

17 Publications

17.1 Elementary particles and their interactions

17.1.1 Theory of Elementary particles

Articles

- A new method for one-loop amplitude generation and reduction in OpenLoops
F. Buccioni, S. Pozzorini and M. Zoller, Proceedings, 13th International Symposium on Radiative Corrections: Application of Quantum Field Theory to Phenomenology (RADCOR2017): St. Gilgen, Austria, September 24-29, 2017, arXiv:1801.03772
- On-the-fly reduction of open loops
F. Buccioni, S. Pozzorini and M. Zoller, *Max, Eur. Phys. J. C* **78** (2018) no.1, 70, arXiv:1710.11452
- NLO QCD+EW predictions for HV and HV +jet production including parton-shower effects
F. Granata, J. M. Lindert, C. Oleari and S. Pozzorini, *JHEP* **1709** (2017) 012, arXiv:1706.03522
- Precise predictions for V + jets dark matter backgrounds
J. M. Lindert *et al.*, *Eur. Phys. J. C* **77** (2017) no.12, 829, arXiv:1705.04664
- NLO QCD+EW predictions for $2\ell 2\nu$ diboson signatures at the LHC
S. Kallweit, J. M. Lindert, S. Pozzorini and M. Schönherr, *JHEP* **1711** (2017) 120, arXiv:1705.00598
- Four-loop renormalization of QCD with a reducible fermion representation of the gauge group: anomalous dimensions and renormalization constants
K. G. Chetyrkin and M. F. Zoller, *JHEP* **1706** (2017) 074, arXiv:1704.04209
- An automated subtraction of NLO EW infrared divergences
M. Schönherr, *Eur. Phys. J. C* **78** (2018) no.2, 119, arXiv:1712.07975
- LHC Data and its Impact on nCTEQ15 PDFs
D. B. Clark *et al.* [nCTEQ Collaboration], *PoS DIS 2017* (2018) 204, arXiv:1712.08199
- LHC lead data and nuclear PDFs
A. Kusina *et al.*, *Acta Phys. Polon. B* **48** (2017) 1035, arXiv:1705.06704
- Vector boson production in pPb and PbPb collisions at the LHC and its impact on nCTEQ15 PDFs
A. Kusina *et al.*, *Eur. Phys. J. C* **77** (2017) no.7, 488, arXiv:1610.02925
- NLO electroweak corrections in extended Higgs Sectors with RECOLA2
A. Denner, J. N. Lang and S. Uccirati, *JHEP* **1707** (2017) 087, arXiv:1705.06053
- Recola2: REcursive Computation of One-Loop Amplitudes 2
A. Denner, J. N. Lang and S. Uccirati, *Comput. Phys. Commun.* **224** (2018) 346, arXiv:1711.07388
- Azimuthal asymmetries in QCD hard scattering: infrared safe but divergent
S. Catani, M. Grazzini and H. Sargsyan, *JHEP* **1706** (2017) 017, arXiv:1703.08468
- $W^\pm Z$ production at the LHC: fiducial cross sections and distributions in NNLO QCD
M. Grazzini, S. Kallweit, D. Rathlev and M. Wiesemann, *JHEP* **1705** (2017) 139, arXiv:1703.09065
- Higgs boson pair production at NNLO in QCD including dimension 6 operators
D. de Florian, I. Fabre and J. Mazitelli, *JHEP* **1710** (2017) 215, arXiv:1704.05700
- Graviton resonance phenomenology and a pseudo-Nambu-Goldstone boson Higgs at the LHC
E. Alvarez, L. Da Rold, J. Mazitelli and A. Szyrkman, *Phys. Rev. D* **95** (2017) no.11, 115012, arXiv:1610.08451
- Higgs boson pair production at NNLO with top quark mass effects
M. Grazzini, G. Heinrich, S. Jones, S. Kallweit, M. Kerner, J. M. Lindert and J. Mazitelli, *JHEP* **1805** (2018) 059, arXiv:1803.02463

- Next-to-Next-to-Leading-Order QCD Corrections to the Transverse Momentum Distribution of Weak Gauge Bosons
A. Gehrmann-De Ridder, T. Gehrmann, E. W. N. Glover, A. Huss and D. M. Walker, Phys. Rev. Lett. **120** (2018) no.12, 122001, arXiv:1712.07543
- Determination of the strong coupling constant $\alpha_s(m_Z)$ in next-to-next-to-leading order QCD using H1 jet cross section measurements
V. Andreev *et al.* [H1 Collaboration], Eur. Phys. J. C **77** (2017) no.11, 791, arXiv:1709.07251
- NNLO QCD corrections to event orientation in e^+e^- annihilation
T. Gehrmann, E. W. N. Glover, A. Huss, J. Niehues and H. Zhang, Phys. Lett. B **775** (2017) 185, arXiv:1709.01097
- Precise predictions for the angular coefficients in Z-boson production at the LHC
R. Gauld, A. Gehrmann-De Ridder, T. Gehrmann, E. W. N. Glover and A. Huss, JHEP **1711** (2017) 003, arXiv:1708.00008
- Precise predictions for dijet production at the LHC
J. Currie, A. Gehrmann-De Ridder, T. Gehrmann, E. W. N. Glover, A. Huss and J. Pires, Phys. Rev. Lett. **119** (2017) no.15, 152001, arXiv:1705.10271
- Precise predictions for $V+$ jets dark matter backgrounds
J. M. Lindert *et al.*, Eur. Phys. J. C **77** (2017) no.12, 829, arXiv:1705.04664
- Single Jet Inclusive Production for the Individual Jet p_T Scale Choice at the LHC
J. Currie, E. W. N. Glover, T. Gehrmann, A. Gehrmann-De Ridder, A. Huss and J. Pires, Acta Phys. Polon. B **48** (2017) 955, arXiv:1704.00923
- Transverse-momentum resummation for the signal-background interference in the $H \rightarrow \gamma\gamma$ channel at the LHC
L. Cieri, F. Coradeschi, D. de Florian and N. Fidanza, Phys. Rev. D **96** (2017) no.5, 054003, arXiv:1706.07331
- Single top-quark production with SHERPA
E. Bothmann, F. Krauss and M. Schönherr, Eur. Phys. J. C **78** (2018) no.3, 220, arXiv:1711.02568
- NLO QCD+EW corrections to diphoton production in association with a vector boson
N. Greiner and M. Schönherr, JHEP **1801** (2018) 079, arXiv:1710.11514
- Electroweak corrections to diphoton plus jets
M. Chiesa, N. Greiner, M. Schönherr and F. Tramontano, JHEP **1710** (2017) 181, arXiv:1706.09022
- Diphoton production in association with two bottom jets
D. Fähr and N. Greiner, Eur. Phys. J. C **77** (2017) no.11, 750, arXiv:1706.08309
- To d , or not to d : recent developments and comparisons of regularization schemes
C. Gnendiger *et al.*, Eur. Phys. J. C **77** (2017) no.7, 471, arXiv:1705.01827
- Fully differential NLO predictions for the radiative decay of muons and taus
G. M. Pruna, A. Signer and Y. Ulrich, Phys. Lett. B **772** (2017) 452, arXiv:1705.03782
- Correlating lepton flavor universality violation in B decays with $\mu \rightarrow e\gamma$ using leptoquarks
A. Crivellin, D. Müller, A. Signer and Y. Ulrich, Phys. Rev. D **97** (2018) no.1, 015019, arXiv:1706.08511
- High- p_T dilepton tails and flavor physics
A. Greljo and D. Marzocca, Eur. Phys. J. C **77** (2017) no.8, 548, arXiv:1704.09015
- Probing Lepton Flavour Universality with $K \rightarrow \pi\nu\bar{\nu}$ decays
M. Bordone, D. Buttazzo, G. Isidori and J. Monnard, Eur. Phys. J. C **77** (2017) no.9, 618, arXiv:1705.10729
- B-physics anomalies: a guide to combined explanations
D. Buttazzo, A. Greljo, G. Isidori and D. Marzocca, JHEP **1711** (2017) 044, arXiv:1706.07808
- Gauge leptoquark as the origin of B-physics anomalies
L. Di Luzio, A. Greljo and M. Nardecchia, Phys. Rev. D **96** (2017) no.11, 115011, arXiv:1708.08450

- Electroweak Higgs production with HiggsPO at NLO QCD
A. Greljo, G. Isidori, J. M. Lindert, D. Marzocca and H. Zhang, Eur. Phys. J. C **77** (2017) no.12, 838, arXiv:1710.04143
- A three-site gauge model for flavor hierarchies and flavor anomalies
M. Bordone, C. Cornella, J. Fuentes-Martin and G. Isidori, Phys. Lett. B **779** (2018) 317, arXiv:1712.01368

Articles in press

- Fully differential NNLO computations with MATRIX
M. Grazzini, S. Kallweit and M. Wiesemann, arXiv:1711.06631
- Diphoton production at the LHC: a QCD study up to NNLO
S. Catani, L. Cieri, D. de Florian, G. Ferrera and M. Grazzini, arXiv:1802.02095
- Differential single jet inclusive production at Next-to-Next-to-Leading Order in QCD
J. Currie, A. Gehrmann-De Ridder, T. Gehrmann, E. W. N. Glover, A. Huss and J. Pires, arXiv:1705.08205
- NLO QCD corrections to jet production in deep inelastic scattering
J. Currie, T. Gehrmann, A. Huss and J. Niehues, arXiv:1703.05977
- γ_5 in the four-dimensional helicity scheme
C. Gnendiger and A. Signer, Phys. Rev. D **97** (2018) no.9, 096006, arXiv:1710.09231
- PSI/UZH Workshop: Impact of $B \rightarrow \mu^+ \mu^-$ on New Physics Searches
A. Crivellin *et al.*, arXiv:1803.10097

Oral Presentations

- M. Bordone: On the QED effects on R_K and R_K^*
Instant Workshop on B meson anomalies, CERN, 18.05.2017.
- M. Bordone: Lepton Favour Universality Violation in $\Lambda_b \rightarrow \Lambda_c^* \tau \bar{\nu}_\tau$ decay
2nd LHCb open semitauonic workshop, Orsay, 13.05.2017.
- M. Bordone: A three-site gauge model for flavor hierarchies and flavor anomalies
Epiphany Conference, Cracow, 10.01.2018.
- F. Buccioni: OpenLoops2. A new method to generate and reduce one-loop amplitudes
LoopFest XVI, Argonne National Laboratory, 1.6.2017.
- F. Buccioni: On-the-fly reduction of open loops
Milan Christmas Meeting 2017, Universita degli studi di Milano, 21.12.2017.
- D. Buttazzo: On the breaking of Lepton Flavour Universality in B meson decays
Seminar at Scuola Normale Superiore, Pisa, 16.06.2017.
- X. Chen: High Precision Phenomenology for Higgs Boson at LHC
Seminar at Zhejiang University, HangZhou, China, 25.5.2017.
- X. Chen: High Precision Phenomenology for Higgs Boson at LHC
Seminar at NanJing University, NanJing, China, 14.6.2017.
- X. Chen: Higgs p_T distributions at LHC
Sinergia Meeting 2017, Lausanne, Switzerland, 08.12.2017.
- X. Chen: Higgs p_T distribution at NNLO + N3LL
The XVth annual workshop on Soft-Collinear Effective Theory (SCET workshop 2018),
Amsterdam, Netherlands, 20.3.2018.
- J. Fuentes-Martin: A model for B anomalies and flavor hierarchies
II CAFPE Christmas workshop, Granada, Spain, 20.12.2017.

- J. Fuentes-Martin: UV-complete model for B anomalies and SM flavor hierarchies
53rd Rencontres de Moriond EW18, La Thuile, 11.03.2018.
- L. Cieri: News on NNLO photon production
ATLAS Standard Model Workshop 2017, Thessaloniki, 19.09.2017.
- T. Gehrmann: Fixed-order predictions for precision observables
LHC Run II Gordon research conference, Hong Kong, 25.07.2017.
- T. Gehrmann: Jet cross sections and transverse momentum distributions with NNLOJET
RADCOR 2017, St. Gilgen, 29.09.2017.
- M. Grazzini: NNLO calculations with MATRIX
Loopfest 2017, Argonne, USA, 01.06.2017.
- M. Grazzini: Theory improvements for Run 2 and beyond
Higgs Hunting, Paris, 26.07.2017.
- M. Grazzini: Azimuthal asymmetries in QCD hard scattering: infrared safe but divergent
Old and New Strong Interactions from LHC to Future Colliders, Trento ECT meeting, 12.09.2017.
- M. Grazzini: Azimuthal asymmetries in QCD hard scattering: infrared safe but divergent
Higgstools final meeting, Durham, 13.09.2017.
- M. Grazzini: Azimuthal asymmetries in hard-scattering processes
Seminar, Wurzburg, 25.01.2018.
- A. Greljo : Collider constraints on NP models aimed to address B-anomalies
Standard Model at the LHC, Amsterdam, 04.05.2017.
- A. Greljo: LFU and the interplay of low- and high-energy physics
Invisibles17, Zurich, 12.06.2017.
- A. Greljo: Collider constraints on NP models aimed to address B-anomalies
EPS-HEP, Venice, 06.07.2017.
- A. Ilnicka : Chapter 2: Pseudoobservables for LHC
Third Annual Meeting and Young Editors School 2017, Turin, 17.05.2017.
- A. Ilnicka : Modeling BSM effects on Higgs transverse-momenta in EFT
HEFT 2017, Lumley Castle, 22.05.2017.
- A. Ilnicka : Modeling BSM effects on Higgs transverse-momenta spectrum in an EFT approach
QCD@LHC 2017, Debrecen, 29.08.2017.
- A. Ilnicka : Modeling BSM effects on Higgs transverse-momenta spectrum in an EFT approach
Final HiggsTools Network Meeting, Durham, 13.09.2017.
- G. Isidori : Pseudo-observables: developments and tools
Standard Model at the LHC, Amsterdam, 4.05.2017.
- G. Isidori: On the breaking of Lepton Flavor Universality in B decays
Planck 2017 Conference, Warsaw, 26.05.2017.
- G. Isidori : EFT for Flavor Physics and BSM
Lectures at the Summer School on Methods for EFT and Lattice, Munich, 29-30.06.2017.
- G. Isidori : Model building on flavour anomalies and implications for high- p_T searches
Keynote talk at the LHCb Implication Workshop 2018, CERN, 10.11.2018.
- T. Jezo : NLO matching for $t\bar{t}b\bar{b}$ production with massive b -quarks
25th International Workshop on Deep Inelastic Scattering and Related Topics, University of Birmingham, 04.04.2017.

- T. Jezo : A Study of the Top Mass Determination Using New NLO+PS generators
25th International Workshop on Deep Inelastic Scattering and Related Topics, University of Birmingham, 06.04.2017.
- T. Jezo : NLO+PS matching for coloured resonances
Seminar as a part of Seminario Teorico INFN at Università di Roma "La Sapienza", 29.05.2017.
- T. Jezo : A Powheg generator for $t\bar{t}b\bar{b}$ production in the 4F scheme
Meeting of the ttH/tH HXSWG subgroup, CERN, 06.06.2017.
- T. Jezo : SM modelling, updates on the simulation tools: POWHEG
4th CMS Single Top Workshop, KIT Karlsruhe, 09.06.2017.
- T. Jezo : NLO+PS with decaying resonances using POWHEG
Physics Modelling Group Plenary in ATLAS week, CERN, 20.06.2017.
- T. Jezo : Resonance aware matching at NLOW
Seminar at Automated, Resummed and Effective: Precision Computations for the LHC and Beyond,
MIAPP Munich, 01.08.2017.
- T. Jezo : NLO matching for $t\bar{t}b\bar{b}$ production with massive b -quarks
QCD@LHC University of Debrecen, 29.08.2017.
- T. Jezo : A Study of the Top Mass Determination Using New NLO+PS generators
QCD@LHC University of Debrecen, 31.08.2017.
- T. Jezo : WbWb production with POWHEG BOX RES
ATLAS Higgs & B-tagging Workshop, Simons Center for Geometry and Physics Stony Brook, 05.09.2017.
- T. Jezo : Top Quark Production: modeling and tuning in Powheg
Top workshop, Bom Jesus, Braga, 19.09.2017.
- T. Jezo : NLO+PS $t\bar{t}b\bar{b}$ in Powheg+OpenLoops
Common meeting on $t\bar{t} + b$ -jet backgrounds to $t\bar{t}H(b\bar{b})$, CERN, 06.11.2017.
- T. Jezo : $W^+W^-b\bar{b}$ 4FS NLO+PS
Top! Hammertime (a CMS top quark workshop), CERN, 15.11.2017.
- T. Jezo : Top precision at the LHC
Seminar as a part of Seminar of Institute of Physics of the Czech Academy of Sciences, Charles University Prague,
14.12.2017.
- T. Jezo : New four-flavour POWHEG predictions for $t\bar{t} + b$ -jet production at the LHC
CMS physics fest, CERN, 20.02.2018.
- A. Karlberg : Central jet veto and parton showers in VBF
LHCHXSWG Meeting, CERN, 15.06.2017.
- A. Karlberg : WG1 VBF report
13th Workshop of the LHC Higgs Cross Section Working Group, CERN, 14.07.2017.
- A. Karlberg : proVFBH: An NNLO Monte Carlo generator for VBF Higgs production
Higgs Hunting 2017, Paris, 26.07.2017.
- A. Karlberg: Parton Shower matching for VBS
Monte Carlo description of VBS, Amsterdam, 16.11.2017.
- A. Karlberg: Vector Boson Fusion and Scattering
Sinergia 2017, Lausanne, 08.12.2017.
- A. Karlberg: Theoretical comparison for VBF production of W^+W^+
VBSCAN mid-term meeting, CERN, 07.02.2018.

- A. Karlberg: VBF Higgs Production at the HL/HE-LHC
HL/HE-LHC WG1 Meeting, CERN, 01.03.2018.
- J.-N. Lang: Automation of NLO Calculations for BSM
MITP Workshop, Mainz, Germany, 8.3.2018.
- J.-N. Lang: One-loop amplitudes in extended Higgs sectors with RECOLA2
seminar, Freiburg, Germany, 5.12.2017.
- D. Marzocca: BSM/EFT interpretation of precision EW measurements at the LHC
Standard Model at the LHC, Amsterdam, 04.05.2017.
- D. Marzocca: STXT-PO complementarity
LHC Higgs XS working group 2, CERN, 08.05.2017.
- D. Marzocca: Higgs physics and Effective Field Theories
LHCP 2017, Shanghai, 15.05.2017.
- J. Mazzitelli: Precise QCD predictions for Higgs boson pair production
Seminar at Max Plank Institute, Munich, 12.03.2018.
- J. Mazzitelli: Precise QCD predictions for Higgs boson pair production
Seminar at University of Milano-Bicocca, Milan, 15.03.2018.
- J. Mazzitelli: HH production at NNLO including M_t effects
LHC Higgs Cross Section Working Group General Meeting, Geneva, 26.03.2018.
- S. Pozzorini : ttH theory activities
14th Workshop of the LHC Higgs Cross Section Working Group, CERN, Geneva, 26.03.2018.
- S. Pozzorini: Theory precision for V+jet backgrounds to dark matter searches at the LHC
Seminar at the Technical University Munich, Germany, 02.11.2017.
- S. Pozzorini : Off-shell WWbb production
Seminar at the Workshop Heavy-flavour production at the LHC, IPPP Durham, UK, 06.09.2017.
- S. Pozzorini: ttH theory activities
13th Workshop of the LHC Higgs Cross Section Working Group, CERN, Geneva, 14.07.2017.
- S. Pozzorini: tt+HF: theory status
Meeting of the ttH/tH HXSWG subgroup, CERN, Geneva, 06.07.2017.
- S. Pozzorini: tt+HF and ttH(bb): status and ideas from theory
CMS week, CERN, Geneva, 21.06.2017.
- S. Pozzorini: Diboson production at the LHC
Large Hadron Collider Physics Conference (LCHP 2017), Shanghai, China, 19.5.2017.
- S. Pozzorini: Summary of electroweak sessions
Standard Model at the LHC 2017, NIKHEF, Amsterdam, 02.05.2017.
- S. Pozzorini : State of the Art V+jet Backgrounds for DM@LHC
Dark Matter at the LHC 2017, UC Irvine, USA, 03.04.2017.
- A. Primo: Two-loop master integrals for μe -scattering in QED
Workshop: The evaluation of the leading hadronic contribution to the muon anomalous magnetic moment, Mainz,
Germany, 20.02.2018.
- A. Primo: NNLO virtual corrections to μe -scattering in QED
Particleface 2018, the working group meeting of the COST Action CA16201, Valencia, Spain, 27.02.2017.

- M. Schönherr: Sherpa for V+jets
Illuminating standard candles at the LHC - V+jets, London, United Kingdom, 25.04.2017.
- M. Schönherr: Sherpa-2.2.3 – status and prospects
ATLAS and CMS Monte-Carlo Workshop, CERN, 02.05.2017.
- M. Schönherr: NNLOPS and higher-order EW corrections
ATLAS and CMS Monte-Carlo Workshop, CERN, 03.05.2017.
- M. Schönherr: Parton shower uncertainties
Les Houches Workshop Physics at TeV Colliders Les Houches, France, 07.06.2017.
- M. Schönherr: Issues at NLO EW
Les Houches Workshop Physics at TeV Colliders Les Houches, France, 09.06.2017.
- M. Schönherr: Higher orders and parton showers
BOOST 2017, Buffalo, USA, 18.07.2017.
- M. Schönherr: Higher-order corrections in Monte-Carlo event generators
Lectures at the CTEQ School, Pittsburgh, USA, 22. & 24.07.2017.
- M. Schönherr: Parton shower matching and merging
TOOLS 2017, Corfu, Greece, 10.09.2017.
- A. Signer: Lepton-flavour violating processes
BLV 2017, Cleveland USA, 15.05.2017.
- A. Signer: Charged lepton flavour violation with effective theories
HEFT 2017, Durham U.K, 22.05.2017.
- A. Signer: Charged lepton flavour violation
ACFI Workshop, UMass Amherst, USA, 19.07.2017.
- A. Signer: Muon decay at NNLO, plans and interim results
Theory Kickoff Workshop Muon Electron Scattering, Padova, Italy, 04.10.2017.
- A. Signer: Lepton flavour violation in muon decays
SHiP open colloquium, CERN, Switzerland, 09.11.2017.
- A. Signer: Muon decay at NNLO
MITP Workshop, Mainz, Germany, 20.02.2018.
- S. Trifinopoulos: Revisiting flavour constraints on high-scale SUSY
25th International Conference on Supersymmetry and the Unification of Fundamental Interactions (SUSY17),
Mumbai, 14.12.2017.
- D. van Dyk: Systematic approach to non-local charm contributions in exclusive $b \rightarrow s\ell\ell$ decays
Standard Model at the LHC, Amsterdam, 02.05.2017.
- M. Zoller: Four-loop QCD renormalization group functions with different fermion representations of the gauge group
LoopFest XVI, Argonne National Laboratory, 2.6.2017.
- M. Zoller: A new method to generate and reduce one-loop amplitudes in OpenLoops 2
RADCOR 2017, St. Gilgen, 26.09.2017.
- M. Zoller: A new method to generate and reduce one-loop amplitudes in OpenLoops 2
Particle Theory Seminar, PSI Villigen, 4.10.2017.

17.1.2 Astrophysics and General Relativity

Short-authorlist Articles

- Solving post-Newtonian accurate Kepler equation
Y. Boetzel, A. Susobhanan, A. Gopakumar, A. Klein, and Ph. Jetzer, *Phys. Rev. D* **96**, 044011 (2017). arXiv:1707.02088
- Prospects for Measuring Planetary Spin and Frame-Dragging in Spacecraft Timing Signals
A. Schäfer, R. Bondarescu, P. Saha, R. Angéilil, R. Helled, and Ph. Jetzer, *Front. Astron. Space Sci.* **4**, 11 (2017). arXiv:1707.00319
- Messier 81's Planck view versus its halo mapping
V. G. Gurzadyan, F. De Paolis, A. A. Nucita, A. L. Kashin, A. Amekhyan, S. Sargsyan, G. Yegorian, A. Qadir, G. Ingrosso, Ph. Jetzer, and D. Vetrugno, *Astron. Astrophys.* **609**, A131 (2018). arXiv:1710.04166
- Low-frequency gravitational wave detection via double optical clocks in space
J. Su, Q. Wang, Q. Wang, and Ph. Jetzer, *Class. Quantum Grav.* **35**, 085010 (2018). arXiv:1711.07730
- Post-Newtonian parameters γ and β of scalar-tensor gravity for a homogeneous gravitating sphere
M. Hohmann, and A. Schäfer, *Phys. Rev. D* **96**, 104026 (2017). arXiv:1708.07851
- Probing the Spinning of the Massive Black Hole in the Galactic Center via Pulsar Timing: A Full Relativistic Treatment
F. Zhang, and P. Saha, *Astrophys. J.* **849**, 33 (2017). arXiv:1709.08341
- Models of gravitational lens candidates from Space Warps CFHTLS
R. Küng, P. Saha, I. Ferreras, E. Baeten, J. Coles, C. Cornen, C. Macmillan, P. Marshall, A. More, A. Verma, O. Lucy, and J. K. Wilcox, *Mon. Notices Royal Astron. Soc.* **474**, 3700 (2018). arXiv:1711.0729

Articles with the LISA Pathfinder Collaboration

- Charge-induced force-noise on free-falling test masses: Results from LISA Pathfinder
M. Armano *et al.* (The LISA Pathfinder collaboration), *Phys. Rev. Lett.* **118**, 171101 (2017). arXiv:1702.04633
- Capacitive sensing of test mass motion with nanometer precision over millimeter-wide sensing gaps for space-borne gravitational reference sensors
M. Armano *et al.* (The LISA Pathfinder collaboration), *Phys. Rev. D* **96**, 062004 (2017).
- Measuring the Galactic Cosmic Ray Flux with the LISA Pathfinder Radiation Monitor
M. Armano *et al.* (The LISA Pathfinder collaboration), *Astropart. Phys.* **98**, 28 (2018). arXiv:1711.07427
- Beyond the Required LISA Free-Fall Performance: New LISA Pathfinder Results down to 20 μ Hz
M. Armano *et al.* (The LISA Pathfinder collaboration), *Phys. Rev. Lett.* **120**, 061101 (2018).
- Characteristics and Energy Dependence of Recurrent Galactic Cosmic-Ray Flux Depressions and of a Forbush Decrease with LISA Pathfinder
M. Armano *et al.* (The LISA Pathfinder collaboration), *Astrophys. J.* **854**, 113 (2018). arXiv:1802.09374

Articles with the LIGO Scientific Collaboration

- First search for gravitational waves from known pulsars with Advanced LIGO
B. P. Abbott *et al.* (The LIGO Scientific Collaboration and the Virgo Collaboration), *Astrophys. J.* **839**, no.1, 12 (2017). arXiv:1701.07709
- Search for continuous gravitational waves from neutron stars in globular cluster NGC 6544
, B. P. Abbott *et al.* (The LIGO Scientific Collaboration and the Virgo Collaboration), *Phys. Rev. D* **95**, 082005 (2017). arXiv:1607.02216
- Effects of waveform model systematics on the interpretation of GW150914
B. P. Abbott *et al.* (The LIGO Scientific Collaboration and the Virgo Collaboration), *Class. Quantum Grav.* **34**, 104002 (2017). arXiv:1611.07531

- Search for Gravitational Waves Associated with Gamma-Ray Bursts During the First Advanced LIGO Observing Run and Implications for the Origin of GRB 150906B
B. P. Abbott *et al.* (The LIGO Scientific Collaboration and the Virgo Collaboration), *Astrophys. J.* **841**, no.2, 89 (2017). arXiv:1611.07947
- Search for gravitational waves from Scorpius X-1 in the first Advanced LIGO observing run with a hidden Markov model
B. P. Abbott *et al.* (The LIGO Scientific Collaboration and the Virgo Collaboration), *Phys. Rev. D* **95**, 122003 (2017). arXiv:1704.03719
- GW170104: Observation of a 50-Solar-Mass Binary Black Hole Coalescence at Redshift 0.2
B. P. Abbott *et al.* (The LIGO Scientific Collaboration and the Virgo Collaboration), *Phys. Rev. Lett.* **118**, 221101 (2017). arXiv:1706.01812
- Search for intermediate mass black hole binaries in the first observing run of Advanced LIGO
B. P. Abbott *et al.* (The LIGO Scientific Collaboration and the Virgo Collaboration), *Phys. Rev. D* **96**, 022001 (2017). arXiv:1704.04628
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Oral presentations

- Thea Aarrestad: W/Z/H tagging in CMS
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- Lea Caminada: Particle detection with CMS at the LHC
PSI Lille Art Program, PSI, Villigen, Switzerland, 7 November 2017.
- Lea Caminada: Status of the CMS Experiment
CERN LHCC Open Session, CERN, Geneva, Switzerland, 28 February 2018.
- Florencia Canelli: Exploring new physics with top quarks
Seminar, DESY Zeuthen, Zeuthen, Germany, 28 June 2017.
- Florencia Canelli: Exploring new physics with top quarks
Seminar, DESY Hamburg, Hamburg, Germany, 27 June 2017.
- Florencia Canelli: Top quark mass measurements from CMS
LHCP 2017, Shanghai, China, 15 May 2017.
- Florencia Canelli: High energy searches beyond the standard model
Invisibles 2017, Zurich, Switzerland, 12 June 2017.
- Annapaola de Cosa: DM searches in CMS
International Conference on new Frontiers in Physics 2017, Kolymbari, Greece, 17-26 August 2017.
- Silvio Donato: Overview talk on trigger performances (CMS)
International Conference on new Frontiers in Physics 2017, Kolymbari, Greece, 17 August 2017.
- Silvio Donato : H(125) decay to bb at CMS
Higgs Hunting 2017, Paris, France, 24 July 2017.
- Silvio Donato : ttH at CMS
Higgs Coupling 2017, Heidelberg, Germany, 6 November 2017.
- Silvio Donato : Measurement of Higgs production cross-sections and couplings
Les Rencontres de Physique de la Vall'ee d'Aoste, La Thuile, Italy, 25 February 2018.
- Camilla Galloni: Searches for new heavy resonances decaying into two Higgs bosons or a W/Z and a Higgs bosons at CMS
Workshop on the Standard Model and Beyond, Corfu, Greece, 4 September 2017.
- Ben Kilminster: Coherent Neutrino Nucleus interaction Experiment in CCDs
17th International Workshop on Next Generation Nucleon Decay and Neutrino Detectors (NNN2017), Warwick, U.K., 26 October 2017.
- Ben Kilminster: CCDs for dark matter and neutrino searches
VERTEX 2017, Asturias, Spain, 11 September 2017.

- Ben Kilminster: Higgs productions and decays
Physics in Collisions (PIC), Prague, Czech Republic, 5 September 2017.
- Ben Kilminster: Small particles, big data
Scientifica 2017, Zurich, Switzerland, 2 September 2017.
- Deborah Pinna: Two is not always better than one: Single Top Quarks and Dark Matter
DM@LHC 2017, Irvine, USA., 3 April 2017.
- Deborah Pinna: Searches for dark matter in hadronic final states with CMS
EPS-HEP 2017, Venice, Italy, 5 July 2017.
- Giorgia Rauco: Search for vector-like quarks and excited quarks at CMS
European Physical Society Conference on High Energy Physics, Lido di Venezia, Italy, 5 - 12 July 2017.
- Giorgia Rauco: Search for a single produced vector-like quark B decaying to a b quark and a Higgs boson in a full hadronic final state using boosted topologies
Joint Annual Meeting of SPS and ÖPG, Geneva, Switzerland, 12 - 25 August 2017.
- Giorgia Rauco: Search for single production of vector-like quarks decaying to a b quark and a Higgs boson
Les Rencontres de Physique de la Valle d'Aoste, La Thuile, Italy, 25 February - 03 March 2018.
- Daniel Salerno : Latest results on ttH,(Hbb) production at CMS
EPS-HEP 2017, Palazzo del Cinema, Lido, Venice, Italy, 7 July 2017.
- Claudia Seitz: Review of RPV in SUSY and EXO
CMS SUSY workshop, Ghent, Belgium, 11 April 2017.
- Claudia Seitz: Searches for strong production of SUSY with ATLAS and CMS
LHCP 2017, Shanghai, China, 18 May 2017.
- Claudia Seitz: Searches for strong production of SUSY in CMS
Experimental particle physics seminar University of Zurich, Zurich, Switzerland, 9 October 2018.
- Claudia Seitz: SUSY searches in the context of R parity violation with CMS data
53 Rencontre de Moriond Electroweak, La Thuile, Italy, 13 March 2018.
- Yuta Takahashi: Discriminating quark and gluon jets at CMS
BOOST 2017 conference, Buffalo, USA, 17 July 2017.
- Yuta Takahashi: Search for singly produced third generation LQ to τ and b final state
CMS Exotica Workshop 2017, Brussels, Belgium, 30 November 2017.
- Yuta Takahashi: Flavor anomalies & direct searches at CMS
Tera-scale research workshop, Tokyo, Japan, 25 December 2017.
- Yuta Takahashi: Leptoquark and Z' searches at CMS
Zurich Phenomenology Workshop (ZPW) 2018, Zurich, Switzerland, 15 January 2018.
- Yuta Takahashi: Leptoquark searches in CMS
53 Rencontre de Moriond Electroweak, La Thuile, Italy, 10 March 2018.
- Alberto Zucchetta: Search for new resonances decaying into W, Z and H bosons at CMS
XXV International Workshop on Deep-Inelastic Scattering and Related Subjects (DIS2017), Birmingham, UK, 5 April 2017.
- Alberto Zucchetta: Two is not always better than one: Single Top Quarks and Dark Matter
ALPS2017, Obergurgl, Austria, 20 April 2017.
- Alberto Zucchetta: Single Top and Dark Matter: Two is not always better than one
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- Alberto Zucchetta: Search for heavy resonances decaying to boosted bosons
Sinergia workshop meeting, Lausanne, Switzerland, 7 December 2017.

17.1.8 LHCb

- First measurement of the CP -violating phase $\phi_s^{d\bar{d}}$ in $B_s^0 \rightarrow (K^+ \pi^-)(K^- \pi^+)$ decays
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- Search for weakly decaying b -flavored pentaquarks
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- 96 - Measurement of branching fractions of charmless four-body Λ_b^0 and Ξ_b^0 decays
LHCb-Collaboration, R. Aaij *et al.*, JHEP **1802** (2018) 098 arXiv:1711.05490
- Measurements of the branching fractions of $\Lambda_c^+ \rightarrow p \pi^- \pi^+$, $\Lambda_c^+ \rightarrow p K^- K^+$, and $\Lambda_c^+ \rightarrow p \pi^- K^+$
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- Olaf Steinkamp: The Early Career, Gender and Diversity Office at the LHCb experiment
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- Albert Puig Navarro: Rare B decays at LHCb
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- Albert Puig Navarro: The LHCb Starterkit initiative
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Oral presentations on behalf of the LHCb collaboration

- Rafael Silva Coutinho: Non-leptonic three body decays at LHCb
Pion-Kaon Interactions Workshop, Newport News, United States, 14 - 15 February, 2018.
- Rafael Silva Coutinho: Non-leptonic three body decays at LHCb
Pion-Kaon Interactions Workshop, Newport News, United States, 14 - 15 February, 2018.
- Rafael Silva Coutinho: Heavy flavour physics at LHCb
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- Patrick Owen: LHCb Jamboree
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- Davide Lancierini: Rare semileptonic B decays at LHCb
The 25th International Conference on Supersymmetry and the Unification of Fundamental Interactions, Mumbai, India, 11 - 15 December, 2017.
- Andreas Weiden: Recent results with heavy ion and fixed target collisions at LHCb
9th International Workshop on Multiple Partonic Interactions at the LHC, Shimla, India, 11 - 15 December, 2017.
- Katharina Müller: Recent results with heavy ion and fixed target collisions at LHCb
Resonance Workshop , Bergamo, Italie, 10 - 13 October, 2017.
- Rafael Silva Coutinho: CP violation in b -baryons at LHCb
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- Albert Puig Navarro: Rare B decays at LHCb
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- Andrea Mauri: Search for long-lived scalar particles in B decays at LHCb
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- Katharina Müller: Central exclusive production at LHCb
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- Katharina Müller: Production measurements at LHCb: Electroweak Bosons, Jets and Heavy Flavor
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- Carlos Abellan Beteta: The Silicon Micro-strip Upstream Tracker for the LHCb Upgrade
International Conference on Technology and Instrumentation in Particle Physics 2017, Beijing, China, 21 - 26 May, 2017.
- Albert Puig Navarro: Rare radiative decays at LHCb
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- Patrick Owen: Lepton flavour universality
Flavour Physics at LHC run II, Benasque, Spain, 21 - 27 May, 2017.
- Olaf Steinkamp: Flavour Physics Reach after Upgrade
5th Conference on Large Hadron Collider Physics 2017, Shanghai, China, 15 - 20 May, 2017.

- Marcin Chrzaszcz: Rare decays at LHCb
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Oral presentations not on behalf of the LHCb collaboration

- Elena Graverini: Search for Hidden Particles
Seminar at University of Birmingham, March 7, 2018.
- Rafael Silva Coutinho: Reconstructing final states with electrons at LHCb and interplay with QED corrections
 $b \rightarrow sll$ 2018: 6th Workshop on Rare Semileptonic B Decays, Munich, 20 - 22 February 2018.
- Andrea Mauri: Direct measurements of Wilson coefficients and LFU test in $B \rightarrow K^* \ell \ell$ decays
 $b \rightarrow sll$ 2018: 6th Workshop on Rare Semileptonic B Decays, Munich, 20 - 22 February 2018.
- Andrea Mauri: Prospects for data-driven determination of hadronic matrix element in $B \rightarrow K^* \mu \mu$ decays
 $b \rightarrow sll$ 2018: 6th Workshop on Rare Semileptonic B Decays, Munich, 20 - 22 February 2018.
- Rafael Silva Coutinho: Disentangling Charmonia in the Threshold Region
Joint BESIII-LHCb workshop, IHEP, Beijing, China, 8 - 9 February, 2018.
- Elena Graverini: $\Lambda_b \rightarrow \Lambda_c \ell \nu$ as a probe of lepton flavour nonuniversality
Implications of LHCb measurements and future prospects, CERN, 8 - 10 November 2017.
- Andrea Mauri: Prospects for data-driven analyses of the decay $B \rightarrow K^* \ell \ell$
Implications of LHCb measurements and future prospects, CERN, 8 - 10 November 2017.
- Rafael Silva Coutinho: CP violation in b-baryons at LHCb
Joint Annual Meeting of the SPS/APS, Geneva, Switzerland, 21 - 25 August, 2017.
- Olaf Steinkamp: Event Selection and Data Analysis in Particle Physics
Young Physicist Forum, UZH, April 22, 2017

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17.2 Condensed matter

17.2.1 Condensed matter theory group

Articles

- Numerical investigation of gapped edge states in fractional quantum Hall-superconductor heterostructures
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- Magnetic-tunnelling-induced Weyl node annihilation in TaP
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- Probing many-body localization with neural networks
F. Schindler, N. Regnault, T. Neupert, Phys. Rev. B **95**, 245134 (2017)

Conference talks and colloquia

- Titus Neupert: Higher-order topological insulators
Peking University, Beijing, China, 18.04.2017
- Titus Neupert: Higher-order topological insulators
Institute of Physics, Beijing, China, 20.04.2017
- Titus Neupert: Probing Many-body Localization with Neural Networks
University of Cologne, Cologne, Germany, 25.04.2017
- Titus Neupert: Higher-order topological insulators
ETH Zurich, Zurich, Switzerland, 08.05.2017
- Titus Neupert: Higher-order topological insulators
Spin Dynamics in the Dirac Systems, Mainz, Germany, 06.06.2017
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Augsburg University, Augsburg, Germany, 13.06.2017
- Titus Neupert: Higher-order topological insulators
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- Titus Neupert: Probing Many-body Localization with Neural Networks
Symposium on Quantum Matter, Corfu, Greece, 13.07.2017
- Titus Neupert: Higher-order topological insulators
New Trends in Topological Insulators, Monte Verita, Switzerland, 16.07.2017
- Titus Neupert: Topological crystalline insulators
Topological Matter School, Donostia-San Sebastian, Spain, 21.08.–25.08.2017
- Titus Neupert: Big data in der Quantenmechanik: Wie ein Dutzend Elektronen eine Festplatte füllt
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- Titus Neupert: Higher-order topological insulators
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- Frank Schindler: Probing Many-body Localization with Neural Networks
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- Titus Neupert: Higher-order topological insulators
Korrelationstage, Dresden, Germany, 12.09.2017
- Frank Schindler: Higher-Order Topological Insulators
Trends in Theory of Correlated Materials, Tsukuba, Japan, 12.09.2017
- Frank Schindler: Probing Many-body Localization with Neural Networks
Seminar in the group of Akira Furusaki, RIKEN, Japan, 14.09.2017
- Titus Neupert: Higher-order topological insulators
Yukawa Institute, Kyoto, Japan, 01.10.2017
- Ashley Cook: Higher-order topological insulators
Kali Institute for Theoretical Physics, Santa Barbara, USA, 3.10.2017
- Ashley Cook: Higher-order topological insulators
Freie Universitaet Berlin, Berlin, Germany, 12.10.2017
- Frank Schindler: Probing Many-body Localization with Neural Networks
Condensed matter theory seminar, Paul Scherrer Institute, Switzerland, 21.11.2017
- Ashley Cook: Magnetic Weyl and Dirac Kondo semimetal phases in heterostructures
Yukawa Institute, Kyoto, Japan, 21.11.2017
- Frank Schindler: Topoelectrical Circuit Realization of Topological Corner Modes
Condensed matter theory seminar, University of Cologne, Germany, 28.11.2017
- Titus Neupert: Weyl semimetals
Zurich Physics Colloquium, Zurich, Switzerland, 13.12.2017
- Titus Neupert: Higher-order topological insulators
Weizmann Institute, Tel Aviv, Israel, 03.01.2018
- Titus Neupert: Talk im Turm
University of Zurich, Zurich, Switzerland, 15.01.2018
- Titus Neupert: Axiomatic topological quantum field theory
School on topological states of quantum matter, SISSA, Trieste, Italy, 23.01.–25.01.2018
- Titus Neupert: Higher-order topological insulators
Workshop on Relativistic fermions in Condensed Matter, Banff, Canada, 12.02.2018
- Ashley Cook: Magnetic Weyl and Dirac Kondo semimetal phases in heterostructures
Workshop on Relativistic fermions in Condensed Matter, Banff, Canada, 15.02.2018
- Ashley Cook: Higher-order topological insulators
Concordia University, Montreal, Canada, 21.02.2018

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Poster

- Frank Schindler: Kramers-Weyl Fermions
Spin Dynamics in the Dirac Systems, Mainz, Germany, 06.06.2017
- Frank Schindler: Kramers-Weyl Fermions
New Trends in Topological Insulators, Monte Verita, Switzerland, 16.07.2017

17.2.2 Superconductivity and Magnetism

Articles

- Spin-Orbital Excitations in Ca₂RuO₄ Revealed by Resonant Inelastic X-Ray Scattering
L. Das, F. Forte, R. Fittipaldi, C. G. Fatuzzo, V. Granata, O. Ivashko, M. Horio, F. Schindler, M. Dantz, Yi Tseng, D. E. McNally, H. M. Rønnow, W. Wan, N. B. Christensen, J. Pellicciari, P. Olalde-Velasco, N. Kikugawa, T. Neupert, A. Vecchione, T. Schmitt, M. Cuoco, and J. Chang, *Physical Review X* **8**, 11048 (2018).
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- Pressure tuning of structure, superconductivity, and novel magnetic order in the Ce-underdoped electron-doped cuprate T'-Pr_{1.3-x}La_{0.7}Ce_xCuO₄ (x=0.1)
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- Johan Chang: X-ray diffraction in extreme magnetic fields: Day-One Experiments
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Intertwined Order and Fluctuations in Quantum Materials, 31th July – 4th Aug 2017, Santa Barbara, USA (Invited).

- Johan Chang: Oxide - Electronics: From Mott Physics to high-temperature superconductivity
The 14th Int. Conf. on Muon Spin Rotation, Relaxation and Resonance 25 – 30th June 2017, Sapporo, Japan (Invited).
- Johan Chang: Nature of the Mott insulator Ca_2RuO_4
Superstripe conference, 5 – 9th of June 2017, Ischia, Italy (Invited).
- Masafumi Horio: Three Dimensional Fermi Surface of Overdoped La-based Cuprates
JPS annual meeting, 22 – 25th of March 2018, Tokyo, Japan.
- Denys Sutter: Hallmarks of Hund's coupling in the Mott insulating state of Ca_2RuO_4
To-Be Spring meeting 2017, 1st of April 2017, Luxembourg.
- Daniel Destraz: Superconducting fluctuations in a thin NbN film probed by the Hall effect
Superstripes une 4–10, 2017, Ischia, Italy.
- Oleh Ivashko: Anisotropic dispersion of the spin-excitations in a cuprate superconductor
International workshop on strong correlations and angle-resolved photoemission spectroscopy(CORPES17), July 2-7, 2017, Hiroshima, Japan.
- Oleh Ivashko: Charge-Stripe Order and Superconductivity in $\text{Ir}_{1-x}\text{Pt}_x\text{Te}_2$
Workshop on Bulk Scattering in Condensed Matter Physics and Chemistry (CMPC), February 22 – 23, 2018, DESY, Hamburg.

17.2.3 Phase transitions, materials and applications

Articles

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- Single-crystal growth and study of the mixed spin-dimer system $\text{Ba}_{3-x}\text{Sr}_x\text{Cr}_2\text{O}_8$
A. Gazizulina, D.L. Quintero-Castro, A. Schilling, Phys. Rev. B **96**, 184201 (2017).
- Bose-Einstein condensation of triplons with a weakly broken $U(1)$ symmetry
A. Khudoyberdiev, A. Rakhimov, A. Schilling, New. J. Phys. **19** 13002 (2017)
- Design of NbN superconducting nanowire single-photon detectors with enhanced infrared detection efficiency
Q. Wang, J.J. Renema, A.Engel, and M.J.A. de Dood, Phys. Rev. Applied **8**, 034004 (2017)
- Superconducting fluctuations in a thin NbN film probed by the Hall effect
D. Destraz, K. Ilin, M. Siegel, A. Schilling, J. Chang, Phys. Rev. B **95**, 22450 (2017)

Conference contributions

- Qiang Wang: Design of NbN superconducting nanowire single photon detectors with enhanced infrared photon detection efficiency (Poster)
16th International Superconductive Electronics Conference, ISEC 2017, June 12 – 16, Sorrento, Italy.
- Alsu Gazizulina: Single crystal growth and study of the magnetic properties of the diluted system $\text{Ba}_{3-x}\text{Sr}_x\text{Cr}_2\text{O}_8$ (Poster)
International Conference on Strongly Correlated Electron Systems (SCES 2017), 17–21 July 2017, Prague.
- Alsu Gazizulina: Crystal growth and and magnetic properties of spin-1/2-dimer system $\text{Ba}_{0.1}\text{Sr}_{2.9}\text{Cr}_2\text{O}_8$ (Poster)
The European School on Magnetism, 9 – 21 October 2017, Cargese, Corsica, France.
- Alsu Gazizulina: Single crystal growth and study of the magnetic properties of the mixed system $\text{Ba}_{3-x}\text{Sr}_x\text{Cr}_2\text{O}_8$ (Poster)
APS March Meeting 2018, 5 – 9 March 2018, Los Angeles, USA.
- Alsu Gazizulina: High Magnetic Field Investigations of the Dimerized System $\text{Ba}_{0.1}\text{Sr}_{2.9}\text{Cr}_2\text{O}_8$
APS March Meeting 2018, 5 – 9 March 2018, Los Angeles, USA.
- Andreas Schilling: Triplonen in magnetischen Isolatoren
Physikalische Gesellschaft Zürich, 4. Mai 2017.

17.2.4 Surface Physics

Articles

- The impact of metalation on adsorption geometry, electronic level alignment and UV-stability of organic macrocycles on $\text{TiO}_2(110)$
M. Graf, G. Mette, D. Leuenberger, Y. Gurdal, M. Ianuzzi, W-D Zabka, S. Schnidrig, B. Probst, J. Hutter, R. Alberto, J. Osterwalder, *Nanoscale*, 9, 8756 (2017).
- Single molecule magnet with an unpaired electron trapped between two lanthanide ions inside a fullerene
F. Liu, D. S. Krylov, L. Spree, S. M. Avdoshenko, N. A. Samoylova, M. Rosenkranz, A. Kostanyan, T. Greber, A. U. B. Wolter, B. Büchner and A. A. Popov, *Nature Comm.* 8, 16098 (2017).
- Atomically Resolved Band Bending Effects in a p-n Heterojunction of Cu_2O and a Cobalt Macrocycle
D. Leuenberger, W-D. Zabka, O-F. R. Shah, S. Schnidrig, B. Probst, R. Alberto, J. Osterwalder, *Nano Letters* 17, 6620 (2017).
- Optical Control of Young's Type Double-slit Interferometer for Laser-induced Electron Emission from a Nano-tip
H. Yanagisawa, M. Ciappina, C. Hafner, J. Schötz, J. Osterwalder, M. F. Kling, *Sci. Rep.* 7, 12661 (2017).
- From two- to three-dimensional alumina: Interface templated films and formation of $\gamma\text{-Al}_2\text{O}_3(111)$ nuclei
W-D. Zabka, D. Leuenberger, G. Mette, and J. Osterwalder, *Phys. Rev. B* 96, 155420 (2017).
- Fermi surface map of large-scale single-orientation graphene on SiO_2
E. Miniussi, C. Bernard, H. Y. Cun, B. Probst, D. Leuenberger, G. Mette, W-D. Zabka, M. Weinl, M. Haluska, M. Schreck, J. Osterwalder and T. Greber, *J. Phys.: Condens. Matter* 29, 475001 (2017).
- Atomically dispersed hybrid nickel-iridium sites for photoelectrocatalysis
C. Cui, M. Heggen, W-D. Zabka, W. Cui, J. Osterwalder, B. Probst, R. Alberto, *Nature Comm.* 8, 1341 (2017).
- Imaging Chemical Reactions One Molecule at a Time
Z. Novotny, Z. Zhang, Z. Dohnalek, *Reference Module in Chemistry, Molecular Sciences and Chemical Engineering.*
- Tau Zero: In the cockpit of a Bussard ramjet
H. Blatter, T. Greber, *Am. J. Phys.* 85, 12 (2017).
- Effective mass effect in attosecond electron transport
L. Kasmi, M. Lucchini, L. Castiglioni, P. Kliuiev, J. Osterwalder, M. Hengsberger, L. Gallmann, P. Krueger, and U. Keller, *Optica*, 4, 1492 (2017).
- Switching Molecular Conformation with the Torque on a Single Magnetic Moment
A. Kostanyan, R. Westerstrøm, Y. Zhang, D. Kunhardt, R. Stania, B. Büchner, A. A. Popov, and T. Greber, *Phys. Rev. Lett.* 119, 237202 (2017).
- Photoemission and photoionization time delays and rates
L. Gallmann, I. Jordan, H. J. Wörner, L. Castiglioni, M. Hengsberger, J. Osterwalder, C. A. Arrell, M. Chergui, E. Liberatore, U. Rothlisberger, and U. Keller, *Struct. Dyn.* 4, 061502 (2017).
- Femtosecond manipulation of spins, charges, and ions in nanostructures, thin films, and surfaces
F. Carbone, M. Hengsberger, L. Castiglioni, and J. Osterwalder, *Struct. Dyn.* 4, 061504 (2017).
- Strong field transient manipulation of electronic states and bands
I. Crassee, L. Gallmann, G. Gäumann, M. Matthews, H. Yanagisawa, T. Feurer, M. Hengsberger, U. Keller, J. Osterwalder, H. J. Wörner, and J. P. Wolf, *Struct. Dyn.* 4, 061505 (2017).
- Watching ultrafast responses of structure and magnetism in condensed matter with momentum-resolved probes
S. L. Johnson, M. Savoini, P. Beaud, G. Ingold, U. Staub, F. Carbone, L. Castiglioni, M. Hengsberger, and J. Osterwalder, *Struct. Dyn.* 4, 061506 (2017).

- Centimeter-Sized Single-Orientation Monolayer Hexagonal Boron Nitride With or Without Nanovoids
H. Cun, A. Hemmi, E. Miniussi, C. Bernard, B. Probst, K. Liu, D. T. L. Alexander, A. Kleibert, G. Mette, M. Weini, M. Schreck, J. Osterwalder, A. Radenovic, and T. Greber, *Nano Letters*, 18, 1205 (2018).
- Robustness of the charge-ordered phases in IrTe₂ against photoexcitation
C. Monney, A. Schuler, T. Jaouen, M.-L. Mottas, Th. Wolf, M. Merz, M. Muntwiler, L. Castiglioni, P. Aebi, F. Weber, and M. Hengsberger, *Phys. Rev. B* 97, 075110 (2018).
- Remote doping of graphene on SiO₂ with 5 keV x-rays in air
B. Salzmann, C. Bernard, A. Hemmi and T. Greber, *J. Vac. Sci. Technol. A* 36, 020603 (2018).
- Polarization-sensitive pulse reconstruction by momentum-resolved photoelectron streaking
K. Waltar, J. Haase, M. Lucchini, J. A. van Bokhoven, M. Hengsberger, J. Osterwalder, and L. Castiglioni, *Opt. Express* 26, 8364 (2018).

Contributed conference presentations

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- P. Kliuiev: Reconstruction of molecular wave functions with iterative phase retrieval algorithms (Poster)
Interdisciplinary Surface Science Conference (ISSC-21) by the IOP Thin Films and Surfaces Group, Manchester, UK, 10.04.2017.
- A. Kostanyan: Effect of in-field cooling on HoLu₂N@C₈₀ (Poster)
First Sino Swiss Science and Technology (SSSTC) workshop on endohedral single molecule magnets, Castasegna, Switzerland, 24.06.2017.
- M. Hotz: Co-Pyrphyrin on Cu₂O(111) and TiO₂(110): Properties and Stability under Near Operando Conditions
SPS Joint Annual Meeting 2017, Geneva, Switzerland, 24.08.2017.
- W.-D. Zabka: From 2D to 3D Alumina: Interface Templated Growth of γ -Al₂O₃(111)-like Films
ECOSS 2017, Szeged, Hungary, 29.08.2017.
- A. Kostanyan: An isotropic ion inside an exchange stabilized endohedral single-molecule magnet (Poster)
QMol 2017, Monte Verit , Ascona, Switzerland, 10.09.2017.
- L. Castiglioni: Prospects and limitations of THz pump-XUV probe experiments in condensed matter
Future of Science at FLASH Workshop DESY, Hamburg, Germany, 25.09.2017.
- Z. Novotny: Co-Pyrphyrin on Cu₂O(111) and TiO₂(110): Properties and Stability under Near-Operando Conditions
64th Meeting of the American Vacuum Society, Tampa, FL, 02.11.2017.
- W.-D. Zabka: Functionalization of Ultrathin Alumina Films with Rhenium Photosensitizers
AVS 64th International Symposium, Tampa, USA, 03.11.2017.
- Z. Novotny: Co-Pyrphyrin on Cu₂O(111) and TiO₂(110): Bridging the Pressure Gap (Poster)
URPP LightChEC Symposium, Universit t Z rich-Irchel Theatersaal Y21 F-65, 10.11.2017.
- W.-D. Zabka: Towards Charge Carrier Dynamics in Re-Photosensitizers on Alumina Thin Films (Poster)
LightChEC Symposium 2017, Z rich, Switzerland, 10.11.2017.
- W.-D. Zabka: Photosensitizers on Ultrathin Alumina Films: Comparison of Photosensitizer Coverage and Band Alignment (Poster)
34th SAOG Meeting, Fribourg, Switzerland, 01.02.2018.
- A. Hemmi: Single Layer Boron Nitride from UZH: A Status Report
Workshop Graphene Flagship WP3, Fuertaventura, Spain, 20.02.2018.

Invited lectures

- T. Greber: Single layer boron nitride membranes
EMCMRE-4, Marrakech, Morocco, 09.05.2017.

- T. Greber: Magnetism inside C_{80}
Kolloquium Universität Regensburg, Regensburg, Germany, 22.05.2017.
- T. Greber: Endohedral Single Molecule Magnets
Electrochemical Society, New Orleans, USA, 29.05.2017.
- L. Castiglioni: Attosecond Dynamics in Photoemission from Noble Metal Surfaces
Ultrafast Surface Dynamics, USD 10, Inzell, Germany, 16.06.2017.
- M. Hengsberger: From attoseconds to picoseconds - dynamics in surfaces studied by photoemission
International Workshop on Surface Physics IWSP 2017, Trzebnica, Poland, 28.06.2017.
- T. Greber: The smallest compass
IWNN, Beijing, China, 05.07.2017.
- L. Castiglioni: Temporal aspects of photoemission from metal surfaces
International Workshop on Strong Correlations and Angle-Resolved Photoemission Spectroscopy, CORPES17, Hiroshima, Japan, 07.07.2017.
- T. Greber: Smart Membranes
IWNN, Xian, China, 07.07.2017.
- L. Castiglioni: Molecular tomography and photoelectron diffraction: initial vs. final state effects in ARPES from molecules
Chiba University, Chiba, Japan, 11.07.2017.
- T. Greber: Shaping the nanomesh with an ion gun
Workshop on Advanced Scanning Probe Microscopy ASPM , Konjiam, Korea, 18.08.2017.
- T. Greber: Creating non random nanostructures with ions near the penetration threshold of single layer material
Workshop on Inelastic Ion Surface Collisions IISC-22, Dresden, Germany, 19.09.2017.
- T. Greber: Shaping single layer materials with slow ions
TUM-CAS Workshop, Fraueninsel Chiemsee, Germany, 10.10.2017.
- M. Hengsberger: Coherent collective modes studied with time-resolved photoelectron diffraction
International Conference on Novel Nanomaterials ICON2, Synchrotron SOLEIL, St. Aubin, France, 19.10.2017.
- T. Greber: Dünner wär dümmer: 2D 4 the future
TecDay, Aarau, Switzerland, 09.11.2017.
- T. Greber: The inside of C_{80} : A cornucopia for molecular magnetism
Kolloquium, Martin Luther Universität Halle, Halle, Germany, 30.11.2017.
- T. Greber: Taming 4f electrons in endohedral single molecule magnets
Atomic Level Characterisation ALC17, Kauai, USA, 07.12.2017.
- T. Greber: Is C_{80} a Faraday cage?
SSNS18, Furano, Japan, 12.01.2018.

17.2.5 Disordered and Biological Soft Matter

Articles

- Coherent multiple light scattering in Faraday active materials.
L. Schertel, G.J. Aubry, C.M. Aegerter, and G. Maret, *Europ. Phys J. ST* **226** 1409 (2017).
- Free-standing photonic glasses fabricated in a centrifugal field.
M. Chen, D. Fischli, L. Schertel, G.J. Aubry, B. Häusele, S. Polarz, G. Maret, and H. Cölfen, *Small* **13** 1701392 (2017).

- Challenging FRET-based force measurements in *Drosophila*
D. Eder, K. Basler, and C.M. Aegerter, *Nature Scientific Reports* 7, 13692 (2017).
- Resonant Near-Field Effects in Photonic Glasses
G.J. Aubry, L. Schertel, M. Chen, H. Weyer, C.M. Aegerter, S. Polarz, H. Cölfen, and G. Maret, *Phys. Rev. A* **96**, 043871 (2017).
- In-vivo determination of bending-stiffness of caudal fins in adult zebrafish.
S. Puri, T. Aegerter-Wilmsen, A. Jazwinska and C.M. Aegerter, *J. of Exp. Biol.* **221**, 17077 (2018).
- Dynamic generation of light sheets behind turbid media.
J. Schneider and C.M. Aegerter, *J. Europ. Opt Soc.* **14**, 7 (2018).

Articles in press

- A magnetic tweezer for application in *Drosophila* embryos.
L.Selvaggi, L. Pasykarnakis, D. Brunner, and C.M. Aegerter, *Review of Scientific Instruments* (2018).

Conference reports

- Explorative mechanochemical modelling of dorsal closure reveals emergent cell patterning and tissue shaping
F. Atzeni; EMBO/EMBL Symposium: "Tissue Self-Organisation: Challenging the Systems",
EMBL Heidelberg, March 14th, 2018.
- Mechanochemical modelling as an explorative tool to study tissue morphogenesis
F. Atzeni; Life Sciences Switzerland Annual Meeting, "Metabolism and Signaling in the Life Sciences",
University of Lausanne, February 12, 2018.
- Mechanochemical modelling as an explorative tool to study *Drosophila* dorsal closure
F. Atzeni; Symposium on Emergence and Self-Organization in Living Systems,
Careum Auditorium, Zürich. November 7th, 2017 (poster).
- Mechanochemical modelling as an explorative tool to study *Drosophila* dorsal closure
F. Atzeni; 3rd International SystemsX.ch Conference, ETH Zurich. September 4-7th, 2017 (poster).
- Hydrodynamic stress and bone growth regulation in the zebrafish caudal fin
P. Dagenais; Mechanical Forces in Biology, EMBL Heidelberg, Germany. July 12-15th, 2017 (poster).
- Establishment of lepidotrichial branching networks in Zebrafish caudal fins
S. Puri; Mechanical Forces in Biology, EMBL Heidelberg, Germany. July 12-15th, 2017 (poster).
- Resonant Near-Field Effects in Photonic Glasses
L. Schertel; Complex Nanophotonics (Cumberland Lodge, Winsdor, GB), July 2017 (poster).
- Near field effected resonant light transport
L. Schertel; DINAMO 2017 (Siglufjördur, Iceland), May 2017 (poster).

Invited lectures

- C.M. Aegerter: Von Wirbelkanonen, Magnusgleitern und Elefanten im Zimmer
Kinderuniversität Zürich, Zürich, Switzerland (17.03.2018).
- C.M. Aegerter: Firlefax der Wettermacher
Gemeindezentrum Loogarten, Zürich, Switzerland (14.01.2018).