Curriculum Vitae

PERSONAL INFORMATION

Name and surname	**KORNELIJA PASSEK-KUMERIČKI**
Academic title	Dr. sc.
Year and institution of PhD obtained	2001, University of Zagreb, Croatia
Address	Bijenička c. 54
Phone	+385-1-4561032
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E-mail	passek@irb.hr
Personal web page	http://www.irb.hr/eng/People/Kornelija-Passek-Kumerički
Citizenship/Nationality	Croatian/Croat

EDUCATION

Year	2001
Institution	*University of Zagreb, Zagreb, Croatia*
Title of qualification awarded	**Ph. D.**
Thesis	*"The application of the perturbative QCD to the pion form factor",* supervisor: dr. Bene Nižić (Ruđer Bošković Institute, Zagreb)

Year	1997
Institution	*University of Zagreb, Zagreb, Croatia*
Title of qualification awarded	**M. Sc.**
Thesis	*"Exclusive photoproduction of K and K* mesons at large momentum transfer",* supervisor: dr. Bene Nižić (Ruđer Bošković Institute, Zagreb)

Year	1994
Institution	*University of Zagreb, Zagreb, Croatia*
Title of qualification awarded	**B. Sc.** (Dipl. Ing. Phys.)
Thesis	*"The computer-algebraic treatment of the hard exclusive reactions",* supervisor: dr. Wolfgang Schweiger (Karl-Franzens Universitaet Graz), dr. Miroslav Furić (University of Zagreb)

Year	1988 - 1994
Institution	*University of Zagreb, Zagreb, Croatia*
Description	Study of (theoretical) physics at Faculty of Physics

Year	1984 - 1988
Institution	*Mathematical gymnasium, Zagreb, Croatia*
Title of qualification awarded	Abitur

TRAINING

Year	1994-1996
Institution	*University of Zagreb, Zagreb, Croatia*
Subject and skills covered	PhD Study

LANGUAGES

MOTHER TONGUE	Croatian

Language	English
Speaking/Writing/Reading	*Excellent/Excellent/Excellent*
Language	German
Speaking/Writing/Reading	*Excellent/Excellent/Excellent*
Language	French
Speaking/Writing/Reading	*Basic/Basic/Basic*

WORK EXPERIENCE

Date (from – until)	04/2026 -present
Institution	Rudjer Boskovic Institute, Zagreb, Croatia
Position	Senior scientist
Work field	*Theoretical particle physics*
Date (from – until)	04/2020 - 04/2026
Institution	Rudjer Boskovic Institute, Zagreb, Croatia
Position	Senior Research Associate
Work field	*Theoretical particle physics*
Date (from – until)	05/2005 - 03/2020
Institution	Rudjer Boskovic Institute, Zagreb, Croatia
Position	Research Associate
Work field	*Theoretical particle physics*
Date (from – until)	09/2005 – 01/2007
Institution	University of Regensburg, Germany
Position	Research position
Work field	*Theoretical particle physics*
Date (from – until)	11/2001 – 10/2002
Institution	University of Wuppertal, Germany
Position	Postdoctoral Research Assistant
Work field	*Theoretical particle physics*
Date (from – until)	04/2001 – 05/2005
Institution	Rudjer Boskovic Institute, Zagreb, Croatia
Position	Postdoctoral Research Assistant
Work field	*Theoretical particle physics*
Date (from – until)	03/1994 – 04/2001
Institution	Rudjer Boskovic Institute, Zagreb, Croatia
Position	Research Assistant
Work field	*Theoretical particle physics*

RESEARCH FIELD

Theoretical elementary particle physics

Main topics:

- QCD phenomenology; in particular, the investigation of exclusive hadronic processes and application of perturbative calculations
- phenomenology of non-commutative Standard model

LONGER VISITS TO FOREIGN RESEARCH AND EDUCATION INSTITUTIONS
(ONLY VISITS LONGER THAN 3 MONTHS)

Date (from – until)	02/2010 – 06/2010
Institution	University of Regensburg, Germany
Position	Research position

Date (from – until)	09/2005 – 01/2007
Institution	University of Regensburg, Germany
Position	Research position

Date (from – until)	01/11/2001 – 31/10/2002
Institution	University of Wuppertal, Germany
Position	Postdoctoral Reasearch Asistant

Date (from – until)	03/1994 – 05/1994
Institution	Institut fur Theoretische Physik, Karl Franzens Universitaet, Graz, Austria
Position	Research visit (austrian scholarship)

Date (from – until)	03/1993 – 05/1993
Institution	Institut fur Theoretische Physik, Karl Franzens Universitaet, Graz, Austria
Position	Work on B.Sc. Thesis (austrian scholarship)

INTERNATIONAL PROJECTS
(LEADER AND ASSOCIATES)

2019 – 2024
Project leader at institution of the research project:
STRONG-2020 project, EU Horizon 2020 research and innovation programme,
(EK-H2020-INFRAIA-2018-1, grant agreement No 824093,
JRA5-GPD-ACT: Generalized Parton Distributions)

2016 – 2019
Project coordinator (Dec 2016 – Jan 2018), project manager and work package leader
of the H2020 (Coordination and Support) project:
RBI-T-WINNING: Twinning a step forward of the Theoretical Physics Division of the Ruđer Bošković Institute, H2020 project (EU H2020 CSA-2015 number 692194)
Project coordinators: Fabrizio Nesti (Feb 2016 - Nov 2016)
Kornelija Passek-Kumerički (Dec 2016 - Jan 2018)
Vinko Zlatić (Feb 2018 – Jan 2019)
Participant organizations:
RBI (coordinator institution), SISSA (Italy), LPT Orsay (France),
Ludwig Maximilian University (Germany), Niels Bohr Institute (Denmark)

2008 – 2011
Investigator on the research project:
Revealing Generalized Parton Distributions, DFG project
Principal investigators: Prof. Dr. Maxim Polyakov (Uni. Bochum),
Dr. sc. Krešimir Kumerički (Uni. Zagreb)
Local participants: Dr.sc. Kornelija Passek-Kumerički

2005 – 2010
Investigator on the research project:
QCD sum rules for exclusive decays of heavy hadrons,
Institutional partnership (RBI and Uni Siegen) promoted by
the Alexander von Humboldt foundation
Principal investigators: Dr. sc. Blaženka Melić,
Prof. dr. Thomas Mannel (Uni. Siegen)
Local participants: Dr. sc. Goran Duplančić, Dr.sc. Kornelija Passek-Kumerički

2003 – 2006
Principal investigator on the research project:
Hard exclusive photo- and electroproduction of heavy quarkonium,
Austrian-croatian bilateral project
Principal investigators: Dr. sc. Kornelija Passek-Kumerički,
Prof. Dr. Wolfgang Schweiger (Karl-Franzens Uni. Graz);
Local participants: Dr. sc. Blaženka Melić

2003 – 2005
Principal investigator on the research project:
Higher-order QCD corrections in exclusive processes - mesons and baryons,
DFG project (436 KRO 113/6/0-1)
Principal investigators: Prof. Dr. Klaus Goeke (Uni. Bochum),
Dr. sc. Kornelija Passek-Kumerički;
Local participants: Dr. sc. Goran Duplančić, Dr. sc. Bene Nižić

CROATIAN PROJECTS
(LEADER AND ASSOCIATES)

2020 - 2024
Principal investigator on the research project:
Revealing the hadron structure through hard exclusive processes (REVESTRUCTURE);
CSF/HRZZ project (IP-2019-04-9709)
Researchers: Dr. sc. Goran Duplančić, Dr.sc. Krešimir Kumerički, Dr.sc. Lech Szymanowski, Dr. sc. Nikola Crnković, Dr. sc. Raj Kishore, Dr. Sc. Saad Nabeebaccus

2014 - 2018
Investigator on the research project:
Physics of the Standard Model and Beyond; CSF/HRZZ project (HrZZ 5169)
Principal investigator: Dr. sc. Blaženka Melić

2007 – 2013
Investigator on the research project:
Fundamental interactions in elementary particle physics and cosmology;
MSE/MZOŠ project (098-0982930-2864)
Principal investigators: Dr. sc. Branko Guberina (2007-2011), Dr. sc. Nevenko Bilić (2012), Dr. sc. Goran Duplančić (2013)

2001 – 2006
Investigator on the research project:
Fundamental interactions in elementary particle physics and cosmology;
MST/MZT project (0098002)
Principal investigator: Dr. sc. Branko Guberina

1998 – 2000
Principal investigator on the research project:
Ekskluzivni procesi u kvantnoj kromodinamici*;* incentive MST/MZT project (098463)

1996 – 2001
Investigator on the research project:
Theoretical research of elementary particle properties; MST/MZT project (00980102)
Principal investigator: Dr. sc. Branko Guberina

ORGANIZATIONAL SKILLS AND COMPETENCES (ORGANIZATION OF HOME AND INTERNATIONAL SCIENCE EVENTS)

2023 member of the Organizing Committee of the international workshop
REVESTRUCTURE,
Zagreb, Croatia, 10-12 July 2023

2021 member of the Organizing Committee of the international meeting
ACHT 2021 *"Perspectives in Particle, Cosmo- and Astroparticle Theory"* ,
online, 21-23 April 2021

2018 member of the Organizing Committee of the international workshop
"Getting to Grips with QCD-Summer Edition",
Primošten, Hrvatska, 18-22 September 2018

2018 member of the Organizing Committee of the international school
"QCD meets precision",
LPT Orsay, France, 18-22 June 2018

2018 member of the Organizing Committee of the international workshop
"Getting to Grips with QCD",
Paris, France, 4-6 April 2018

2016 member of the Organizing Committee of the international meeting
ACHT 2016, *"Non-perturbative aspects of Quantum Field Theory"*,
Čakovec, Croatia, 5-7 October 2016

2016 member of the Organizing Committee of the international school
"Dense systems in QCD at asymptotical energies",
LPT Orsay, France, 20 June-1 July 2016

2014 Co-Chair of the International Workshop on Diffraction in High-Energy Physics
"Diffraction 2014",
Primošten, Croatia, 10-16 September, 2014

2009 member of the Organizing Committee of the international workshop
"Progress and Challenges in Particle Physics",
Primošten, Croatia, 29 September-3 October 2009

2001 member of the Organizing Committee of the international conference
8th Adriatic Meeting *"Particle Physics in the new millenium"*,
Dubrovnik, Croatia, 4-14 September 2001

MEMBERSHIP IN SCIENCE ORGANIZATIONS AND BODIES

Member of the Croatian Physical Society

TEACHING

2015 - 2017
exercises in *Quantum Physics*, PMF, University of Zagreb

2006 – 2007 (winter semester)
excercises in *Math. Ergänzugen in der Physik*, University of Regensburg, Germany

2005 – 2006 (summer semester)
excercises in *Struktur der Materie(III)*, University of Regensburg, Germany

TRAINING OF YOUNG RESEARCHERS AND SCIENTISTS

2020 - 2026: PhD advisor of Nikola Crnković, PhD thesis “Revealing the nucleon structure through exclusive meson production”, 22.1.2026. (financed by CSF project DOK-2020-01-9883)

2010-2012: collaboration with PhD student Tobias Lautenschlager (Uni. Regensburg, Germany); published joint paper (D. Mueller, T. Lautenschlaeger, K. Passek-Kumerički, A. Schaefer, Nucl. Phys. B884 (2014) 438-546)

2006-2008: collaboration with PhD student Gerhard Peters (Uni. Regensburg, Germany); published joint paper (K. Passek-Kumerički, G. Peters, Phys. Rev. D78 (2008) 033009)

OTHER RESEARCH ACTIVITIES

Refereeing for Phy. Lett. B, Nucl. Phys. B, JHEP, Eur.Phys.J C, Croatian physical journal ”Fizika B”, Symmetry, Universe.

Reviewer for CSF projects
Evaluator of project proposals to EC HORIZON calls

Member of the PhD defense committee: Eric Andreas Vivoda, "Odderon Phenomenology at High Energies," University of Zagreb (2025)
Member of the PhD defense committee (examinatrice): Hervé Dutrieux, “Phenomenology of generalised parton distributions from deeply virtual Compton scattering“, Université Paris-Saclay (2022.)
Chair of the PhD defense committee: Marija Mađor-Božinović, “Renormalization and Observables in the Standard Model and Beyond in Higher Orders of Perturbation Theory“, University of Zagreb (2022.)

COMPUTER SKILLS

Operator systems: Unix (Linux), MS Windows
Programming: Fortran
Software: Mathematica, MS Office

PUBLICATIONS

ARTICLES

List of articles in WoSCC journals

[1] N. Crnković, G. Duplančić, S. Nabeebaccus, K. Passek-Kumerički, B. Pire, L. Szymanowski, S. Wallon , *"Hard exclusive photoproduction of photon-meson pairs: Pseudoscalar channels π, η, and η'"*, Phys.Rev.D 113 (2026) 3, 034001, [2511.19720 [hep-ph]].

[2] E. C. Aschenauer, V. Batozskaya, S. Fazio, A. Jentsch, J. Kim, K. Kumerički, H. Moutarde, K. Passek-K., D. Sokhan, H. Spiesberger, P. Sznajder, and K. Tezgin, *"Study of deeply virtual Compton scattering at the future Electron-Ion Collider"*, Phys.Rev.D 112 (2025) 3, 036010, [2503.05908 [hep-ph]].

[3] Yoshitaka Hatta, Henry T. Klest, Kornelija Passek-K., Jakob Schoenleber, *"Deeply virtual ϕ-meson production near threshold",* accepted in Progress of Theoretical and Experimental Physics (PTEP), https://doi.org/10.1093/ptep/ptaf076, [arXiv:2501.12343 [hep-ph]].

[4] G. Duplančić, P. Kroll, K. Passek-K., L. Szymanowski, *"The twist-3 contribution to deeply virtual electroproduction of pions"*, Phys.Rev.D 109 (2024) 3, 034008, [arXiv:2312.13164 [hep-ph]].

[5] M. Čuić, G. Duplančić, K. Kumerički, K. Passek-K., "*NLO corrections to the deeply virtual meson production revisited: impact on the extraction of generalized parton distributions",* JHEP 12 (2023) 192, [arXiv:2310.13837 [hep-ph]].

[6] G. Duplančić, S. Nabeebaccus, K. Passek-Kumerički, B. Pire, L. Szymanowski, S. Wallon , "*Probing chiral-even and chiral-odd leading twist quark generalized parton distributions through the exclusive photoproduction of a γρ pair"*, Phys.Rev.D 107 (2023) 9, 094023, [arXiv: 2302.12026 [hep-ph]].

[7] G. Duplančić, S. Nabeebaccus, K. Passek-Kumerički, B. Pire, L. Szymanowski, S. Wallon , "*Accessing chiral-even quark generalised parton distributions in the exclusive photoproduction of γπ± pair with a large invariant mass in both fixed-target and collider experiments"*, JHEP 03 (2023) 241,

[arXiv: 2212.00655 [hep-ph]].

[8] P. Kroll, K. Passek-Kumerički, *"Transition GPDs and exclusive electroproduction of π-Δ(1232) final states",* Phys. Rev. D107 (2023) 054009, [arXiv: 2211.09474 [hep-ph]].

[9] P. Kroll, K. Passek-Kumerički, *"Wide-angle photoproduction of the η'-meson and its gluon content",* Phys. Rev. D105 (2022) 034005, [arXiv: 2111.08965 [hep-ph]].

[10] P. Kroll, K. Passek-Kumerički, *"Wide-angle photo- and electroproduction of pions to twist-3 accuracy",* Phys. Rev. D104 (2021) 054040, [arXiv: 2107.04544 [hep-ph]].

[11] P. Kroll, K. Passek-Kumerički, *"On some implications of the BaBar data on the $\gamma^* \eta'$ transition form factor",* Phys. Lett. B793 (2019) 195-199 [arXiv: 1903.06650 [hep-ph]].

[12] G. Duplančić, K. Passek-Kumerički, B. Pire, L. Szymanowski, S. Wallon , "*Probing axial quark generalized parton distributions through exclusive photoproduction of a γπ± pair with a large invariant mass"*,

JHEP 1811 (2018) 179,[arXiv: 1809.08104 [hep-ph]].

[13] P. Kroll, K. Passek-Kumerički, *"Twist-3 contributions to wide-angle photoproduction of pions",* Phys. Rev. D97 (2018) 074023 [arXiv:1802.06597[hep-ph]].

[14] G. Duplančić, D. Mueller, K. Passek-Kumerički, "*Next-to-leading order corrections to deeply virtual production of pseudoscalar mesons*", Phys. Lett. B771 (2017) 603-610,[arXiv:1612.01937[hep-ph]]

[15] D. Mueller, T. Lautenschlager, K. Passek-Kumerički, A. Schaefer, "*Towards a fitting procedure to deeply virtual meson production -- the next-to-leading order case* --", Nucl.Phys. B884 (2014) 438-546,

[arXiv:1310.5394[hep-ph]].

[16] Peter Kroll, Kornelija Passek-Kumerički, *"The η (η') gamma transition form factor and the gluon–gluon distribution amplitude"*, J.Phys. G40 (2013) 075005, [arXiv:1206.4870[hep-ph]].

[17] K. Passek-Kumerički, G. Peters, *"Nucleon Form Factors to Next-to-Leading Order with Light-Cone Sum Rules",* Phys. Rev. D78 (2008) 033009, [arXiv:0805.1758[hep.ph]].

[18] Kresimir Kumerički, Dieter Mueller, Kornelija Passek-Kumerički, *"Sum rules and dualities for generalized parton distributions: Is there a holographic principle?",* Eur. Phys. J C58 (2008) 193-215, [arXiv:0805.0152 [hep-ph]].

[19] A.T. Goritschnig, B. Melić, K. Passek-Kumerički, W. Schweiger, *"Hard Exclusive Photoproduction of Phi and J/Psi Mesons",* Prog. Part. Nucl. Phys.61 (2008) 173-174, [arXiv:0711.3973 [hep-ph]].

[20] K. Kumerički, D. Mueller, K. Passek-Kumerički, *"Towards a fitting procedure for deeply virtual Compton scattering at next-to-leading order and beyond",* Nucl. Phys. B 794 (2008) 244-323, [arXiv:hep-ph/0703179].

[21] K. Kumerički, Dieter Mueller, K. Passek-Kumerički, A. Schaefer *"Deeply virtual Compton scattering beyond next-to-leading order: the flavor singlet case",* Phys. Lett. B 648 (2007); 186-194 [arXiv:hep-ph/0605237].

[22] Blazenka Melić, Kornelija Passek-Kumerički, Josip Trampetic *"K ---> pi gamma decay and space-time noncommutativity",* Phys.Rev.D72 (2005) 057502 [arXiv:hep-ph/0507231].

[23] Blazenka Melić, Kornelija Passek-Kumerički, Josip Trampetic *"Quarkonia decays into two photons induced by the space-time non-commutativity",* Phys.Rev.D72 (2005) 054004 [arXiv:hep-ph/0503133]

[24] Blazenka Melić, Kornelija Passek-Kumerički, Josip Trampetic, Peter Schupp, Michael Wohlgenannt *"The Standard model on non-commutative space-time: Strong interactions included",* Eur.Phys.J.C42 (2005) 499-504 [arXiv:hep-ph/0503064].

[25] Blazenka Melić, Kornelija Passek-Kumerički, Josip Trampetic, Peter Schupp, Michael Wohlgenannt *"The Standard model on non-commutative space-time: Electroweak currents and Higgs sector",* Eur.Phys.J.C42 (2005) 483-497 [arXiv:hep-ph/0502249].

[26] A. P. Bakulev, K. Passek-Kumerički, W. Schroers, N. G. Stefanis, *"Pion form factor in QCD: From nonlocal condensates to NLO analytic perturbation theory",* Phys.Rev.D70 (2004) 033014 [arXiv:hep-ph/0405062].

[27] H.W. Huang, R. Jakob, P. Kroll, K. Passek-Kumerički, *"Signatures of the handbag mechanism in wide-angle photoproduction of pseudoscalar mesons",* Eur.Phys.J. C33 (2004) 91-103 [arXiv:hep-ph/0309071].

[28] B. Melić, D. Muller, K. Passek-Kumerički, *"Next-to-next-to-leading order prediction for the photon-to-pion transition form factor",* Phys. Rev. D 68 (2003) 014013 [arXiv:hep-ph/0212346].

[29] Peter Kroll, Kornelija Passek-Kumerički, *"The two-gluon components of the eta and eta' mesons to leading-twist accuracy",* Phys. Rev. D 67 (2003) 054017 [arXiv:hep-ph/0210045].

[30] B. Melić, B. Nižić, K. Passek, *"A note on the factorization scale independence of the PQCD predictions for exclusive processes"*, Eur.Phys.J.C36 (2004) 453-458 [arXiv:hep-ph/0107311].

[31] B. Melić, B. Nižić, K. Passek, *"Brodsky-Lepage-Mackenzie scale for the pion transition form factor"*, Phys. Rev. D 65 (2002) 053020 [arXiv:hep-ph/0107295].

[32] B. Melić, B. Nižić, K. Passek, *"Complete next-to-leading order perturbative QCD prediction for the pion electromagnetic form factor"*, Phys. Rev. D60 (1999) 074004 [arXiv:hep-ph/9802204].

[33] P. Kroll, M. Schuermann, K. Passek, W. Schweiger, *"Exclusive Photoproduction of Large Momentum-Transfer K and K* Mesons"*, Phys. Rev. D55 (1997) 4315 [arXiv:hep-ph/9604353].

List of articles in other journals

[34] K. Passek-Kumerički, *"Hard exclusive reactions and the two-gluon components of eta and eta' mesons",* Fizika B13 (2004) 513-522 [arXiv:hep-ph/0311039].

[35] B. Melić, B. Nižić, K. Passek, *"On the complete next-to-leading order pQCD prediction for the pion form factor"*, Fizika B 8 (1999) 327 [arXiv:hep-ph/9903426].

List of proceedings papers

1. Kornelija Passek-K., *"Twist-3 contribution to deeply virtual electroproduction of pions"*, PoS Transversity2024 (2024) 042 [arXiv:2411.04092 [hep-ph]].
2. Goran Duplančić, Saad Nabeebaccus, Kornelija Passek-K., Bernard Pire, Lech Szymanowski, Samuel Wallon, *"Accessing Generalized Parton Distributions through 2→3 exclusive processes"*, PoS DIS2024 (2025) 228 [arXiv:2410.03793 [hep-ph]].
3. Goran Duplančić, Saad Nabeebaccus, Kornelija Passek-K., Bernard Pire, Jakob Schönleber, Lech Szymanowski, Samuel Wallon, *"Exclusive photoproduction of a photon-meson pair: A new class of observables to probe GPDs"*, PoS SPIN2023 (2024) 007 [arXiv: 2401.17656 [hep-ph]].
4. K. Passek-K., *"Deeply-virtual and photoproduction of mesons at higher-order and higher-twist",* Contribution to Epiphany2023, Acta Phys.Polon.Supp. 16 (2023) 7, 7-A5*.,* [2308.09422 [hep-ph]].
5. S. Nabeebaccus, S. Wallon, G. Duplančić, K. Passek-Kumerički, B. Pire, L. Szymanowski, "*Accessing GPDs Through the Exclusive Photoproduction of a Photon–Meson Pair with a Large Invariant Mass*", *Acta Phys.Polon.Supp.* 16 (2023) 5, 16, Contribution to Difflowx2022, [arXiv: 2212.01034 [hep-ph]].
6. G. Duplančić, S. Nabeebaccus, K. Passek-Kumerički, B. Pire, L. Szymanowski, S. Wallon , "*Accessing GPDs through the exclusive photoproduction of a y-meson pair"*, Contribution to: DIS2022 DOI: 10.5281/zenodo.7078119, [arXiv: 2209.05380 [hep-ph]].
7. K. Passek-Kumerički, *"On wide-angle photo- and electroproduction of pions to twist-3 accuracy", Rev.Mex.Fis.Suppl. 3 (2022) 3, 0308113*, prepared for 19th International Conference on Hadron Spectroscopy and Structure in memoriam Simon Eidelman (HADRON 2021), Mexico City, Mexico (online), 26-31 July 2021 [arXiv:2203.12334].
8. G. Duplančić, K. Passek-Kumerički, B. Pire, L. Szymanowski, S. Wallon , "*Probing Generalized Parton Distributions through the photoproduction of a γπ pair*", *Acta Phys.Polon.Supp.* 12 (2019) 4, 855, [arXiv: 1812.09307 [hep-ph]].
9. A.T. Goritschnig, B. Melić, K. Passek-Kumerički, W. Schweiger, *"Hard Exclusive Phi and J/Psi Photoproduction off a Proton",* Proceedings of Science DIS2014 170, [arXiv:1411.0904[hep-ph]].
10. K. Kumerički, D. Mueller, K. Passek-Kumerički, A. Schaefer, M. Meskauskas. *"Accessing GPDs from experiment --- potential of a high-luminosity EIC ---",* The EIC Science case: a report on the joint BNL/INT/JLab program "Gluons and the quark sea at high energies: distributions, polarization, tomography", Seattle, Washington, September 13 to November 19, 2010 / Boer, D. ; Diehl, M. ; Milner R. ; Venugopalan, R. ; Vogelsang W. (ur.). - Published by: Brookhaven National Laboratory, USA ; Institute of Nuclear Theory, University of Washington, USA ; Thomas Jefferson National Accelerator Facility, USA ; August 2011 (BNL-96164-2011, INT-PUB-11-034, JLAB-THY-11-1373) , 2011. 185-196. [arXiv:1105.0899 [hep-ph]].
11. K. Kumerički, D. Mueller, K. Passek-Kumerički, *"A partonic interpretation of DVCS at small x(Bj)",* in AIP Conf.Proc.1105 (2009) 367-372, prepared for Diffraction 2008: International Workshop on Diffraction in High Energy Physics, La Londe-les-Maures, France, 9-14 Sep 2008.
12. K. Kumerički, D. Mueller, K. Passek-Kumerički, *"Fitting DVCS amplitude in momentum-space approach to GPDs",* Proc. of the XVI International Workshop on Deep-Inelastic Scattering and Related Topics (DIS 2008), London, England, 7-11 April 2008 (edited by R. Devenish, J. Ferrando), p. 98. [arXiv:0807.0159 [hep-ph]].
13. K. Kumerički, D. Mueller, K. Passek-Kumerički, *"GPD sum rules: A Tool to reveal the quark angular momentum",* Proc. of the XVI International Workshop on Deep-Inelastic Scattering and Related Topics (DIS 2008), London, England, 7-11 April 2008 (edited by R. Devenish, J. Ferrando), p. 214-217. [arXiv:0807.0170 [hep-ph]].
14. K. Kumerički, D. Mueller, K. Passek-Kumerički, *"Fitting DVCS at NLO and beyond",* Proc. of the 12th International Conference on Elastic and Diffractive Scattering: Forward Physics and QCD, Hamburg, DESY, Germany, 21-25 May 2007 (edited by J. Bartels, K. Borras, M. Diehl, H. Jung; Verlag Deutsches Elektronen-Synchrotron, 2007), p. 17-25. [arXiv:0710.5649 [hep-ph]].
15. N. G. Stefanis, A. P. Bakulev, S. V. Mikhailov, K. Passek-Kumerički, W. Schroers, *"Pion structure: From nonlocal condensates to NLO analytic perturbation theory",* Proc. of the Workshop on Hadron Structure and QCD: From Low to High Energies (HSQCD 2004), St. Petersburg, Repino, Russia, 18-22 May 2004. [arXiv:hep-ph/0409176].
16. K. Passek-Kumerički, *"Hard exclusive processes and higher-order QCD corrections"*, in the Proc. of the 9th Adriatic Meeting "Particle Physics and the Universe", Dubrovnik, Croatia, 4-14 September 2003 (edited by J. Trampetic, J. Wess; Springer-Verlag, 2004), p. 399-414 [arXiv:hep-ph/0407122].

17. K. Passek, *"Leading-twist two gluon distribution amplitude and exclusive processes involving eta and eta' mesons"*, in Proc. of the JLab workshop on Exclusive Processes at High Momentum Transfer, Jefferson Lab, Newport News, Virginia, USA, 15-18 May, 2002: Newport News 2002, Exclusive Processes at High Momentum Transfer (edited by A. Radyushkin, P. Stoler; Singapore, World Scientific, 2002.), p. 136-141 [arXiv:hep-ph/0210079].
18. B. Melić, B. Nižić, K. Passek, *"BLM scale for the pion transition form factor"*, arXiv:hep-ph/0210080, in Proc. of the 8th Adriatic Meeting, Central European Symposia "Particle Physics in the New Millennium", Dubrovnik, Croatia, 4-14 September 2001 [electronic form, CD].
19. B. Melić, B. Nižić, K. Passek, *"On the PQCD prediction for the pion form factor"*, in Proc. of the 6th INT / Jlab Workshop on Exclusive and Semiexclusive Processes at High Momentum Transfer, Newport News, Virginia, USA, 20-22 May 1999: Newport News 1999, Exclusive and semi-exclusive processes at high momentum transfer (edited by C. Carlson, A. Radyushkin; Singapore, World Scientific, 2000.), p. 279-286 [arXiv:hep-ph/9908510].

EDITORIAL BOOKS

1. M. Capua, R. Fiore, K. Kumerički, A. Papa, K. Passek-Kumerički, E. Tassi, G.P. Vacca, Proceedings of *"Diffraction 2014: International Workshop on Diffraction in High Energy Physics"*, Primošten, Croatia, 10-16 September 2014"; Melville, New York, AIP Publishing, AIP Conf. Proc. 1654, 2015.

TALKS

Invited talks at international scientific meetings

1. K. Passek-K., "*Theoretical Uncertainties and Systematic Effects in Exclusive Vector Meson Production",* invited talk given at the EMMI Rapid Reaction Task Force (RRTF) meeting "Impact of Vector Mesons on the Studies of the 3D Structure of the Nucleon", CERN, 15 - 18 June 2026.
2. K. Passek-K., "*Deeply virtual leptoproduction of pseudoscalar mesons: the role of higher twist contributions",* invited talk given at COMPASS Collaboration Meeting, CERN, 5 - 6 December 2024.
3. K. Passek-K., *"On DVMP: impact of NLO and higher-twist effects revisited"*, invited talk given at the programme Hadron Physics 2030, Institut Pascal - Saclay, Orsay, France, 21 October - 25 November 2024.
4. K. Passek-K., *"DVMP at higher-order and higher-twist revisited"*, invited talk given at the workshop Towards improved hadron tomography with hard exclusive reactions, ECT Trento, Italy, 5-9 August 2024.
5. K. Passek-K., *"Twist-3 contribution to deeply virtual electroduction of pions"*, invited talk given at Transversity 2024: 7th International Workshop on "Transverse phenomena in hard processes and the transverse structure of the proton", Trieste, Italy, 3-7 June 2024.
6. K. Passek-K., *"Meson production at NLO and higher-twist revisited" and photoproduction of mesons"*, invited talk given at RBRC Workshop: Generalized Parton Distributions for Nucleon Tomography in the EIC Era, Brookhaven National Laboratory, USA, 17-19 January 2024.
7. K. Passek-K., *"Higher-twist contributions to deeply-virtual and photoproduction of mesons"*, invited talk given at *QCD Evolution Workshop 2023*, Orsay, France, 22-26 May 2023.
8. K. Passek-K., *"Deeply-virtual and photoproduction of pseudoscalar mesons at higher-order and higher-twist"*, invited talk given at DIS2023: XXX International Workshop on Deep-Inelastic Scattering and Related Subjects, East Lansing, Michigan, USA, 27-31 March 2023.
9. K. Passek-K., *"Accessing GPDs through meson production"*, invited talk given at the Meeting of the Forschungsgruppe FOR 2926, Next Generation Perturbative QCD for Hadron Structure: Preparing for the Electron-Ion Collider, Regensburg, Germany, 16-17 February 2023.
10. K. Passek-K., *"Deeply-virtual and photoproduction of mesons at higher-order and higher-twist"*, invited talk given at the conference XXIX Cracow Epiphany Conference on Physics at the Electron-Ion Collider and Future Facilities, Krakow, Poland, 16-19 January 2023.
11. K. Passek-Kumerički, *"Higher order and higher-twist aspects of DV and photoproduction of mesons"*, invited talk given at the workshop 3DPartons week, Paris, France, 26-28 October 2022.
12. K. Passek-Kumerički, "*Revealing Hadron Structures Through Hard Exclusive Processes"*, invited talk given at the Symposium "Relativistic Hadrons", Graz, Austria, 30 September 2022.
13. K. Passek-Kumerički, *"Photo- and electroproduction of pions and eta mesons at twist-3"*, invited talk given at the workshop Towards improved hadron femtography with hard exclusive reactions, Virginia Tech, USA (online), 18-22 July 2022.
14. K. Passek-Kumerički, *"On meson production, higher orders, DAs and all that"*, invited talk given at the workshop Prospects for extraction of GPDs from global fits of current and future data, Warsaw, Poland, 22-25 January 2019.
15. K. Passek-Kumerički, *"Introduction to Generalized Parton Distributions, DVCS and DVMP"*, invited talk given at the WE-Haraeus Physics School Diffractive and electromagnetic processes at high energies, Bad Honnef, Germany, 17-21 August 2015.
16. K. Passek-Kumerički, *"GPDs from DVCS at L0 and beyond"*, invited talk given at the workshop Diffractive and electromagnetic processes at LHC, Trento, Italy, 4-8 January, 2010.
17. K. Passek-Kumerički, *"Fitting GPDs to DVCS Data: At Next-to-Leading-Order and Beyond"*, invited talk given at the GPD 2008: Workshop on Hard Exclusive Reactions, Trento, Italy, 9-13 June, 2008.
18. K. Passek-Kumerički, *"Towards a fitting procedure for DVCS at next-to-leading order and beyond"*, invited talk given at the 12th International Conference on Elastic and Diffractive Scattering Forward Physics and QCD, DESY, Hamburg, Germany, 21-25 May, 2007.
19. K. Passek-Kumerički, *"Hard exclusive processes and higher-order QCD corrections"*, invited talk given at the 9th Adriatic Meeting, Dubrovnik, Croatia, 4-14 September 2003 .
20. K. Passek, *"On the PQCD prediction for the pion form factor"*, invited talk given at the workshop Exclusive & Semiexclusive Processes at High Momentum Transfer, Joint INT/ Jefferson Lab Workshop, Newport News, Virginia, USA, 20-22 May 1999.
21. K. Passek, *"On the complete next-to-leading order pQCD prediction for the pion form factor"*, invited talk given at the workshop Structure Functions and Hadronic Wave Functions, Bad Honnef, Germany, 14-18 December 1998.

Other talks (posters) at international scientific meetings

1. K. Passek-K., *"The role of NLO and higher-twist effects in deeply virtual meson production"*, talk given at Low-x 2025 workshop,Medulin Croatia, 8-12 September 2025.
2. K. Passek-K., *"On hard exclusive processes, meson production, and hadron tomography"*, talk given at ACHT2025 workshop, Budapest, Austria, 5-7 May 2025.
3. K. Passek-K., *"Higher order and higher-twist aspects of exclusive meson production"*, talk given at ACHT2023 workshop, Leibnitz (Wagna), Austria, 27-29 September 2023.
4. K. Passek-Kumerički, *"On wide-angle photo- and electroproduction of pions to twist-3 accuracy"*, talk given at HADRON 2021, 19th International Conference on Hadron Spectroscopy and Structure in memoriam Simon Eidelman, Mexico City (Mexico), 26-31 July 2021 (online).
5. K. Passek-Kumerički,*"Discussing the light-meson DAs"*, talk given at the workshop "Light-cone Distribution Amplitudes of Hadrons in QCD and their Applications", Mainz Institute for Theoretical Physics, Johannes Gutenberg University, Germany, 13-24 January 2020.
6. K. Passek-Kumerički, *"On exclusive hard processes with light mesons"*, talk given at the workshop Getting to Grips with QCD, Paris, France, 4-6 April 2018.
7. K. Passek-Kumerički, "Exclusive hard processes with mesons", talk given at ACHT2017 meeting Non-Perturbative Methods in Quantum Field Theory, Zalakaros, Hungary, 20-22 September 2017 .
8. K. Passek-Kumerički, "Generalized Parton Distributions (GPDs) through DVCS and DVMP", talk given at ACHT2015 meeting Strong Interactions in Quantum Field Theory, Leibnitz, Austria, 7-9 October 2015 .
9. K. Passek-Kumerički, *"Higher-order QCD corrections to hard exclusive processes"*, talk given at the Symposium on Quarks in Hadrons and Nuclei II, Rothenfels Castle, Oberwaelz, Austria, 15-20 September 2003 .
10. K. Passek-Kumerički, *"Hard exclusive reactions and the two-gluon components of the eta and eta' mesons"*, talk given at the NAPP 2003 Conference, Dubrovnik, Croatia, 26-31 May, 2003 .
11. K. Passek-Kumerički, *"Two-gluon components of the eta and eta' mesons in the standard hard-scattering picture"*, talk given at the Internationale Universitaetswochen fuer Theoretische Physik (Flavour Physics), Schladming, Austria, 22 - 28 February, 2003.
12. K. Passek-Kumerički, *"The leading-twist contributions of the two-gluon states in the hard processes involving eta and eta' mesons"*, talk given at the DESY Theory Workshop on Quantum Chromodynamics, DESY, Hamburg, Germany, 24-27 September, 2002.
13. K. Passek-Kumerički, *"The leading-twist two gluon distribution amplitude in exclusive processes involving eta and eta' mesons"*, talk given at the workshop on Spontaneously Broken Chiral Symmetry and Hard QCD Phenomena, Bad Honnef, Germany, 15-19 July, 2002.
14. K. Passek, *"Leading-twist two gluon distribution amplitude and exclusive processes involving eta and eta' mesons"*, talk given at the workshop on Exclusive Processes at High Momentum Transfer, Jefferson Lab, Newport News, USA, 15-18 May, 2002.
15. K. Passek, *"BLM scale for the pion transition form factor"*, talk given at the 8th Adriatic Meeting, Dubrovnik, Croatia, 4-14 September 2001.
16. K. Passek, *"BLM scale for the pion transition form factor"*, poster presented at the 55th Scottish Universities Summer School in Physics, StAndrews, Scotland, U.K., 7-23 August 2001.
17. K. Passek, *"BLM scale setting for the pion transition form factor"*, talk given at the Triangle Seminar on Particle Physics, Vienna, Austria, December 1-2, 2000.
18. K. Passek, *"On the complete next-to-leading order pQCD prediction for the pion form factor"*, talk given at the conference Nuclear and Particle Physics with CEBAF at Jefferson Lab., Dubrovnik, Croatia, 3-10 November 1998.
19. K. Passek, *"On the complete next-to-leading order QCD corrections to the pion electromagnetic form factor"*, talk given at the Triangle Seminar on Particle Physics, Vienna, Austria, 28-29 November 1997.
20. K. Passek, *"Exclusive photoproduction of large momentum-transfer K and K* mesons"*, talk given at the Universitaetswochen fuer Kern- und Teilchen Physik, Schladming, Austria, March 1996.

(Invited) talks at scientific institutions

1. K. Passek-K., *"Probing hadron structure through hard exclusive processes"*, Department of Physics Colloquium, Faculty of Science, Zagreb, April 15th, 2026.
2. K. Passek-Kumerički, *"On exclusive hard processes with mesons and deeply virtual processes"*, talk given at NCBJ, Warsaw, Oct 6th, 2017.
3. K. Passek-Kumerički, *"The Standard model on non-commutative space-time"*, talk given at the University of Oslo, Sep 26th, 2007.
4. K. Passek-Kumerički, *"Hard exclusive processes and higher-order QCD corrections"*, talk given at the University of Regensburg, Germany, Oct 21st, 2005.
5. K. Passek-Kumerički, *"Hard exclusive processes and higher order QCD corrections"*, talk given at the University of Wuppertal, Germany, Nov 18th, 2003.
6. K. Passek-Kumerički, *"Perturbative QCD approach to the hard exclusive reactions and the two-gluon components of the eta and eta' mesons"*, talk given at the Karl-Franzens Universitaet, Graz, Austria, June 25th, 2003 .
7. K. Passek-Kumerički, *"Hard exclusive processes and the two-gluon components of the eta and eta' mesons"*, talk given at the University of Aachen, Germany, Oct 24th, 2002.
8. K. Passek-Kumerički, *"Transition form factor for the flavour singlet pseudoscalar meson"*, talk given at the University of Wuppertal, Germany, Feb 13th, 2002.
9. K. Passek, *"BLM scale setting for the pion transition form factor"*, talk given at the University of Bochum, Germany, June 18, 2001.
10. K. Passek, *"On the complete alphaS-corrections to the pion form factor"*, talk given at the Institut fuer Theoretische Physik, Karl-Franzens Universitaet, Graz, Austria, May 28, 1997.