

OLAF STEINKAMP – LIST OF PUBLICATIONS

(last updated on September 30, 2018)

Peer reviewed publications in international scientific journals

Journal papers on experimental techniques

- [1] C. Abellan Beteta *et al.*, *Monitoring radiation damage in the LHCb Tracker Turicensis*, arXiv:1809.0506.
- [2] LHCb, R. Aaij *et al.*, *New algorithms for identifying the flavour of B^0 mesons using pions and protons*, Eur. Phys. J. **C77** (2017), no. 4 238, arXiv:1610.0601.
- [3] LHCb collaboration, R. Aaij *et al.*, *LHCb detector performance*, Int. J. Mod. Phys. **A30** (2015), no. 07 1530022, arXiv:1412.6352.
- [4] LHCb, R. Aaij *et al.*, *Precision luminosity measurements at LHCb*, JINST **9** (2014), no. 12 P12005, arXiv:1410.0149.
- [5] LHCb collaboration, R. Aaij *et al.*, *Measurement of the track reconstruction efficiency at LHCb*, JINST **10** (2015), no. 02 P02007, arXiv:1408.1251.
- [6] J. Amoraal *et al.*, *Application of vertex and mass constraints in track-based alignment*, Nucl. Instrum. Meth. **A712** (2013) 48-55, arXiv:1207.4756.
- [7] LHCb collaboration, A. A. Alves, Jr. *et al.*, *The LHCb detector at the LHC*, JINST **3** (2008) S08005.
- [8] NA48 collaboration, V. Fanti *et al.*, *The beam and detector for the NA48 neutral kaon CP violations experiment at CERN*, Nucl. Instrum. Meth. **A574** (2007) 433-471.
- [9] HERA-B Outer Tracker group, H. Albrecht *et al.*, *The Outer Tracker detector of the HERA-B experiment. Part III. Operation and performance*, Nucl. Instrum. Meth. **A576** (2007) 312-330, arXiv:physics/0701122.
- [10] HERA-B Outer Tracker group, H. Albrecht *et al.*, *The Outer Tracker detector of the HERA-B experiment. Part I: Detector*, Nucl. Instrum. Meth. **A555** (2005) 310-323, arXiv:physics/0507048.
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- [12] D. Bedere de *et al.*, *High resolution drift chambers for the NA48 experiment at CERN*, Nucl. Instrum. Meth. **A367** (1995) 88-91.
- [13] M. Dahmen *et al.*, *A three-layer circular scintillator hodoscope*, Nucl. Instrum. Meth. **A348** (1994) 97-104.
- [14] E. Roderburg *et al.*, *Measurement of the spatial resolution and rate capability of an Induction Drift Chamber*, Nucl. Instrum. Meth. **A323** (1992) 140-149.

Journal papers on LHCb results

- [1] LHCb, R. Aaij *et al.*, *Observation of two resonances in the $\Lambda_b^0 \pi^\pm$ systems and precise measurement of Σ_b^\pm and $\Sigma_b^{*\pm}$ properties*, arXiv:1809.0775.
- [2] LHCb, R. Aaij *et al.*, *Evidence for an $\eta_c(1S)\pi^-$ resonance in $B^0 \rightarrow \eta_c(1S)K^+\pi^-$ decays*, arXiv:1809.0741.
- [3] LHCb, R. Aaij *et al.*, *Prompt Λ_c^+ production in pPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV*, Submitted to: JHEP (2018) arXiv:1809.0140.
- [4] LHCb, I. Bediaga *et al.*, *Physics case for an LHCb Upgrade II - Opportunities in flavour physics, and beyond, in the HL-LHC era*, arXiv:1808.0886.
- [5] LHCb, R. Aaij *et al.*, *Search for lepton-flavour-violating decays of Higgs-like bosons*, Submitted to: Eur. Phys. J. C (2018) arXiv:1808.0713.
- [6] LHCb, R. Aaij *et al.*, *Measurement of antiproton production in pHe collisions at $\sqrt{s_{NN}} = 110$ GeV*, Submitted to: Phys. Rev. Lett. (2018) arXiv:1808.0612.
- [7] LHCb, R. Aaij *et al.*, *Angular moments of the decay $\Lambda_b^0 \rightarrow \Lambda \mu^+ \mu^-$ at low hadronic recoil*, Submitted to: JHEP (2018) arXiv:1808.0026.
- [8] LHCb, R. Aaij *et al.*, *Measurement of the relative $B^- \rightarrow D^0/D^{*0}/D^{**0} \mu^- \bar{\nu}_\mu$ branching fractions using B^- mesons from \bar{B}_{s2}^0 decays*, Submitted to: Phys. Rev. (2018) arXiv:1807.1072.
- [9] LHCb, R. Aaij *et al.*, *Search for CP violation in $\Lambda_b^0 \rightarrow pK^-$ and $\Lambda_b^0 \rightarrow p\pi^-$ decays*, Submitted to: Phys. Lett. (2018) arXiv:1807.0654.
- [10] LHCb, R. Aaij *et al.*, *Measurement of the Ω_c^0 baryon lifetime*, Phys. Rev. Lett. **121** (2018), no. 9 092003, arXiv:1807.0202.
- [11] LHCb, R. Aaij *et al.*, *First observation of the doubly charmed baryon decay $\Xi_{cc}^{++} \rightarrow \Xi_c^+ \pi^+$* , arXiv:1807.0191.
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- [15] LHCb, R. Aaij *et al.*, *Search for beautiful tetraquarks in the $\Upsilon(1S)\mu^+\mu^-$ invariant-mass spectrum*, arXiv:1806.0970.
- [16] LHCb, R. Aaij *et al.*, *Observation of the decay $\Lambda_b^0 \rightarrow \psi(2S)p\pi^-$* , JHEP **08** (2018) 131, arXiv:1806.0808.
- [17] LHCb, R. Aaij *et al.*, *Measurement of $Z \rightarrow \tau^+ \tau^-$ production in proton-proton collisions at $\sqrt{s} = 8$ TeV*, Submitted to: JHEP (2018) arXiv:1806.0500.
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Oral presentations on experimental techniques

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- [2] Design and production of the LHCb Silicon Tracker
VCI2007: 11th Vienna Conference on Instrumentation, Vienna, Austria, February 18-24, 2007
- [3] Design and production of the LHCb Silicon Tracker
HSTD6: 6th International "Hiroshima" Symposium on the Development and Application of Semiconductor Tracking Detectors, Carmel, California, September 11-15, 2006
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Vertex 2005: 14th International Workshop on Vertex Detectors, Nikko, Japan, November 7-11, 2005
- [5] Silicon strip detectors for the LHCb experiment,
HSTD5: 5th International "Hiroshima" Symposium on the Development and Application of Semiconductor Tracking Detectors, Hiroshima, Japan, June 14-17, 2004

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BEACH: International Conference on Beauty Charm and Hyperon Hadrons, Peniche, Portugal, June 17-23, 2018.
- [2] B -flavour anomalies in $b \rightarrow s\ell\ell$ and $b \rightarrow c\ell\nu$ transitions at LHCb
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DIS: International Workshop on Deep Inelastic Scattering and Related Subjects, Kobe, Japan, April 16-20, 2018.
- [4] Updated LHCb measurements on pentaquark and tetraquark states
EPS-HEP: EPS Conference on High Energy Physics, Venice, Italy, July 5-12, 2017.
- [5] Early Career, Gender & Diversity Office at the LHCb experiment
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- [6] Flavour physics reach after upgrade
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Outreach activities

- Training programme in particle physics for Swiss high-school physics teachers at University of Zurich.
- Visits to CERN and the LHCb detector for high-school teachers and students.
- Active participation in public outreach events in Zurich (Lange Nacht der Forschung, International Physics Olympiad, Scientifica).

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- [3] LHCb collaboration, *Measurement of CP violation in the $B_s^0 \rightarrow \phi\phi$ decay and search for the $B^0 \rightarrow \phi\phi$ decay*, LHCb-CONF-2018-001.
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