WWW/TheProject.html.

- [31] F. CHOLLET & coll. KERAS. https://keras.io. 2015.
- [32] N. D. Christensen, T. Han & S. Su. « MSSM Higgs Bosons at The LHC ». *Physical Review* **D85** (2012), p. 115018. doi: 10.1103/PhysRevD.85.115018. arXiv: 1203.3207 [hep-ph].
- [33] D. CLOWE & coll. « A Direct Empirical Proof of the Existence of Dark Matter ». *Astrophysical Journal* **648**.2 (août 2006). DOI: 10.1086/508162. URL: http://dx.doi.org/10.1086/508162.
- [34] CMS Collaboration. « Performance of photon reconstruction and identification with the CMS detector in proton-proton collisions at $\sqrt{s}=8\,\text{TeV}$ ». *Journal of Instrumentation* **10** (fév. 2015). DOI: 10.1088/1748-0221/10/08/P08010. URL: https://cds.cern.ch/record/1988093.
- [35] CMS Collaboration. « Measurement of differential cross sections for inclusive isolated-photon and photon+jets production in proton-proton collisions at $\sqrt{s}=13\,\text{TeV}$ ». European Physical Journal C79.20 (juil. 2018). DOI: 10.1140/epjc/s10052-018-6482-9. URL: http://cds.cern.ch/record/2628267.
- [36] Dask: Scalable analytics in Python. URL: https://dask.org/.
- [37] A. DAVIDSON & K. C. WALI. « Family mass hierarchy from universal seesaw mechanism ». *Physical Review Letters* **60** (18 mai 1988), p. 1813-1816. DOI: 10.1103/PhysRevLett.60.1813. URL: https://link.aps.org/doi/10.1103/PhysRevLett.60.1813.
- [38] S. Dawson, A. DJOUADI & M. SPIRA. « QCD Corrections to Supersymmetric Higgs Boson Production: The Role of Squark Loops ». *Physical Review Letters* 77.1 (juil. 1996), p. 16-19. DOI: 10.1103/physrevlett.77.16. URL: http://dx.doi.org/10.1103/PhysRevLett.77.16.
- [39] 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. arXiv: hep-ex/0602042 [hep-ex].
- [40] A. DJOUADI & coll. « The post-Higgs MSSM scenario : Habemus MSSM? » European Physical Journal C 73.12 (19 juil. 2013), p. 2650. DOI: 10.1140/epjc/s10052-013-2650-0. arXiv: 1307.5205v1 [hep-ph].
- [41] S. Dürr & coll. « Ab Initio Determination of Light Hadron Masses ». *Science* **322**.5905 (nov. 2008), p. 1224-1227. doi: 10.1126/science.1163233.
- [42] 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. URL: https://link.aps.org/doi/10.1103/PhysRevLett.13.321.
- [43] J. de FAVEREAU & coll. « DELPHES 3 : a modular framework for fast simulation of a generic collider experiment ». *Journal of High Energy Physics* **2** (fév. 2014). DOI : 10.1007/jhep02(2014) 057. URL : http://dx.doi.org/10.1007/JHEP02(2014)057.
- [44] M. Gell-Mann, P. Ramond & R. Slansky. « Complex Spinors and Unified Theories » (1979). URL: http://cds.cern.ch/record/133618.
- [45] S. L. Glashow. « Partial-symmetries of weak interactions ». *Nuclear Physics* **22**.4 (1961), p. 579-588. DOI: https://doi.org/10.1016/0029-5582(61)90469-2.
- [46] D. Guest & coll. « Jet flavor classification in high-energy physics with deep neural networks ». *Physical Review* **D94**.11 (déc. 2016). DOI: 10.1103/physrevd.94.112002. URL: http://dx.doi.org/10.1103/PhysRevD.94.112002.
- [47] J. F. Gunion & coll. Errata for "The Higgs Hunter's Guide". Rapp. tech. hep-ph/9302272. Fév. 1993. url: https://cds.cern.ch/record/559892.
- [48] J. F. Gunion & coll. *The Higgs hunter's guide*. T. **80**. Upton, NY: Brookhaven Nat. Lab., 1989. URL: https://cds.cern.ch/record/425736.
- [49] 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. url: https://link.aps.org/doi/10.1103/PhysRevLett.13.585.

- [50] 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.
- [51] 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. URL: https://cds.cern.ch/record/641590.
- [52] 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. 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.
- [53] A. J. LARKOSKI. « An Unorthodox Introduction to QCD » (2017). arXiv: 1709.06195 [hep-ph].
- [54] LHC Higgs Cross Section Working Group. « Differential Distributions ». *Handbook of LHC Higgs Cross Sections*. **2**. CERN Yellow Reports : Monographs. Geneva : CERN, 2012. DOI: 10.5170/CERN-2012-002. URL: https://cds.cern.ch/record/1416519.
- [55] LHC Higgs Cross Section Working Group. « Inclusive Observables ». *Handbook of LHC Higgs Cross Sections*. 1. CERN Yellow Reports : Monographs. Geneva : CERN, 2011. DOI: 10.5170/CERN-2011-002. URL: https://cds.cern.ch/record/1318996.
- [56] LHC Higgs Cross Section Working Group. « Deciphering the Nature of the Higgs Sector ». Handbook of LHC Higgs Cross Sections. 4. CERN Yellow Reports: Monographs. Geneva: CERN, oct. 2016. DOI: 10.23731/CYRM-2017-002. URL: http://cds.cern.ch/record/2227475.
- [57] LHC Higgs Cross Section Working Group. « Higgs Properties ». *Handbook of LHC Higgs Cross Sections*. **3**. CERN Yellow Reports : Monographs. Geneva : CERN, 2013. DOI : 10.5170/CERN-2013-004. URL : https://cds.cern.ch/record/1559921.
- [58] Z. Maki, M. Nakagawa & S. Sakata. « Remarks on the Unified Model· of Elementary Particles ». *Progress of Theoretical Physics* 28.5 (nov. 1962), p. 870-880. DOI: 10.1143/PTP.28.870. eprint: https://academic.oup.com/ptp/article-pdf/28/5/870/5258750/28-5-870.pdf. URL: https://doi.org/10.1143/PTP.28.870.
- [59] S. P. Martin. « A Supersymmetry primer ». Advanced Series on Directions in High Energy Physics (juil. 1998), p. 1-98. doi: 10.1142/9789812839657_0001. URL: http://dx.doi.org/10.1142/9789812839657_0001.
- [60] S. Mele. « The Measurement of the Number of Light Neutrino Species at LEP ». Advanced Series on Directions in High Energy Physics 23 (2015), p. 89-106. DOI: 10.1142/9789814644150_0004. URL: http://cds.cern.ch/record/2103251.
- [61] A. Mertens. « New features in Delphes 3 ». Journal of Physics: Conference Series 608.1 (2015). Sous la dir. de L. Fiala, M. Lokajicek & N. Tumova. doi: 10.1088/1742-6596/608/1/012045.
- [62] R. N. Mohapatra & G. Senjanović. « Neutrino Mass and Spontaneous Parity Nonconservation ». *Physical Review Letters* **44** (14 avr. 1980), p. 912-915. doi: 10.1103/PhysRevLett.44.912. URL: https://link.aps.org/doi/10.1103/PhysRevLett.44.912.
- [63] R. N. Mohapatra & G. Senjanović. « Neutrino masses and mixings in gauge models with spontaneous parity violation ». *Physical Review* **D23** (1 jan. 1981), p. 165-180. doi: 10.1103/PhysRevD.23.165. URL: https://link.aps.org/doi/10.1103/PhysRevD.23.165.
- [64] Y. NAGASHIMA. Beyond the Standard Model of Elementary Particle Physics. Weinheim: Wiley-VCH, juin 2014. URL: http://cds.cern.ch/record/1620277.
- [65] Y. NAGASHIMA. « Foundations of the Standard Model ». *Elementary Particle Physics.* **2**. Weinheim: Wiley-VCH, 2013.
- [66] Y. NAGASHIMA. « Quantum Field Theory and Particles ». *Elementary Particle Physics*. **1**. Weinheim: Wiley-VCH, 2010.

- [67] OPAL, DELPHI, LEP Working Group for Higgs boson searches, ALEPH, L3. « Search for the standard model Higgs boson at LEP ». *Physics Letters* **B565** (2003), p. 61-75. DOI: 10.1016/S0370-2693(03)00614-2. arXiv: hep-ex/0306033 [hep-ex].
- [68] Particle Data Group. « Review of Particle Physics ». *Chinese Physics* **C38** (2014). DOI: 10.1088/1674-1137/38/9/090001.
- [69] Particle Data Group. « Review of Particle Physics ». *Chinese Physics* **C40** (2016). DOI: 10.1088/1674-1137/40/10/100001.
- [70] Particle Data Group. « Review of Particle Physics ». *Physical Review* **D98** (août 2018). DOI: 10.1103/PhysRevD.98.030001.
- [71] S. RAYCHAUDHURI & D. P. ROY. « Charged Higgs boson search at the Fermilab Tevatron upgrade using τ polarization ». *Physical Review* **D52**.3 (3 août 1995), p. 1556-1564. DOI: 10.1103/PhysRevD.52.1556. URL: https://link.aps.org/doi/10.1103/PhysRevD.52.1556.
- [72] G. RIDOLFI, G. ROSS & F. ZWIRNER. « Supersymmetry ». Large Hadron Collider Workshop Proceedings. II. CERN. Geneva: CERN, oct. 1990, p. 606-683.
- [73] G. P. SALAM. Elements of QCD for hadron colliders. 2010. arXiv: 1011.5131 [hep-ph]. URL: https://arxiv.org/pdf/1011.5131.pdf.
- [74] G. P. SALAM. «Towards jetography ». European Physical Journal C67.3-4 (mai 2010), p. 637-686. DOI: 10.1140/epjc/s10052-010-1314-6. URL: http://dx.doi.org/10.1140/epjc/s10052-010-1314-6.
- [75] G. P. SALAM & G. SOYEZ. « A practical seedless infrared-safe cone jet algorithm ». *Journal of High Energy Physics* **05** (mai 2007), p. 86. doi: 10.1088/1126-6708/2007/05/086. URL: http://dx.doi.org/10.1088/1126-6708/2007/05/086.
- [76] W. Sarle. « Neural Networks and Statistical Models ». 1994.
- [77] J. Schechter & J. W. F. Valle. « Neutrino masses in $SU(2) \times U(1)$ theories ». Physical Review D22 (9 nov. 1980), p. 2227-2235. DOI: 10.1103/PhysRevD.22.2227. URL: https://link.aps.org/doi/10.1103/PhysRevD.22.2227.
- [78] T. SJÖSTRAND, S. MRENNA & P. SKANDS. « PYTHIA 6.4 physics and manual ». *Journal of High Energy Physics* **05** (mai 2006). DOI: 10.1088/1126-6708/2006/05/026. URL: http://dx.doi.org/10.1088/1126-6708/2006/05/026.
- [79] 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. arXiv: 1410.3012 [hep-ph].
- [80] 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. URL: http://cds.cern.ch/record/1129812.
- [81] The ATLAS Collaboration. « 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. URL: http://dx.doi.org/10.1007/JHEP01(2018)055.
- [82] 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* **B716.1** (2012), p. 1-29. DOI: https://doi.org/10.1016/j.physletb.2012.08.020. URL: http://www.sciencedirect.com/science/article/pii/S037026931200857X.
- [83] 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. arXiv: 1211.6956 [hep-ex].
- [84] The ATLAS Collaboration. « Search for heavy Higgs bosons decaying into two tau leptons with the ATLAS detector using pp collisions at $\sqrt{s} = 13 \,\text{TeV}$ » (2020). arXiv : 2002 . 12223 [hep-ex].

- [85] 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. URL: http://cds.cern.ch/record/1129811.
- [86] 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.
- [87] The CDF Collaboration. « Search for Higgs bosons predicted in two-Higgs-doublet models via decays to tau lepton pairs in 1,96 TeV $p\bar{p}$ collisions ». *Physical Review Letters* **103** (2009), p. 201801. DOI: 10.1103/PhysRevLett.103.201801. arXiv: 0906.1014 [hep-ex].
- [88] The CDF Collaboration. « Observation of top quark production in $p\bar{p}$ collisions with the collider detector at Fermilab ». *Physical Review Letters* **74**.14 (avr. 1995), p. 2626-2631. DOI: 10.1103/physrevlett.74.2626. URL: http://dx.doi.org/10.1103/PhysRevLett.74.2626.
- [89] The CMS Collaboration. « Evidence for the 125 GeV Higgs boson decaying to a pair of τ leptons ». *Journal of High Energy Physics* **05** (20 jan. 2014), p. 104. DOI: 10.1007/JHEP05(2014) 104. arXiv: 1401.5041v2 [hep-ex].
- [90] The CMS Collaboration. « Observation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC ». *Physics Letters* **B716**.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.
- [91] 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.
- [92] 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* **B722** (2013), p. 207-232. DOI: 10.1016/j.physletb.2013.04.017. arXiv: 1302.2892 [hep-ex].
- [93] The CMS Collaboration. « Search for neutral Higgs bosons decaying to tau pairs in pp collisions at $\sqrt{s}=7\,\text{TeV}$ ». *Physics Letters* **B713** (2012), p. 68-90. DOI: 10.1016/j.physletb. 2012.05.028. arXiv: 1202.4083 [hep-ex].
- [94] The CMS Collaboration. « First results from the CMS SiPM-based hadronic endcap calorimeter ». Geneva, août 2018. DOI: 10.1088/1742-6596/1162/1/012009. URL: https://cds.cern.ch/record/2636475.
- [95] The CMS Collaboration. « Determination of jet energy calibration and transverse momentum resolution in CMS ». *Journal of Instrumentation* **6.**11 (nov. 2011). DOI: 10.1088/1748-0221/6/11/p11002. URL: http://dx.doi.org/10.1088/1748-0221/6/11/p11002.
- [96] The CMS Collaboration. « Identification of b-quark jets with the CMS experiment ». *Journal of Instrumentation* **8.04** (avr. 2013). DOI: 10.1088/1748-0221/8/04/p04013. URL: http://dx.doi.org/10.1088/1748-0221/8/04/P04013.
- [97] The CMS Collaboration. « Jet energy scale and resolution performance with 13 TeV data collected by CMS in 2016 » (juin 2018). URL: http://cds.cern.ch/record/2622157.
- [98] The CMS Collaboration. « Jet energy scale and resolution performance with 13 TeV data collected by CMS in 2016-2018 » (avr. 2020). URL: https://cds.cern.ch/record/2715872.
- [99] The CMS Collaboration. « 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. URL: http://dx.doi.org/10.1007/JHEP10(2014)160.
- [100] The CMS Collaboration. « Jet energy scale and resolution in the CMS experiment in pp collisions at 8 TeV ». Journal of Instrumentation 12.02 (fév. 2017). DOI: 10.1088/1748-0221/12/02/p02014. URL: https://doi.org/10.1088%2F1748-0221%2F12%2F02%2Fp02014.

- [101] The CMS Collaboration. « Event generator tunes obtained from underlying event and multiparton scattering measurements ». *European Physical Journal* **C76**.3 (2016), p. 155. DOI: 10.1140/epjc/s10052-016-3988-x. arXiv: 1512.00815 [hep-ex].
- [102] 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. arXiv: 1510.07488 [physics.ins-det].
- [103] 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. arXiv: 1506.08329 [hep-ex].
- [104] 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* **B752** (2016), p. 221-246. DOI: 10.1016/j. physletb.2015.11.042. arXiv: 1508.01437 [hep-ex].
- [105] The CMS Collaboration. « CMS set of posters (En & Fr) updated 2019 » (mar. 2020). URL: https://cds.cern.ch/record/2712624.
- [106] The CMS Collaboration. *Performance of quark/gluon discrimination in* 8 TeV *pp data*. Rapp. tech. CMS-PAS-JME-13-002. Geneva: CERN, 2013. URL: http://cds.cern.ch/record/1599732.
- [107] The CMS Collaboration. « « ZOOOM »: Drawings of the CMS detector with SketchUp » (juin 2012). URL: https://cds.cern.ch/record/2629326.
- [108] The CMS Collaboration. « 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. arXiv: 1706.04965v2 [physics.ins-det]. URL: http://stacks.iop.org/1748-0221/12/i=10/a=P10003.
- [109] The CMS Collaboration. « Search for additional neutral MSSM Higgs bosons in the di-tau final state in pp collisions at $\sqrt{s} = 13 \,\text{TeV}$ ». *Journal of High Energy Physics* **09**.007 (sept. 2018). DOI: 10.1007/JHEP09(2018)007.
- [110] The CMS Collaboration. « Identification of heavy-flavour jets with the CMS detector in *pp* collisions at 13 TeV ». *Journal of Instrumentation* **13**.05 (mai 2018), P05011-P05011. DOI: 10.1088/1748-0221/13/05/p05011. URL: http://dx.doi.org/10.1088/1748-0221/13/05/P05011.
- [111] 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.
- [112] The CMS Collaboration. « Extraction and validation of a new set of CMS PYTHIA 8 tunes from underlying-event measurements ». *European Physical Journal* **C80** (mar. 2019). DOI: 10.1140/epjc/s10052-019-7499-4. URL: https://cds.cern.ch/record/2669320.
- [113] 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. URL: http://cds.cern.ch/record/1129810.
- [114] The DØ Collaboration. «Observation of the top quark». Physical Review Letters 74.14 (avr. 1995), p. 2632-2637. DOI: 10.1103/physrevlett.74.2632. URL: http://dx.doi.org/10.1103/PhysRevLett.74.2632.
- [115] 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 B707 (2012), p. 323-329. DOI: 10.1016/j.physletb.2011.12. 050. arXiv: 1106.4555 [hep-ex].
- [116] The DØ Collaboration. « Measurement of the B^0_s lifetime in the exclusive decay channel $B^0_s \to J/\Psi \phi$ ». *Physical Review Letters* **94** (2005).
- [117] The LHCb Collaboration. « The LHCb Detector at the LHC ». Journal of Instrumentation 3.S08005 (2008). DOI: 10.1088/1748-0221/3/08/S08005. URL: http://cds.cern.ch/record/1129809.

- [118] The SNO Collaboration. « Direct Evidence for Neutrino Flavor Transformation from Neutral-Current Interactions in the Sudbury Neutrino Observatory ». *Physical Review Letters* **89** (1 juin 2002). DOI: 10.1103/PhysRevLett.89.011301. URL: https://link.aps.org/doi/10.1103/PhysRevLett.89.011301.
- [119] The Super-Kamiokande Collaboration. « Evidence for oscillation of atmospheric neutrinos ». Physical Review Letters 81 (8 août 1998), p. 1562-1567. DOI: 10.1103/PhysRevLett.81.1562. URL: https://link.aps.org/doi/10.1103/PhysRevLett.81.1562.
- [120] S. Weinberg. « A model of leptons ». *Physical Review Letters* **19** (21 nov. 1967), p. 1264-1266. doi: 10.1103/PhysRevLett.19.1264. url: https://link.aps.org/doi/10.1103/PhysRevLett.19.1264.
- [121] J.-C. WINTER, F. KRAUSS & G. SOFF. « A modified cluster-hadronisation model ». European Physical Journal C36.3 (août 2004), p. 381-395. DOI: 10.1140/epjc/s2004-01960-8. URL: http://dx.doi.org/10.1140/epjc/s2004-01960-8.