

# Publications

As of February 2026, my **h-index is ca. 165**. The following list contains **only my most important publications**. For a **full list** of my publications, see Google Scholar:  
<https://scholar.google.com/citations?user=ZgO3g3QAAAAJ>.

## Artificial Intelligence and Deep Learning

### Journal publications, conference papers, proceedings, others

- [1] D. Barco, M. Stadelmann, M. Oswald, I. Herzig, L. Lichtensteiger, P. Paysan, I. Peterlik, M. Walczak, B. Menze, and F.-P. Schilling, "Mindi-3d: Iterative deep learning in 3d for sparse-view cone beam computed tomography," *IEEE Access*, vol. 14, pp. 6438–6449, 2026. doi:10.1109/ACCESS.2026.3652627
- [2] P. Denzel, M. Weiss, E. Gavagnin, and F.-P. Schilling, "Optimization of deep learning models for radio galaxy classification," arXiv preprint 2601.04773, 2026. [Online]. Available: <https://arxiv.org/abs/2601.04773>
- [3] P. Denzel, Y. Billeter, F.-P. Schilling, and E. Gavagnin, "Galactic Alchemy: Deep Learning Map-to-Map Translation in Hydrodynamical Simulations," arXiv preprint 2510.23768, 2025. [Online]. Available: <https://arxiv.org/abs/2510.23768>
- [4] C. Frischknecht-Gruber, P. Denzel, O. Forster, Y. Billeter, A. Iranfar, M. Repetto, M. Reif, F.-P. Schilling, J. Weng, and R. Chavarriaga, "Assessment tool for trustworthy AI systems: operational workflows for compliance assessment with regulatory requirements," in *AI Days @ HES-SO, Geneva and Lausanne, Switzerland*, 2025. [Online]. Available: <https://digitalcollection.zhaw.ch/handle/11475/32422>
- [5] C. Frischknecht-Gruber, P. Denzel, M. Reif, Y. Billeter, S. Brunner, O. Forster, F.-P. Schilling, J. Weng, and R. Chavarriaga, "AI Assessment in Practice: Implementing a Certification Scheme for AI Trustworthiness," in *Symposium on Scaling AI Assessments (SAIA 2024)*, R. Görge, E. Haedecke, M. Poretschkin, and A. Schmitz, Eds., vol. 126. Dagstuhl, Germany: Schloss Dagstuhl – Leibniz-Zentrum für Informatik, 2025, pp. 15:1–15:18. doi:10.4230/OASIcs.SAIA.2024.15
- [6] P. Denzel, S. Brunner, Y. Billeter, O. Forster, C. Frischknecht-Gruber, M. Reif, F.-P. Schilling, J. Weng, R. Chavarriaga, A. Amini, M. Repetto, and A. Iranfar, "Towards the Certification of AI-based Systems," in *SDS 2024: 11th IEEE Swiss Conference on Data Science*, 2024, pp. 84–91. doi:10.1109/SDS60720.2024.00020
- [7] Y. Billeter, P. Denzel, R. Chavarriaga, O. Forster, F.-P. Schilling, S. Brunner, C. Frischknecht-Gruber, M. Reif, and J. Weng, "MLOps as Enabler of Trustworthy AI," in *SDS 2024: 11th IEEE Swiss Conference on Data Science*, 2024, pp. 37–40. doi:10.1109/SDS60720.2024.00013
- [8] Y. Billeter, S. Brunner, R. Chavarriaga, P. Denzel, O. Forster, C. M.-L. Frischknecht-Gruber, M. Reif, F.-P. Schilling, J. Weng, A. Iranfar, and M. Repetto, "Certification Scheme For Artificial Intelligence Based Systems," in *ESREL 2024: Advances in Reliability, Safety and Security*, K. Kolowrocki and E. Dabrowska, Eds., 2024. doi:10.21256/zhaw-30549. ISBN 978-83-68136-03-6
- [9] M. Amirian, D. Barco, I. Herzig, and F.-P. Schilling, "Artifact Reduction in 3D and 4D Cone-beam Computed Tomography Images with Deep Learning - A Review," *IEEE Access*, vol. 12, pp. 10281–10295, 2024. doi:10.1109/ACCESS.2024.3353195. arXiv:2403.18565
- [10] P. Denzel, S. Brunner, P.-P. Luley, C. Frischknecht-Gruber, M. U. Reif, F.-P. Schilling, A. Amini, M. Repetto, A. Iranfar, J. Weng, and R. Chavarriaga, "A framework for assessing and certifying explainability of health-oriented AI systems," in *Explainable AI in Medicine Workshop, Lugano, Switzerland, November 2023*, 2023. [Online]. Available: <https://digitalcollection.zhaw.ch/handle/11475/29258>
- [11] P. Denzel, F.-P. Schilling, and E. Gavagnin, "Map-to-map translation for SKA mock observations and cosmological simulations," in *Hammers and Nails 2023 - Swiss Edition, Ascona, Switzerland, October 2023*, 2023. doi:10.21256/zhaw-29047

- [12] M. Amirian, J. A. Montoya-Zegarra, I. Herzig, P. E. Hotz, L. Lichtensteiger, M. Morf, A. Züst, P. Paysan, I. Peterlik, S. Scheib, R. M. Füchslin, T. Stadelmann, and F.-P. Schilling, "Mitigation of motion-induced artefacts in Cone Beam Computed Tomography using Deep Convolutional Neural Networks," *Med. Phys.*, vol. 50, no. 10, pp. 6228–6242, 2023. doi:10.1002/mp.16405
- [13] J. Weng, M. Reif, R. Chavarriaga, and F.-P. Schilling, "certAlnty: a certification scheme for AI systems," in *Poster presented at ZHAW Datalab Symposium, Winterthur, Switzerland*, 2023. doi:10.21256/zhaw-27261
- [14] P. Denzel, E. Gavagnin, and F.-P. Schilling, "Deep learning the SKA: the Square Kilometer Array project," in *Poster presented at ZHAW Datalab Symposium, Winterthur, Switzerland*, 2023. doi:10.21256/zhaw-27219
- [15] F.-P. Schilling, D. Flumini, R. M. Füchslin, E. Gavagnin, A. Geller, S. Quarteroni, and T. Stadelmann, "Foundations of Data Science: A Comprehensive Overview Formed at the 1st International Symposium on the Science of Data Science," *Archives of Data Science, Series A*, vol. 8, no. 2, pp. 1 – 20, 2022. doi:10.5445/IR/1000146422
- [16] I. Herzig, P. Paysan, S. Scheib, F.-P. Schilling, J. Montoya, M. Amirian, T. Stadelmann, P. Eggenberger, R. M. Füchslin, and L. Lichtensteiger, "Deep Learning-Based Simultaneous Multi-Phase Deformable Image Registration of Sparse 4D-CBCT," in *Proceedings of the American Association of Physics in Medicine Annual Meeting (AAPM 2022)*, 2022. doi:10.21256/zhaw-25181 Washington, DC, USA, July 2022.
- [17] T. Stadelmann and F.-P. Schilling, Eds., *Advances in Deep Neural Networks for Visual Pattern Recognition*. MDPI, 2022, Special issue of *J. Imaging* (ISSN 2313-433X). [Online]. Available: [https://www.mdpi.com/journal/jimaging/special\\_issues/deep\\_neural\\_network](https://www.mdpi.com/journal/jimaging/special_issues/deep_neural_network)
- [18] N. Simmler, P. Sager, P. Andermatt, R. Chavarriaga, F.-P. Schilling, M. Rosenthal, and T. Stadelmann, "A survey of un-, weakly-, and semi-supervised learning methods for noisy, missing and partial labels in industrial vision applications," in *8th Swiss Conference on Data Science (SDS)*, 2021, pp. 26–31. doi:10.1109/SDS51136.2021.00012
- [19] F.-P. Schilling and T. Stadelmann, Eds., *Artificial Neural Networks in Pattern Recognition*. MDPI, 2020, Special issue of *Computers* (ISSN 2073-431X). [Online]. Available: [https://www.mdpi.com/journal/computers/special\\_issues/ANNPR2020](https://www.mdpi.com/journal/computers/special_issues/ANNPR2020)
- [20] L. Tuggener, M. Amirian, F. Benites, P. von Däniken, P. Gupta, F.-P. Schilling, and T. Stadelmann, "Design Patterns for Resource-Constrained Automated Deep-Learning Methods," *AI*, vol. 1, no. 4, pp. 510–538, 2020. doi:10.3390/ai1040031
- [21] F.-P. Schilling and T. Stadelmann, Eds., *Artificial neural networks in pattern recognition : Proceedings of the 9th IAPR TC3 workshop, ANNPR 2020, Winterthur, Switzerland, September 2-4, 2020*, vol. Lecture Notes in Computer Science, no. 12294. Springer, 2020. doi:10.1007/978-3-030-58309-5
- [22] M. Amirian, L. Tuggener, R. Chavarriaga, Y. P. Satyawan, F.-P. Schilling, F. Schwenker, and T. Stadelmann, "Two to trust: Automl for safe modelling and interpretable deep learning for robustness," *Proc. of the 1st TAILOR Workshop on Trustworthy AI at ECAI 2020*, 2020. doi:10.21256/zhaw-22061
- [23] M. Amirian, K. Rombach, L. Tuggener, F.-P. Schilling, and T. Stadelmann, "Efficient deep cnns for cross-modal automated computer vision under time and space constraints," *Proc. of ECML-PKDD 2019, Würzburg*, 2019. doi:10.21256/zhaw-18357
- [24] F.-P. Schilling and T. Stadelmann, "Deep Learning in medizinischer Diagnostik und Qualitäts-kontrolle," *Netzwoche, Special Issue: IT for Health*, 2019. doi:10.21256/zhaw-20163

## Particle Physics

### Journal Publications

- [25] S. Chatrchyan *et al.*, "Measurement of the mass difference between top quark and antiquark in pp collisions at  $\sqrt{s} = 8$  TeV," *Phys. Lett. B*, vol. 770, pp. 50–71, 2017. doi:10.1016/j.physletb.2017.04.028. arXiv:1610.09551
- [26] S. Chatrchyan *et al.*, "Evidence for the direct decay of the 125 GeV Higgs boson to fermions," *Nature Phys.*, vol. 10, p. 557, 2014. doi:10.1038/nphys3005. arXiv:1401.6527

- [27] S. Chatrchyan *et al.*, "Search for the standard model Higgs boson produced in association with a W or a Z boson and decaying to bottom quarks," *Phys. Rev.*, vol. D89, p. 012003, 2014. doi:10.1103/PhysRevD.89.012003. arXiv:1310.3687
- [28] S. Chatrchyan *et al.*, "Observation of a new boson with mass near 125 GeV in pp collisions at  $\sqrt{s} = 7$  and 8 TeV," *JHEP*, vol. 1306, p. 081, 2013. doi:10.1007/JHEP06(2013)081. arXiv:1303.4571
- [29] S. Chatrchyan *et al.*, "A New Boson with a Mass of 125 GeV Observed with the CMS Experiment at the Large Hadron Collider," *Science*, vol. 338, p. 1569, 2012. doi:10.1126/science.1230816
- [30] S. Chatrchyan *et al.*, "Observation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC," *Phys.Lett.*, vol. B716, pp. 30–61, 2012. doi:10.1016/j.physletb.2012.08.021. arXiv:1207.7235
- [31] F.-P. Schilling, "Top Quark Physics at the LHC: A Review of the First Two Years," *Int. J. Mod. Phys.*, vol. A27, no. 17, p. 1230016, 2012. doi:10.1142/s0217751x12300165. arXiv:1206.4484
- [32] S. Chatrchyan *et al.*, "Measurement of the single-top-quark  $t$ -channel cross section in  $pp$  collisions at  $\sqrt{s} = 7$  TeV," *JHEP*, vol. 1212, p. 035, 2012. doi:10.1007/JHEP12(2012)035. arXiv:1209.4533
- [33] S. Chatrchyan *et al.*, "Inclusive and differential measurements of the  $t\bar{t}$  charge asymmetry in proton-proton collisions at 7 TeV," *Phys.Lett.*, vol. B717, pp. 129–150, 2012. doi:10.1016/j.physletb.2012.09.028. arXiv:1207.0065
- [34] S. Chatrchyan *et al.*, "Measurement of the charge asymmetry in top-quark pair production in proton-proton collisions at  $\text{sqrt}(s) = 7$  TeV," *Phys.Lett.*, vol. B709, pp. 28–49, 2012. doi:10.1016/j.physletb.2012.01.078. arXiv:1112.5100
- [35] S. Chatrchyan *et al.*, "Measurement of the  $t\bar{t}$  Production Cross Section in  $pp$  Collisions at 7 TeV in Lepton + Jets Events Using b-quark Jet Identification," *Phys.Rev.*, vol. D84, p. 092004, 2011. doi:10.1103/PhysRevD.84.092004. arXiv:1108.3773
- [36] S. Chatrchyan *et al.*, "Measurement of the t-channel single top quark production cross section in  $pp$  collisions at  $\text{sqrt}(s) = 7$  TeV," *Phys.Rev.Lett.*, vol. 107, p. 091802, 2011. doi:10.1103/PhysRevLett.107.091802. arXiv:1106.3052
- [37] S. Chatrchyan *et al.*, "Measurement of the  $t\bar{t}$  production cross section and the top quark mass in the dilepton channel in  $pp$  collisions at  $\text{sqrt}(s) = 7$  TeV," *JHEP*, vol. 07, p. 049, 2011. doi:10.1007/JHEP07(2011)049. arXiv:1105.5661
- [38] S. Chatrchyan *et al.*, "Measurement of the Top-antitop Production Cross Section in  $pp$  Collisions at  $\text{sqrt}(s)=7$  TeV using the Kinematic Properties of Events with Leptons and Jets," *Eur. Phys. J.*, vol. C71, p. 1721, 2011. doi:10.1140/epjc/s10052-011-1721-3. arXiv:1106.0902
- [39] V. Khachatryan *et al.*, "First Measurement of the Cross Section for Top-Quark Pair Production in Proton-Proton Collisions at  $\sqrt{s} = 7$  TeV," *Phys.Lett.*, vol. B695, pp. 424–443, 2011. doi:10.1016/j.physletb.2010.11.058. arXiv:1010.5994
- [40] S. Chatrchyan *et al.*, "Alignment of the CMS Silicon Tracker during Commissioning with Cosmic Rays," *JINST*, vol. 5, p. T03009, 2010. doi:10.1088/1748-0221/5/03/T03009. arXiv:0910.2505
- [41] S. Chatrchyan *et al.*, "Alignment of the CMS Silicon Strip Tracker during standalone Commissioning," *JINST*, vol. 4, p. T07001, 2009. doi:10.1088/1748-0221/4/07/T07001. arXiv:0904.1220
- [42] W. Adam *et al.*, "The CMS tracker operation and performance at the Magnet Test and Cosmic Challenge," *JINST*, vol. 3, p. P07006, 2008. doi:10.1088/1748-0221/3/07/P07006
- [43] R. Adolphi *et al.*, "The CMS experiment at the CERN LHC," *JINST*, vol. 3, p. S08004, 2008. doi:10.1088/1748-0221/3/08/S08004
- [44] G. Bayatian *et al.*, "CMS technical design report, volume II: Physics performance," *J. Phys.*, vol. G34, pp. 995–1579, 2007. doi:10.1088/0954-3899/34/6/S01
- [45] V. Karimaki, T. Lampen, and F.-P. Schilling, "Track-based alignment of composite detector structures," *IEEE Trans. Nucl. Sci.*, vol. 53, pp. 3830–3833, 2006. doi:10.1109/TNS.2006.884384

- [46] A. Aktas *et al.*, “Measurement and QCD analysis of the diffractive deep- inelastic scattering cross-section at HERA,” *Eur. Phys. J.*, vol. C48, pp. 715–748, 2006. doi:10.1140/epjc/s10052-006-0035-3. arXiv:hep-ex/0606004
- [47] A. Aktas *et al.*, “Diffractive deep-inelastic scattering with a leading proton at HERA,” *Eur. Phys. J.*, vol. C48, pp. 749–766, 2006. doi:10.1140/epjc/s10052-006-0046-0. arXiv:hep-ex/0606003
- [48] C. Adloff *et al.*, “Measurement of inclusive jet cross-sections in photoproduction at HERA,” *Eur. Phys. J.*, vol. C29, pp. 497–513, 2003. doi:10.1140/epjc/s2003-01262-9. arXiv:hep-ex/0302034
- [49] A. Aktas *et al.*, “Diffractive photoproduction of  $J/\psi$  mesons with large momentum transfer at HERA,” *Phys. Lett.*, vol. B568, pp. 205–218, 2003. doi:10.1016/j.physletb.2003.06.056. arXiv:hep-ex/0306013
- [50] C. Adloff *et al.*, “Search for odderon-induced contributions to exclusive pi0 photoproduction at HERA,” *Phys. Lett.*, vol. B544, pp. 35–43, 2002. doi:10.1016/S0370-2693(02)02479-6. arXiv:hep-ex/0206073
- [51] C. Adloff *et al.*, “A measurement of the t dependence of the helicity structure of diffractive rho meson electroproduction at HERA,” *Phys. Lett.*, vol. B539, pp. 25–39, 2002. doi:10.1016/S0370-2693(02)02035-X. arXiv:hep-ex/0203022
- [52] C. Adloff *et al.*, “Energy flow and rapidity gaps between jets in photoproduction at HERA,” *Eur. Phys. J.*, vol. C24, pp. 517–527, 2002. doi:10.1007/s10052-002-0988-9. arXiv:hep-ex/0203011
- [53] C. Adloff *et al.*, “Diffractive jet production in deep inelastic  $e^+p$  collisions at HERA,” *Eur. Phys. J.*, vol. C20, pp. 29–49, 2001. doi:10.1007/s100520100634. arXiv:hep-ex/0012051

## Proceedings

- [54] F.-P. Schilling, “Measurements of the Top Quark Pair-Production Cross Section,” in *23rd Hadron Collider Physics Symposium, Kyoto, Japan*, vol. 49, 2013, p. 04001. doi:10.1051/epjconf/20134904001. arXiv:1302.4642
- [55] F.-P. Schilling, “Top Quark Studies with the first CMS Data,” in *21st Hadron Collider Physics Symposium, Toronto, Canada*, 2010. doi:10.48550/arXiv.1010.2393. arXiv:1010.2393
- [56] J. Campbell, J. Huston, P. Nadolsky, F.-P. Schilling, P. Uwer, and J. Weng, “Common Ntuple Output format for NLO Calculations,” in *9th Workshop on Physics at TeV Colliders, Les Houches, France*, 2009. doi:10.48550/arXiv.1003.1241. arXiv:1003.1241
- [57] F.-P. Schilling, “QCD and Top Quark Physics at the LHC,” in *4th Intl. Conference on Physics at the LHC, Split, Croatia*, vol. LHC2008, 2008, p. 047. doi:10.22323/1.055.0047. arXiv:0901.4840
- [58] F.-P. Schilling, “Early Electroweak and Top Quark Physics with CMS,” in *15th Intl. Workshop on Deep-Inelastic Scattering and Related Subjects (DIS2007), Munich, Germany*, 2007, pp. 447–450. doi:10.3204/proc07-01/61. arXiv:0706.2940
- [59] F.-P. Schilling, “Track Based Alignment in CMS,” in *1st LHC Detector Alignment Workshop, Geneva, Switzerland*, 2007. doi:10.5170/CERN-2007-004.181. arXiv:0709.3368
- [60] P. Arce, O. Buchmuller, F. P. Schilling, I. Vila, and M. Weber, “Introduction to the CMS contribution,” in *1st LHC Detector Alignment Workshop, Geneva, Switzerland*, 2007. doi:10.5170/CERN-2007-004.173
- [61] O. Buchmuller and F. P. Schilling, “Status and commissioning of the CMS experiment,” in *BEAUTY 2006, Oxford, UK*, vol. 170, 2007, pp. 264–272. doi:10.1016/j.nuclphysbps.2007.05.029. arXiv:hep-ex/0701019
- [62] F.-P. Schilling, “Track reconstruction and alignment with the CMS silicon tracker,” in *33rd Intl. Conference on High Energy Physics (ICHEP 2006), Moscow, Russia*, 2006. doi:10.48550/arXiv.physics/0610005. arXiv:physics/0610005
- [63] L. Barbone *et al.*, “Impact of CMS silicon tracker misalignment on track and vertex reconstruction,” in *Workshop on Tracking in High Multiplicity Environments (TIME 2005), Zurich, Switzerland*, vol. A566, 2006, pp. 45–49. doi:10.1016/j.nima.2006.05.041

- [64] F.-P. Schilling, "Diffractive DIS cross sections and parton distributions," in *33rd Intl. Conference on High Energy Physics (ICHEP 2006), Moscow, Russia*, 2006. doi:10.1142/9789812790873\_0113. arXiv:hep-ex/0608064
- [65] F.-P. Schilling, "Prospects for measuring  $B_s \rightarrow \mu\mu$  with the CMS detector," in *10th Intl. Conference on B Physics at Hadron Machines (BEAUTY 2005), Assisi, Italy*, vol. 156, 2006, pp. 114–118. doi:10.1016/j.nuclphysbps.2006.03.062. arXiv:hep-ex/0509009
- [66] F.-P. Schilling, "DPDF: A Library for Diffractive Parton Distributions," in *HERA and the LHC: A Workshop on the Implications of HERA for LHC Physics, CERN and DESY, 2004–2005*, 2005, p. 511. doi:10.48550/arXiv.hep-ph/0601013. arXiv:hep-ph/0601013
- [67] P. R. Newman and F.-P. Schilling, "HERA diffractive structure function data and parton distributions," in *HERA and the LHC: A Workshop on the Implications of HERA for LHC Physics, CERN and DESY, 2004–2005*, 2005, p. 488. doi:10.48550/arXiv.hep-ex/0511032. arXiv:hep-ex/0511032
- [68] P. Laycock, P. Newman, and F. P. Schilling, "HERA diffractive structure function data and parton distributions," in *13th Intl. Workshop on Deep Inelastic Scattering (DIS 2005), Madison, USA*, W. H. Smith and S. R. Dasu, Eds., vol. 792, no. 1, 2005, pp. 466–469. doi:10.1063/1.2122079
- [69] F.-P. Schilling, "Diffractive final states with the H1 detector at HERA," in *Intl. Europhysics Conference on High-Energy Physics (EPS-HEP 2003), Aachen, Germany*, vol. C33, 2004, pp. s530–s532. doi:10.1140/epjcd/s2004-03-1680-9. arXiv:hep-ex/0310016
- [70] A. Bruni, M. Diehl, and F.-P. Schilling, "Summary of working group B: Diffraction and vector mesons," in *12th Intl. Workshop on Deep Inelastic Scattering (DIS 2004), Slovakia (DESY-04-201)*, 2004. doi:10.48550/arXiv.hep-ph/0410106. arXiv:hep-ph/0410106
- [71] F.-P. Schilling, "Inclusive diffraction at HERA," in *31st Intl. Conference on High Energy Physics (ICHEP 2002), Amsterdam, The Netherlands*, vol. 117, 2003, pp. 403–407. doi:10.1016/S0920-5632(03)90578-0. arXiv:hep-ex/0210027
- [72] F.-P. Schilling, "NLO QCD fit to H1 diffractive DIS data," in *10th Intl. Workshop on Deep Inelastic Scattering (DIS 2002), Cracow, Poland*, vol. B33, 2002, pp. 3419–3424. arXiv:hep-ex/0209001. [Online]. Available: <https://www.actaphys.uj.edu.pl/R/33/11/3419>
- [73] F.-P. Schilling, "Diffractive jet production in DIS: Testing QCD factorisation," in *9th Intl. Workshop on Deep Inelastic Scattering (DIS 2001), Bologna, Italy*, vol. 21, 2002, pp. 830–835. doi:10.1142/9789812778345\_0131. arXiv:hep-ex/0107002
- [74] F.-P. Schilling, "Hard Diffraction: Results from H1 at HERA," in *Riken BNL Research Center Workshop (Vol. 34): High Energy QCD - Beyond the Pomeron, Upton, New York, USA*, BNL-52641, 2001. doi:10.2172/788891
- [75] F.-P. Schilling, "Diffractive dijet and 3-jet electroproduction at HERA," in *8th Intl. Workshop on Deep Inelastic Scattering (DIS 2000), Liverpool, UK*, 2000, pp. 543–546. doi:10.48550/arXiv.hep-ex/0012065. arXiv:hep-ex/0012065
- [76] F.-P. Schilling, "Diffractive dijet production at HERA," in *7th Intl. Workshop on Deep Inelastic Scattering (DIS 1999), Zeuthen, Germany*, vol. 79, 1999, pp. 287–289. doi:10.1016/S0920-5632(99)00700-8

## Conference Papers and Technical Reports

- [77] CMS Collaboration, "Search for the standard model Higgs boson produced in association with W or Z bosons, and decaying to bottom quarks," Tech. Rep. CMS PAS HIG-13-012, 2013. [Online]. Available: <https://cds.cern.ch/record/1546801>
- [78] CMS Collaboration, "Search for the standard model Higgs boson produced in association with W or Z bosons, and decaying to bottom quarks," Tech. Rep. CMS PAS HIG-12-044, 2012. [Online]. Available: <http://cdsweb.cern.ch/record/1493618>
- [79] CMS Collaboration, "Combination of top pair production cross sections in  $pp$  collisions at 7 TeV and comparisons with theory," Tech. Rep. CMS PAS TOP-11-001, 2011. [Online]. Available: <http://cdsweb.cern.ch/record/1336491>

- [80] CMS Collaboration, "Selection of Top-Like Events in the Dilepton and Lepton-plus-Jets Channels in Early 7 TeV Data," Tech. Rep. CMS PAS TOP-10-004, 2010. [Online]. Available: <http://cdsweb.cern.ch/record/1280706>
- [81] CMS Collaboration, "Algorithms for b Jet Identification in CMS," Tech. Rep. CMS PAS BTV-09-001, 2009. [Online]. Available: <http://cdsweb.cern.ch/record/1194494>
- [82] CMS Collaboration, "Plans for an early Measurement of the  $t\bar{t}$  Cross Section in the Electron-plus-Jets Channel at  $\sqrt{s} = 10$  TeV," Tech. Rep. CMS PAS TOP-09-004, 2009. [Online]. Available: <http://cdsweb.cern.ch/record/1194520>
- [83] CMS Collaboration, "Prospects for the first Measurement of the  $t\bar{t}$  Cross Section in the Muon-plus-Jets Channel at  $\sqrt{s} = 10$  TeV with the CMS Detector," Tech. Rep. CMS PAS TOP-09-003, 2009. [Online]. Available: <http://cdsweb.cern.ch/record/1194519>
- [84] CMS Collaboration, "Observability of Top Quark Pair Production in the Semileptonic Muon Channel with the first 10/pb of CMS Data," Tech. Rep. CMS PAS TOP-08-005, 2008. [Online]. Available: <http://cdsweb.cern.ch/record/1198690>
- [85] CMS Collaboration, "Measurement of the Top Quark Pair Production Cross Section with L=100/pb in Dileptonic Final States using the CMS Detector," Tech. Rep. CMS PAS TOP-08-002, 2008. [Online]. Available: <http://cdsweb.cern.ch/record/1198688>
- [86] T. Lampen, N. De Filippis, F.-P. Schilling, A. Schmidt, and M. Weber, "Comprehensive set of misalignment scenarios for the CMS tracker," Tech. Rep. CMS Note 2008/029, 2008. [Online]. Available: <http://cdsweb.cern.ch/record/1166326>
- [87] CMS Collaboration, "Impact of Tracker Misalignment on the CMS b-Tagging Performance," Tech. Rep. CMS PAS BTV-07-003, 2008. [Online]. Available: <http://cdsweb.cern.ch/record/1198691>
- [88] CMS Collaboration, "CMS Computing, Software and Analysis Challenge in 2006 (CSA06) Summary," Tech. Rep. CMS Note 2007/006, 2007. [Online]. Available: <http://cdsweb.cern.ch/record/1027030>
- [89] M. Albrow *et al.*, "Prospects for diffractive and forward physics at the LHC," Tech. Rep. CERN LHCC 2006-039, 2006. [Online]. Available: <http://cds.cern.ch/record/1005180>
- [90] G. L. Bayatian *et al.*, "CMS physics: Technical design report, Vol. 1: Software and Detector Performance," Tech. Rep. CERN LHCC 2006-001, 2006. [Online]. Available: <http://cdsweb.cern.ch/record/922757>
- [91] P. Vanlaer *et al.*, "Impact of CMS silicon tracker misalignment on track and vertex reconstruction," Tech. Rep. CMS Note 2006/029, 2006. [Online]. Available: <http://cdsweb.cern.ch/record/927378>
- [92] J. D'Hondt *et al.*, "Fitting of event topologies with external kinematic constraints in CMS," Tech. Rep. CMS Note 2006/023, 2006. [Online]. Available: <http://cdsweb.cern.ch/record/926540>
- [93] V. Karimaki, T. Lampen, and F.-P. Schilling, "The HIP algorithm for track based alignment and its application to the CMS pixel detector," Tech. Rep. CMS Note 2006/018, 2006. [Online]. Available: <http://cdsweb.cern.ch/record/926537>
- [94] H1 Collaboration, "Diffractive D\* Meson Production in Deep Inelastic ep Collisions at HERA," Tech. Rep. Paper 6-0178 subm. to ICHEP 2004, Beijing, China, 2004. [Online]. Available: <http://www-h1.desy.de/h1/www/publications/htmlsplit/H1prelim-04-111.long.html>
- [95] H1 Collaboration, "Dijets in Diffractive Photoproduction and Deep-Inelastic Scattering at HERA," Tech. Rep. Paper 6-0177 subm. to ICHEP 2004, Beijing, China, 2004. [Online]. Available: <http://www-h1.desy.de/h1/www/publications/htmlsplit/H1prelim-04-113.long.html>
- [96] T. Alexopoulos *et al.*, "Electron deuteron scattering with HERA, a letter of intent for an experimental programme with the H1 detector," Tech. Rep. DESY-03-194, 2003. [Online]. Available: <http://inspirehep.net/record/636853>
- [97] H1 Collaboration, "Measurement of the Inclusive Cross Section for Diffractive Deep Inelastic Scattering at High Q2," Tech. Rep. Paper 6-0175 subm. to ICHEP 2004, Beijing, China, 2004. [Online]. Available: <http://www-h1.desy.de/h1/www/publications/htmlsplit/H1prelim-03-011.long.html>

- [98] H1 Collaboration, "Comparison at NLO between Predictions from QCD Fits to F2D and and Diffractive Final State Observables at HERA," Tech. Rep. Paper 113 subm. to EPS-HEP 2003, Aachen, Germany, 2003. [Online]. Available: <http://www-h1.desy.de/h1/www/publications/htmlsplit/H1prelim-03-015.long.html>
- [99] H1 Collaboration, "Dijets in Diffractive Photoproduction at HERA," Tech. Rep. Paper 087 subm. to EPS-HEP 2003, Aachen, Germany, 2003. [Online]. Available: <http://www-h1.desy.de/h1/www/publications/htmlsplit/H1prelim-02-113.long.html>
- [100] H1 Collaboration, "Measurement and NLO DGLAP QCD Interpretation of Diffractive Deep-Inelastic Scattering at HERA," Tech. Rep. Paper 980 subm. to ICHEP 2002, Amsterdam, The Netherlands, 2002. [Online]. Available: <http://www-h1.desy.de/h1/www/publications/htmlsplit/H1prelim-02-012.long.html>
- [101] H1 Collaboration, "Measurement of the Diffractive DIS Cross Section at low Q<sub>2</sub>," Tech. Rep. Paper 981 subm. to ICHEP 2002, Amsterdam, The Netherlands, 2002. [Online]. Available: <http://www-h1.desy.de/h1/www/publications/htmlsplit/H1prelim-02-112.long.html>
- [102] H1 Collaboration, "Measurement of the Diffractive Structure Function F2D(3)(beta,Q2,xpom) at HERA," Tech. Rep. Paper 808 subm. to EPS-HEP 2001, Budapest, Hungary and paper 500 subm. to Lepton-Photon 2001, Rome, Italy, 2001. [Online]. Available: <http://www-h1.desy.de/h1/www/publications/htmlsplit/H1prelim-01-111.long.html>
- [103] H1 Collaboration, "Diffractive Jet-Production in Deep-Inelastic e+p Collisions at HERA," Tech. Rep. Paper 960 subm. to ICHEP 2000, Osaka, Japan, 2000. [Online]. Available: <http://www-h1.desy.de/h1/www/publications/htmlsplit/H1prelim-00-014.long.html>
- [104] H1 Collaboration, "Diffractive Dijet Electroproduction at HERA," Tech. Rep. Paper 157ae subm. to EPS-HEP 1999, Tampere, Finland, 1999. [Online]. Available: <http://www-h1.desy.de/h1/www/psfiles/confpap/eps99/99-131-schilling-paper.ps>

## Theses

- [105] F.-P. Schilling, "Diffractive Jet Production in Deep-Inelastic e+p Collisions at HERA," Ph.D. dissertation, University of Heidelberg, 2001, DESY-THESIS-2001-010. [Online]. Available: <https://doi.org/10.11588/heidok.00001440>
- [106] F.-P. Schilling, "Untersuchung von 2-Jet-Ereignissen in der diffraktiven tiefinelastischen Streuung mit dem H1-Detektor," Master's thesis, University of Heidelberg, 1998, H1TH-132. [Online]. Available: <http://www-h1.desy.de/psfiles/theses/h1th-132.ps>