

List of Publications

Arwed Schiller

September 3, 2015

- [1] E.-M. Ilgenfritz, J. Kripfganz, H.-J. Möhring, G. Ranft, J. Ranft, A. Schiller
Comparison of hard collision models for particle production at large transverse momentum. I.
Constraints on hard collision cross sections from opposite side rapidity distributions
Acta Phys. Pol. **B 9**, 15 (1978)
- [2] A. Schiller, E.-M. Ilgenfritz, J. Kripfganz, H.-J. Möhring, G. Ranft, J. Ranft
Comparison of hard collision models for particle production at large transverse momentum. II.
Transverse momentum and rapidity dependence of π^+ and π^- single particle distributions
Acta Phys. Pol. **B 9**, 31 (1978)
- [3] A.I. Shklovskaya, A. Schiller, E.-M. Ilgenfritz, H.-J. Möhring, J. Ranft
Charge asymmetry in pion production at large p_t in π^-p collisions at 40 GeV/c and hard collision
model
Leipzig university preprint KMU-HEP-77-03 (1977)
- [4] A. Schiller
Multiplicities and rapidity distributions associated with a large p_t trigger
Acta Phys. Pol. **B 9**, 503 (1978)
- [5] E.-M. Ilgenfritz, J. Kripfganz, A. Schiller
Fragmentation of quark and diquark jets
Acta Phys. Pol. **B 9**, 881 (1978)
- [6] J. Kripfganz, A. Schiller
QCD three-jet production in large p_t processes
Phys. Lett. **B 79**, 317 (1978).
- [7] A. Schiller
Three-jet production in large p_t reactions
J. Phys. **G: Nucl. Phys.** **5**, 1329 (1979)
- [8] A. Schiller
Harte rein hadronische Streuprozesse; Untersuchungen im Partonmodell und der QCD
Promotionsschrift A, pp. 128, Universität Leipzig, Leipzig (1979)
- [9] H.-J. Möhring, A. Schiller
Some experience in applying the algebraic system REDUCE to the calculation of scattering
processes in QED and QCD
*Proc. Dubna Conf. 1979 "Systems and Techniques of Analytical Computing and Their Applications
In Theoretical Physics, JINR Dubna D11-80-13*, 127-133 (1980)
- [10] A. Schiller
Parton distribution and fragmentation functions for processes involving real photons and electrons
Proc. of the 1980 Intern. Symp., Lausanne, p. 609, Birkhäuser-Verlag Basel, 1981

- [11] H.-J. Möhring, J. Ranft, A. Schiller
Spin-asymmetries for large p_t jet production in two-photon processes
Phys. Lett. **B 130**, 225 (1981); and *Proc. of the 1980 Intern. Symp., Lausanne*, p. 599, Birkhäuser-Verlag Basel, 1981.
- [12] J. Kripfganz, A. Schiller
Higher order QCD contributions to electron structure functions
Z. Phys. **C 9**, 321 (1981).
- [13] A. Schiller
Two-loop contributions to rectangular Wilson loops
Proc. XIII Spring Symp. on HEP, Bad Schandau, March 1982, pp. 71-74, *Leipzig university preprint KMU-HEP 82-09* (1982)
- [14] R. Kirschner, J. Kripfganz, J. Ranft, A. Schiller
Short-distance expansion of Wilson loops, gluon condensation and Monte-Carlo lattice results
Nucl. Phys. **B 210**, 567 (1982),
- [15] R. Kirschner, A. Schiller
Charmonium sum rules and η_c production in two-photon reactions
Z. Phys. **C 16**, 141 (1982); and Proc. XVI Intern. Symp. Ahrenshoop, Oct. 1982, p. 39, *Zeuthen preprint PHE 82-10* (1982)
- [16] A.E. Blinov, A.D. Bukin, V.R. Groshev, N.F. Denisov, H.-J. Möhring, V.A. Tayurski, A. Schiller
Calculation of registration cross section in $e^+e^- \rightarrow e^+e^-e^+e^-$ and $e^+e^- \rightarrow e^+e^-R$ processes for the detector MD1
Novosibirsk preprint IYaF 82-93 (1982)
- [17] J. Ranft, A. Schiller
Local Hamiltonian Monte Carlo study of the massive Schwinger model in an external background field
Phys. Lett. **B 122**, 403 (1983).
- [18] G. Bhanot, J.-M. Drouffe, A. Schiller, I.O. Stamatescu
A study of actions with next-to-nearest neighbour interactions in 4-dimensional $Z(2)$ gauge theory
Phys. Lett. **B 125**, 67 (1983).
- [19] A. Schiller, J. Ranft
The massive Schwinger model on the lattice studied via a local Hamiltonian Monte-Carlo method
Nucl. Phys. **B 225**, 204 (1983).
- [20] A. Schiller
A Monte-Carlo study of the lattice Schwinger model in a local Hamiltonian method
Proc. XIV Spring Symp. on HEP, Georgenthal, March 1983, pp. 5-9, *Leipzig university preprint KMU-HEP 83-07* (1983)
- [21] A. Schiller
A local Hamiltonian Monte Carlo method for 1+1 dimensional field theoretical models on the lattice including fermions
Proc. XVII Intern. Symp. Ahrenshoop, Oct. 1983, pp. 113-119, *Zeuthen preprint PHE 83-13* (1983)
- [22] A. Schiller
Solitons with half-integral fermionic charge on the lattice in 1+1 dimensions
Proc. of the Conf. "Hadron Structure 83", Smolenice, Nov. 1983, *Physics and Applications* **vol. 12**, pp. 503-509, Bratislava 1983

- [23] E.A. Kuraev, A. Schiller, V.G. Serbo
Processes $\gamma\gamma \rightarrow \mu^+\mu^-e^+e^-$, $\gamma\gamma \rightarrow e^+e^-e^+e^-$ and $\gamma\gamma \rightarrow \pi^+\pi^-e^+e^-$ for high energy $\gamma\gamma$ beams
Phys. Lett. B **134**, 455 (1984).
- [24] J. Ranft, A. Schiller
Hamiltonian Monte Carlo study of 1+1 dimensional models with restricted supersymmetry on the lattice
Phys. Lett. B **138**, 166 (1984).
- [25] J. Ranft, A. Schiller
Lattice study of solitons with half integral fermionic charge in a 1+1 dimensional field theoretic model
Phys. Lett. B **140**, 239 (1984).
- [26] A. Schiller
Hamiltonian Monte Carlo study of the N=1 Wess–Zumino model on the lattice in 1+1 dimensions
Proc. XV Spring Symp. on HEP, Georgenthal, March 1984, pp. 22-27, *Leipzig university preprint KMU-HEP 84-04* (1984)
- [27] A. Schiller
The 1+1 dimensional N=1 Wess–Zumino model on the lattice in the local Hamiltonian Monte Carlo method
Proc. VII Warsaw Symp. on Elementary Particle Physics, Kazimierz, May 1984, pp. 455-466 (1984)
- [28] J. Ranft, A. Schiller
Solitons with half–integral fermionic charge in 1+1 dimensional Hamiltonian lattice models
Nucl. Phys. B **251**, 764 (1985).
- [29] E.A. Kuraev, A. Schiller, V.G. Serbo
The $\gamma\gamma \rightarrow \mu^+\mu^-e^+e^-$ and $\gamma\gamma \rightarrow e^+e^-e^+e^-$ reactions as main calibration processes for high energy $\gamma\gamma$ colliding beams
Nucl. Phys. B **256**, 189-210 (1985).
- [30] E.A. Kuraev, A. Schiller, V.G. Serbo
Process $\gamma\gamma \rightarrow \pi^+\pi^-e^+e^-$ for high energy $\gamma\gamma$ beams
Nucl. Phys. B **256**, 211-217 (1985).
- [31] A. Schiller
The local Hamiltonian Monte–Carlo method in 1+1 dimensions applied to field–theoretic lattice models
Acta Physica Austriaca, Suppl. **XXVII**, 691-697 (1985)
- [32] A. Schiller
The Ensemble Projector Monte Carlo method applied to lattice gauge theories with fermions
Proc. XIX Intern. Symp. Ahrenshoop, Nov. 1985, pp. 256-259, *Zeuthen preprint PHE 85-15* (1985)
- [33] A. Schiller, J. Ranft
The 1+1 dimensional N=2 Wess–Zumino model on the lattice in the local Hamiltonian method
J. Phys. G: Nucl. Phys. **12**, 935-945 (1986)
- [34] E.A. Kuraev, A. Schiller, V.G. Serbo
The high energy double photon bremsstrahlung process $e^\pm e^- \rightarrow e^\pm e^- \gamma\gamma$ at small angles for arbitrary polarizations of the particles
Z. Phys. C **30**, 237-246 (1986).

- [35] J. Ranft, A. Schiller
The Ensemble Projector Monte Carlo method studying the lattice Schwinger model in the Hamiltonian formulation
Phys. Rev. D **33**, 2383-2387 (1986).
- [36] A. Schiller
Hamiltonische Monte-Carlo-Verfahren zur Untersuchung von Gittereichfeldtheorien mit Fermionen in 1+1 Dimensionen, Eichbosonen und skalaren Higgsteilchen
Dissertation zur Promotion B, pp. 131, Universität Leipzig, Leipzig (1987)
- [37] G.L. Kotkin, S.I. Polityko, A. Schiller, V.G. Serbo
Influence of the transverse beam sizes on the $ep \rightarrow ep\gamma$ cross section at the HERA and a future CERN electron-proton collider
Z. Phys. C **39**, 61 (1988).
- [38] G.L. Kotkin, E.A. Kuraev, A. Schiller, V.G. Serbo
On QED processes for luminosity and beam polarization measurements at LEP
Phys. Lett. B **221**, 96-98 (1989).
- [39] E.A. Kuraev, Z.K. Silagadze, A.A. Cheshel, A. Schiller
Light-light scattering tensor and muon anomalous magnetic moment
Yad. Fiz. **50**, 422-430 (1989), *Sov. J. Nucl. Phys.* **50**, 264-268 (1989)
- [40] A. Schiller
On processes with large impact parameters for large ee and ep colliders
Nucl. Phys. B (Proc. Suppl.) **16**, 683 (1990)
- [41] E.-M. Ilgenfritz, A. Schiller
Critical behaviour of compact electrodynamics in $4 - \varepsilon$ dimensions
Phys. Lett. B **242**, 89 (1990).
- [42] E.A. Kuraev, T.V. Kukhto, A. Schiller
Contribution of fermion loops to the muon anomalous magnetic moment
Yad. Fiz. **51**, 1631-1637 (1990), *Sov. J. Nucl. Phys.* **51**, 1031-1035 (1990)
- [43] G.L. Kotkin, A. Schiller, V.G. Serbo
Processes with large impact parameters at colliding beams
Int. J. Mod. Phys. A **7**, 4707-4745 (1992)
- [44] E.-M. Ilgenfritz, A. Schiller and H. Markum,
“Exploring the critical behavior of U(1) gauge theory on regular and fractal lattices by a finite size analysis,”
Phys. Rev. D **45**, 2949-2956 (1992).
- [45] E.A. Kuraev, T.V. Kukhto, Z.K. Silagadze, A. Schiller
The dominant two-loop electroweak corrections to the anomalous magnetic moment of the muon
Nucl. Phys. B **371**, 567-596 (1992)
- [46] H. Markum, E. M. Ilgenfritz and A. Schiller,
“Critical behavior of U(1) gauge theory on fractal lattices,”
Nucl. Phys. Proc. Suppl. **26** (1992) 653-655.
- [47] B. Bunk, E.-M. Ilgenfritz, J. Kripfganz and A. Schiller
First Results on Finite Temperature Phase Transitions in Lattice $SU(2)$ -Higgs Theory at Weak Couplings
Leipzig university NTZ preprint, Quantum Physics and Condensed Matter Physics, pp. 130-144, February 1992

- [48] B. Bunk, E.-M. Ilgenfritz, J. Kripfganz and A. Schiller
Lattice studies at zero and finite temperature in the $SU(2)$ Higgs model at small couplings
Phys. Lett. B **284**, 371-376 (1992).
- [49] B. Bunk, E.-M. Ilgenfritz, J. Kripfganz and A. Schiller
The Finite-Temperature Phase Transition in Lattice $SU(2)$ Higgs Theory at Weak Couplings
Nucl. Phys. B **403**, 453-474 (1993)
- [50] E.-M. Ilgenfritz and A. Schiller
Studying the Finite Temperature Higgs Phase Transition on the Lattice
Leipzig university NTZ preprint, Proc. of 1993 Kyffhäuser Workshop “Quantum Field Theoretical Aspects of High Energy Physics”, p. 223, November 1993
- [51] E.-M. Ilgenfritz and A. Schiller
How strong is the electroweak phase transition on the lattice?
Int. J. Mod. Phys. C **5**, 373-377 (1994)
- [52] M. Göckeler, R. Horsley, E.-M. Ilgenfritz, H. Perlt, P. Rakow, G. Schierholz and A. Schiller
Towards a Lattice Calculation of the Nucleon Structure Functions
Nucl. Phys. B (Proc. Suppl.) **42**, 337-345 (1995), hep-lat/9412055
- [53] E.-M. Ilgenfritz and A. Schiller
Miscellaneous results on the electroweak phase transition
Nucl. Phys. B (Proc. Suppl.) **42**, 578-580 (1995)
- [54] E.-M. Ilgenfritz, J. Kripfganz, H. Perlt and A. Schiller
3D lattice simulation of the electroweak phase transition at small Higgs mass
Phys. Lett. B **356**, 561-556 (1995), hep-lat/9506023.
- [55] M. Göckeler, R. Horsley, E.-M. Ilgenfritz, H. Perlt, P. Rakow, G. Schierholz, A. Schiller
Polarized and unpolarized nucleon structure functions from lattice QCD
Phys. Rev. D **53**, 2317-2325 (1996), hep-lat/9508004.
- [56] M. Göckeler, R. Horsley, E.-M. Ilgenfritz, H. Oelrich, H. Perlt, P. Rakow, G. Schierholz, A. Schiller
A lattice evaluation of the deep inelastic structure functions of the nucleon
Prog. Theor. Phys. Suppl. **122**, 145-152 (1996), hep-lat/9509079
- [57] M. Göckeler, R. Horsley, E.-M. Ilgenfritz, H. Oelrich, H. Perlt, P. Rakow, G. Schierholz, A. Schiller
Nonperturbative versus perturbative renormalization of lattice operators
Nucl. Phys. B (Proc. Suppl.) **47**, 493-496 (1996), hep-lat/9510017
- [58] R. Engel, A. Schiller, V.G. Serbo
The equivalent photon approximation for coherent processes at colliders
Z. Phys. C **71**, 651-658 (1996), hep-ph/9511262.
- [59] M. Göckeler, R. Horsley, E.-M. Ilgenfritz, H. Oelrich, H. Perlt, P. Rakow, G. Schierholz, A. Schiller
Recent results on the nucleon structure functions from lattice QCD
Proc. “Int. Europhysics Conf. on High Energy Physics (HEP95)” *World Scientific* 231-234 (1996), hep-lat/9511013
- [60] M. Göckeler, R. Horsley, E.-M. Ilgenfritz, H. Perlt, P. Rakow, G. Schierholz, A. Schiller
Polarized nucleon structure functions from lattice QCD
Proc. “Prospects of Spin Physics at HERA”, Zeuthen 1995, *DESY-95-200 (95/11,rec.Jan.96)* 339-349, hep-lat/9511025

- [61] R. Engel, A. Schiller, V.G. Serbo
A new possibility to monitor collisions of relativistic heavy ions at LHC and RHIC
Part. Accel. **56**, 1-12 (1996), hep-ph/9512310
- [62] M. Gürtler, E.-M. Ilgenfritz, J. Kripfganz, H. Perlt and A. Schiller
Three-dimensional approach to hot electroweak matter for $M_H \leq 70$ GeV
Nucl. Phys. B (Proc. Suppl.) **49**, 312-318 (1996), hep-lat/9512022
- [63] M. Göckeler, R. Horsley, E.-M. Ilgenfritz, H. Oelrich, H. Perlt, P. Rakow, G. Schierholz, A. Schiller
The status of lattice calculations of the nucleon structure functions
Nucl. Phys. B (Proc. Suppl.) **49**, 250-255 (1996), hep-lat/9601007
- [64] M. Göckeler, R. Horsley, E.-M. Ilgenfritz, H. Oelrich, H. Perlt, P. Rakow, G. Schierholz, A. Schiller
Calculating structure functions on the lattice
J. Phys. G: Nucl. Phys. **22**, 703-707 (1996)
- [65] R. Engel, A. Schiller, V.G. Serbo
Quantum effects in radiation on short bunches
Z. Phys. C **73**, 347-352 (1997), hep-ph/9602237.
- [66] M. Göckeler, R. Horsley, E.-M. Ilgenfritz, H. Perlt, P. Rakow, G. Schierholz, A. Schiller
Lattice operators for moments of the structure functions and their transformation under the hypercubic group
Phys. Rev. D **54**, 5705-5714 (1996), hep-lat/9602029.
- [67] M. Göckeler, R. Horsley, E.-M. Ilgenfritz, H. Perlt, P. Rakow, G. Schierholz, A. Schiller
Perturbative renormalization of lattice bilinear quark operators
Nucl. Phys. B **472**, 309-333 (1996), hep-lat/9603006
- [68] M. Gürtler, E.-M. Ilgenfritz, J. Kripfganz, H. Perlt and A. Schiller
Three-dimensional lattice studies of the electroweak phase transition at $M_{\text{Higgs}} \approx 70$ GeV
Nucl. Phys. B **483**, 383-415 (1997), hep-lat/9605042
- [69] M. Gürtler, E.-M. Ilgenfritz, J. Kripfganz, H. Perlt and A. Schiller
Detailed Phase Transition Study at $M_H \leq 70$ GeV in a 3-dimensional $SU(2)$ -Higgs Model
Nucl. Phys. B (Proc. Suppl.) **53**, 619-622 (1997), hep-lat/9607062
- [70] M. Gürtler, E.-M. Ilgenfritz, J. Kripfganz, H. Perlt and A. Schiller
Physics of the Electroweak Phase Transition at $M_H \leq 70$ GeV in a 3-dimensional $SU(2)$ -Higgs Model
Nucl. Phys. B (Proc. Suppl.) **53**, 615-618 (1997), hep-lat/9607063
- [71] M. Göckeler, R. Horsley, E.-M. Ilgenfritz, H. Oelrich, H. Perlt, P. Rakow, G. Schierholz, A. Schiller, P. Stephenson
A preliminary lattice study of the glue in the nucleon
Nucl. Phys. B (Proc. Suppl.) **53**, 324-326 (1997), hep-lat/9608017
- [72] M. Göckeler, R. Horsley, E.-M. Ilgenfritz, H. Oelrich, H. Perlt, P. Rakow, G. Schierholz, A. Schiller, P. Stephenson
Perturbative renormalization of bilinear quark and gluon operators
Nucl. Phys. B (Proc. Suppl.) **53**, 896-898 (1997), hep-lat/9609033
- [73] M. Göckeler, R. Horsley, E.-M. Ilgenfritz, H. Perlt, P. Rakow, G. Schierholz, A. Schiller
Lattice computation of structure functions
Nucl. Phys. B (Proc. Suppl.) **53**, 81-87 (1997), hep-lat/9608046

- [74] M. Göckeler, R. Horsley, E.-M. Ilgenfritz, H. Oelrich, H. Perlt, P. Rakow, G. Schierholz, P. Stephenson, A. Schiller
First results with nonperturbative fermion improvement
Nucl. Phys. B (Proc. Suppl.) **53**, 312-314 (1997), hep-lat/9608081
- [75] M. Göckeler, R. Horsley, E.-M. Ilgenfritz, H. Oelrich, H. Perlt, P. Rakow, G. Schierholz, A. Schiller, P. Stephenson
The Drell–Yan process and deep inelastic scattering from the lattice
Nucl. Phys. B (Proc. Suppl.) **53**, 315-317 (1997), hep-lat/9609039
- [76] M. Göckeler, R. Horsley, E.-M. Ilgenfritz, H. Perlt, P. Rakow, G. Schierholz, A. Schiller, P. Stephenson
The light hadron mass spectrum with nonperturbatively $O(a)$ improved Wilson fermions
Phys. Lett. B **391**, 388-394 (1997), hep-lat/9609008.
- [77] M. Gürtler, E.-M. Ilgenfritz, A. Schiller
Measuring the interface tension when the electroweak phase transition becomes weak
Eur. Phys. J. C **1**, 363-368 (1998), hep-lat/9702020
- [78] C. Best, M. Göckeler, R. Horsley, E.-M. Ilgenfritz, H. Perlt, P. Rakow, A. Schäfer, G. Schierholz, A. Schiller, S. Schramm
Pion and Rho Structure Functions from Lattice QCD
Phys. Rev. D **56**, 2743-2754 (1997), hep-lat/9703014.
- [79] M. Gürtler, E.-M. Ilgenfritz, and A. Schiller
Where the electroweak phase transition ends
Phys. Rev. D **56**, 3888-3895 (1997), hep-lat/9704013.
- [80] C. Best, M. Göckeler, R. Horsley, L. Mankiewicz, H. Perlt, P. Rakow, A. Schäfer, G. Schierholz, A. Schiller, S. Schramm, P. Stephenson
Hadron Structure Functions from Lattice QCD: 1997
DESY preprint DESY-97-116, hep-ph/9706502
- [81] M. Göckeler, R. Horsley, H. Perlt, P. Rakow, G. Schierholz, A. Schiller, P. Stephenson
Scaling of Non-Perturbatively $O(a)$ Improved Wilson Fermions: Hadron Spectrum, Quark Masses and Decay Constants
Phys. Rev. D **57**, 5562-5580 (1998), hep-lat/9707021.
- [82] M. Göckeler, R. Horsley, L. Mankiewicz, H. Perlt, P. Rakow, G. Schierholz, A. Schiller
A lattice determination of the second moment of the polarized valence quark distribution
Phys. Lett. B **414**, 340-346 (1997), hep-lat/9708270.
- [83] M. Göckeler, R. Horsley, V. Linke, H. Perlt, D. Pleiter, P. Rakow, G. Schierholz, A. Schiller, P. Stephenson, H. Stueben
Improved Quenched QCD on Large Lattices: First Results
Nucl. Phys. B (Proc. Suppl.) **63A-C**, 179-181 (1998), hep-lat/9709016
- [84] M. Gürtler, E.-M. Ilgenfritz, and A. Schiller
The endpoint of the electroweak phase transition
Nucl. Phys. B (Proc. Suppl.) **63A-C**, 566-568 (1998), hep-lat/9709019
- [85] M. Gürtler, E.-M. Ilgenfritz, A. Schiller, and C. Strecha
Hot electroweak matter near to the endpoint of the phase transition
Nucl. Phys. B (Proc. Suppl.) **63A-C**, 563-565 (1998), hep-lat/9709020

- [86] S. Capitani, M. Göckeler, R. Horsley, H. Oelrich, H. Perlt, D. Pleiter, P. Rakow, G. Schierholz, A. Schiller, P. Stephenson
 $O(a)$ Improvement of Nucleon Matrix Elements
Nucl. Phys. B (Proc. Suppl.) **63A-C**, 233-235 (1998), hep-lat/9709036
- [87] S. Capitani, M. Göckeler, R. Horsley, H. Perlt, P. Rakow, G. Schierholz, A. Schiller
 Perturbative Renormalization of Improved Operators
Nucl. Phys. B (Proc. Suppl.) **63A-C**, 874-876 (1998), hep-lat/9709049
- [88] M. Göckeler, R. Horsley, H. Perlt, P. Rakow, G. Schierholz, A. Schiller, P. Stephenson
 New Results from Nonperturbative $O(a)$ Improvement in Light Hadrons
Nucl. Phys. B (Proc. Suppl.) **63A-C**, 176-178 (1998), hep-lat/9710030
- [89] S. Capitani, M. Göckeler, R. Horsley, H. Oelrich, H. Perlt, D. Pleiter, P. Rakow, G. Schierholz, A. Schiller, P. Stephenson
 Nonperturbative Improvement and Renormalisation of Lattice Operators
Nucl. Phys. B (Proc. Suppl.) **63A-C**, 871-873 (1998), hep-lat/9710034
- [90] C. Best, M. Göckeler, R. Horsley, H. Perlt, P. Rakow, A. Schäfer, G. Schierholz, A. Schiller, S. Schramm
 The Deep Inelastic Structure Functions of Pi and Rho Mesons
Nucl. Phys. B (Proc. Suppl.) **63A-C**, 236-238 (1998), hep-lat/9710037
- [91] M. Göckeler, R. Horsley, H. Oelrich, H. Perlt, P. Rakow, G. Schierholz, A. Schiller
 Lattice Renormalization of Quark Operators
Nucl. Phys. B (Proc. Suppl.) **63A-C**, 868-870 (1998), hep-lat/9710052
- [92] E.A. Kuraev, A. Schiller, V.G. Serbo, D.V. Serebryakova
 Helicity amplitudes for the small angle lepton pair production in e^+e^- or $\mu^+\mu^-$ collisions
Eur. Phys. J. C **4**, 631-639 (1998), hep-ph/9710420
- [93] S. Capitani, M. Göckeler, R. Horsley, H. Perlt, P. Rakow, G. Schierholz, A. Schiller
 Local bilinear operators on the lattice and their perturbative renormalisation including $O(a)$ effects
 Proc. “Deep Inelastic Scattering off Polarized Targets”, Zeuthen 1997, *DESY-97-200 (97/11)* 266-278, hep-lat/9711007
- [94] M. Göckeler, R. Horsley, H. Perlt, P. Rakow, G. Schierholz, A. Schiller, P. Stephensen
 Spin Structure Functions from Lattice QCD
 Proc. “Deep Inelastic Scattering off Polarized Targets”, Zeuthen 1997, *DESY-97-200 (97/11)* 279-290, hep-ph/9711245
- [95] M. Gürtler, E.-M. Ilgenfritz, A. Schiller, C. Strecha
 Hot Electroweak Matter Near to the Critical Higgs Mass
 in: “Theory of Elementary Particles, Proceedings of the 31st International Symposium Ahrenshoop, September 2-6, 1997, Buckow/Germany”, H. Dorn, D. Lüst. G. Weigt (Editors), Weinheim: Wiley-VCH 1998, pp. 253-258, hep-lat/9801012
- [96] S. Capitani, M. Göckeler, R. Horsley, B. Klaus, H. Oelrich, H. Perlt, D. Petters, D. Pleiter, P. Rakow, G. Schierholz, A. Schiller, P. Stephensen
 $O(a)$ Improvement for Quenched Wilson Fermions
 in: “Theory of Elementary Particles, Proceedings of the 31st International Symposium Ahrenshoop, September 2-6, 1997, Buckow/Germany”, H. Dorn, D. Lüst. G. Weigt (Editors), Weinheim: Wiley-VCH 1998, pp. 277-281, hep-lat/9801034
- [97] I.F. Ginzburg, A. Schiller
 Search for a heavy magnetic monopole at the Fermilab Tevatron and CERN LHC
Phys. Rev. D **57**, 6599-6603 (1998), hep-ph/9802310.

- [98] I.F. Ginzburg, I.P. Ivanov, A. Schiller
Search for Next Generations of Quarks and Leptons at the Tevatron and LHC
Phys. Rev. D **60**, 095001 (1999), hep-ph/9802364
- [99] S.R. Gevorkyan, E.A. Kuraev, A. Schiller, V.G. Serbo, and A.V. Tarasov
Production of relativistic positronium in collisions of photons and electrons with nuclei and atoms
Phys. Rev. A **58**, 4556-4564 (1998), hep-ph/9804264.
- [100] S.R. Gevorkyan, E.A. Kuraev, A.V. Tarasov, A. Schiller, V.G. Serbo
Production of relativistic positronium in collisions of photons and electrons with nuclei and atoms
Proc. Int. Workshop *Hadronic Atoms and Positronium in the Standard Model*. Editors M. Ivanov, A. Arbuzov, E. Kuraev et al. (Dubna, 26-31 May 1998) p. 183–189.
- [101] M.N. Chernodub, F.V. Gubarev, E.-M. Ilgenfritz and A. Schiller
Embedded Topological Defects in Hot Electroweak Theory: a Lattice Study
Phys. Lett. B **434**, 83-91 (1998), hep-lat/9805016.
- [102] M.N. Chernodub, F.V. Gubarev, E.-M. Ilgenfritz and A. Schiller
 Z -Vortex Percolation in the Electroweak Crossover Region
Phys. Lett. B **443**, 244-254 (1998), hep-lat/9807016.
- [103] D.Yu. Ivanov, E.A. Kuraev, A. Schiller, V.G. Serbo
Production of e^+e^- pairs to all orders in $Z\alpha$ for collisions of high-energy muons with heavy nuclei
Phys. Lett. B **442**, 453-458 (1998), hep-ph/9807311.
- [104] E.-M. Ilgenfritz, A. Schiller, C. Strecha
Wave Functions and Spectrum in Hot Electroweak Matter for Large Higgs masses
Eur. Phys. J. C **8**, 135-150 (1999), hep-lat/9807023
- [105] M. Göckeler, R. Horsley, H. Oelrich, H. Perlt, D. Petters, P.E.L. Rakow, A. Schäfer, G. Schierholz, A. Schiller
Non-perturbative renormalisation of composite operators in lattice QCD
Nucl. Phys. B **544**, 699-733 (1999), hep-lat/9807044
- [106] E.-M. Ilgenfritz, A. Schiller and C. Strecha
Matter near to the Endpoint of the Electroweak Phase Transition
Nucl. Phys. B (Proc. Suppl.) **73**, 662-664 (1999), hep-lat/9808023
- [107] M. Göckeler, R. Horsley, H. Oelrich, H. Perlt, D. Petters, P.E.L. Rakow, A. Schäfer, G. Schierholz and A. Schiller
Composite operators in lattice QCD: nonperturbative renormalization
Nucl. Phys. B (Proc. Suppl.) **73**, 291-293 (1999), hep-lat/9809001
- [108] M.N. Chernodub, F.V. Gubarev, E.-M. Ilgenfritz and A. Schiller
Embedded Topological Defects in Electroweak Theory: From Percolating Networks to Sphalerons
Nucl. Phys. B (Proc. Suppl.) **73**, 671-676 (1999), hep-lat/9809025
- [109] D.Yu. Ivanov, A. Schiller, V.G. Serbo
Comment on the absence of Coulomb effects on e^+e^- pair production in ultrarelativistic heavy-ion collisions
hep-ph/9809281
- [110] D.Yu. Ivanov, A. Schiller, V.G. Serbo
Large Coulomb corrections to the e^+e^- pair production at relativistic heavy ion colliders
Phys. Lett. B **454**, 155-160 (1999), hep-ph/9809449

- [111] S. Capitani, M. Göckeler, R. Horsley, B. Klaus, H. Oelrich, H. Perlt, D. Petters, D. Pleiter, P.E.L. Rakow, G. Schierholz, A. Schiller, and P. Stephenson
Nucleon form factors and $O(a)$ Improvement
Nucl. Phys. B (Proc. Suppl.) **73**, 294-296 (1999), hep-lat/9809172
- [112] S. Capitani, M. Göckeler, R. Horsley, P.E.L. Rakow, G. Schierholz and A. Schiller
Renormalization of four-fermion operators for higher twist calculations
Nucl. Phys. B (Proc. Suppl.) **73**, 285-287 (1999), hep-lat/9809178
- [113] M. Göckeler, R. Horsley, V. Linke, D. Pleiter, P.E.L. Rakow, G. Schierholz, A. Schiller, P. Stephenson and H. Stueben
Mass Spectrum and Decay Constants in the Continuum Limit
Nucl. Phys. B (Proc. Suppl.) **73**, 237-239 (1999), hep-lat/9810006
- [114] G.L. Kotkin, E.A. Kuraev, A. Schiller, V.G. Serbo
Production of para- and orthopositronium at relativistic heavy ion colliders
Phys. Rev. C **59**, 2734-2743 (1999), hep-ph/9811494
- [115] M.N. Chernodub, F.V. Gubarev, E.-M. Ilgenfritz and A. Schiller
Dynamics of topological defects in electroweak theory
Proc. Strong and Electroweak Matter '98, J. Ambjørn, P.H. Damgaard, K. Kainulainen, K. Rummukainen (Editors), Singapore: World Scientific 1999, pp. 394-399, hep-ph/9902285
- [116] I.F. Ginzburg, A. Schiller
Visible effect of a very heavy magnetic monopole at colliders
Phys. Rev. D **60**, 075016 (1999), hep-ph/9903314
- [117] S. Capitani, M. Göckeler, R. Horsley, H. Perlt, D. Petters, D. Pleiter, P.E.L. Rakow, G. Schierholz, A. Schiller and P. Stephenson
Towards a lattice calculation of Δq and δq
Nucl. Phys. B (Proc. Suppl.) **79**, 558-550 (1999), hep-ph/9905573
- [118] M.N. Chernodub, E.-M. Ilgenfritz and A. Schiller
Vortex profiles and vortex interactions at the electroweak crossover
Nucl. Phys. B (Proc. Suppl.) **83-84**, 571-573 (2000), hep-lat/9909001
- [119] E.A. Kuraev, A. Schiller, V.G. Serbo, B.G. Shaikhatdenov
Helicity amplitudes for the small-angle process $e^-e^\pm \rightarrow e^-\gamma\gamma + e^\pm$ with both photons along one direction and its cross channel
Nucl. Phys. B **570**, 359-378 (2000), hep-ph/9909220
- [120] M.N. Chernodub, E.-M. Ilgenfritz and A. Schiller
Embedded vortices and their interactions at electroweak crossover
Proc. "Dubna 1999, Lattice fermions and structure of the vacuum", pp. 335-338 (2000), hep-lat/9912024
- [121] S. Capitani, M. Göckeler, R. Horsley, H. Perlt, P. E. L. Rakow, G. Schierholz and A. Schiller,
"Renormalization and off-shell improvement in lattice perturbation theory,"
Nucl. Phys. B **593** (2001) 183 [hep-lat/0007004].
- [122] I. F. Ginzburg, A. Schiller and V. G. Serbo
Interference of the two-photon and bremsstrahlung production for the $\pi^+\pi^-$ system at B- and ϕ -factories
Proc. PHOTON 2000, International Conference on the Structure and Interactions of the Photon (Ambleside, England, 26-31 August 2000), A.J. Finch (Editor) Melville, New York: American Institute of Physics 2001, pp. 326-332.

- [123] I. F. Ginzburg, A. Schiller and V. G. Serbo
Charge asymmetry of pions in the process $e^-e^+ \rightarrow e^-e^+\pi^+\pi^-$
Eur. Phys. J. C **18**, 731-746 (2001), hep-ph/0012069
- [124] M. N. Chernodub, E.-M. Ilgenfritz and A. Schiller,
Lattice study of 3D compact QED at finite temperature
Phys. Rev. D **64**, 054507 (2001), hep-lat/0105021.
- [125] M. N. Chernodub, E.-M. Ilgenfritz and A. Schiller,
Monopoles, confinement, and deconfinement of (2+1)D compact lattice QED in external fields
Phys. Rev. D **64**, 114502 (2001), hep-lat/0106021.
- [126] M. N. Chernodub, E.-M. Ilgenfritz and A. Schiller,
Monopoles, confinement and deconfinement in lattice compact QED in (2+1)D with external fields
Nucl. Phys. Proc. Suppl. **106** (2002) 703-705 [arXiv:hep-lat/0110038].
- [127] C. Carimalo, A. Schiller and V. G. Serbo,
New method for calculating helicity amplitudes of jet-like QED processes for high-energy colliders.
I: Bremsstrahlung processes
Eur. Phys. J. C **23**, 631-649 (2002) [arXiv:hep-ph/0112256]. :
- [128] M. N. Chernodub, E.-M. Ilgenfritz and A. Schiller,
Photon propagator, monopoles, and the thermal phase transition in Three Dimensional compact QED
Phys. Rev. Lett. **88**, 231601 (2002) [arXiv:hep-lat/0112048].
- [129] M. N. Chernodub, E.-M. Ilgenfritz and A. Schiller,
String breaking and monopoles: A case study in the 3D Abelian Higgs model
Phys. Lett. B **547**, 267-277 (2002) [arXiv:hep-lat/0207020].
- [130] M. N. Chernodub, E.-M. Ilgenfritz and A. Schiller,
“Confinement and the photon propagator in 3D compact QED: A lattice study in Landau gauge at zero and finite temperature”
Phys. Rev. D **67**, 034502 (2003) [arXiv:hep-lat/0208013].
- [131] M. N. Chernodub, E.-M. Ilgenfritz and A. Schiller,
“Monopoles, confinement and the photon propagator in QED(3)”
Nucl. Phys. Proc. Suppl. **119** (2003) 766-768 [arXiv:hep-lat/0208028].
- [132] M. N. Chernodub, E. M. Ilgenfritz and A. Schiller,
“More on string breaking in the 3D Abelian Higgs model: The photon propagator,”
Phys. Lett. B **555**, 206-214 (2003) [arXiv:hep-lat/0212005].
- [133] M. N. Chernodub, E.-M. Ilgenfritz and A. Schiller,
“Confinement, deconfinement and the photon propagator in 3D cQED on the lattice,”
Gargnano 2002, Quark confinement and the hadron spectrum*, World Scientific 2003, 249-251
[arXiv:hep-lat/0301010].
- [134] C. Carimalo, A. Schiller and V. G. Serbo,
“New method for calculating helicity amplitudes of jet-like QED processes for high-energy colliders.
II: Processes with lepton pair production,”
Eur. Phys. J. C **29**, 341-351 (2003) [arXiv:hep-ph/0303257].
- [135] C. Carimalo, A. Schiller and V. G. Serbo,
“A new method for calculating jet-like QED processes,”
Nucl. Phys. Proc. Suppl. **126** (2004) 360-365 [arXiv:hep-ph/0305293].

- [136] D. Galletly *et al.* [QCDSF-UKQCD Collaboration],
 “Quark spectra and light hadron phenomenology from overlap fermions with improved gauge field action,”
Nucl. Phys. Proc. Suppl. **129-130** (2004) 456-467 [arXiv:hep-lat/0310028].
- [137] T. Bakeyev *et al.* [QCDSF-UKQCD Collaboration],
 “Structure functions and form factors close to the chiral limit from lattice QCD,”
Nucl. Phys. Proc. Suppl. **128** (2004) 82-88 [arXiv:hep-lat/0311017].
- [138] M. N. Chernodub, E.-M. Ilgenfritz and A. Schiller,
 “The photon propagator in compact QED(2+1): The effect of wrapping Dirac strings,”
Phys. Rev. D **69**, 094502-1-8 (2004) [arXiv:hep-lat/0311033].
- [139] R. Horsley, H. Perlt, P. E. L. Rakow, G. Schierholz and A. Schiller,
 “One-loop renormalisation of quark bilinears for overlap fermions with improved gauge actions,”
Nucl. Phys. B **693**, 3-35 (2004) [Erratum-ibid. B **713** 601-606 (2005)] [arXiv:hep-lat/0404007].
- [140] M. N. Chernodub, R. Feldmann, E.-M. Ilgenfritz and A. Schiller,
 “Phase Structure and Gauge Boson Propagator in the radially active 3D compact Abelian Higgs Model,”
Phys. Rev. D **70**, 074501-1-11 (2004) [arXiv:hep-lat/0405005].
- [141] M. N. Chernodub, R. Feldmann, E.-M. Ilgenfritz and A. Schiller,
 “Monopole chains in a compact Abelian model with Q=2 Higgs field,”
Phys. Lett. B **605**, 161-168 (2005) [arXiv:hep-lat/0406015].
- [142] M. Göckeler, R. Horsley, H. Perlt, P. E. L. Rakow, A. Schäfer, G. Schierholz and A. Schiller,
 “One-loop renormalisation for the second moment of GPDs with Wilson fermions,”
Nucl. Phys. Proc. Suppl. **140** (2005) 722-724 [arXiv:hep-lat/0409025].
- [143] A. Sternbeck, E.-M. Ilgenfritz, M. Müller-Preussker and A. Schiller,
 “The gluon and ghost propagator and the influence of Gribov copies,”
Nucl. Phys. Proc. Suppl. **140** (2005) 653-655 [arXiv:hep-lat/0409125].
- [144] M. Gürtler, R. Horsley, V. Linke, H. Perlt, P. E. L. Rakow, G. Schierholz, A. Schiller, T. Streuer,
 “A lattice determination of g_A and $\langle x \rangle$ from overlap fermions,”
Nucl. Phys. Proc. Suppl. **140** (2005) 707-709 [arXiv:hep-lat/0409164].
- [145] M. Göckeler, R. Horsley, H. Perlt, P. E. L. Rakow, A. Schäfer, G. Schierholz and A. Schiller,
 “Perturbative renormalisation of the second moment of generalised parton distributions,”
Nucl. Phys. B **717**, 304-323 (2005) [arXiv:hep-lat/0410009].
- [146] A. Sternbeck, E.-M. Ilgenfritz, M. Müller-Preussker and A. Schiller,
 “The influence of Gribov copies on the gluon and ghost propagator,”
AIP Conf. Proc. **756** 284-286 (2005) [arXiv:hep-lat/0412011].
- [147] M. N. Chernodub, R. Feldmann, E.-M. Ilgenfritz, and A. Schiller,
 “The compact Q = 2 Abelian Higgs model in the London limit: Vortex-monopole chains and the photon propagator,”
Phys. Rev. D **71**, 074502-1-19 (2005) [arXiv:hep-lat/0502009].
- [148] S. Wenzel, E. Bittner, W. Janke, A. M. J. Schakel and A. Schiller,
 “Kertesz Line in the Three-Dimensional Compact U(1) Lattice Higgs Model,”
Phys. Rev. Lett. **95**, 051601 (2005) [arXiv:cond-mat/0503599].

- [149] R. Horsley, H. Perlt, P. E. L. Rakow, G. Schierholz and A. Schiller,
 “Renormalisation of one-link quark operators for overlap fermions with Lüscher-Weisz gauge action,”
Phys. Lett. B **628**, 66-72 (2005) [arXiv:hep-lat/0505015].
- [150] A. Sternbeck, E.-M. Ilgenfritz, M. Müller-Preussker and A. Schiller,
 “Towards the infrared limit in SU(3) Landau gauge lattice gluodynamics,”
Phys. Rev. D **72**, 014507-1-10 (2005) [arXiv:hep-lat/0506007].
- [151] R. Horsley, H. Perlt, P. E. L. Rakow, G. Schierholz and A. Schiller,
 “Perturbative renormalisation of quark bilinear operators for overlap fermions with and without stout links and improved gauge action,”
 PoS LAT **2005** (2005) 238 [arXiv:hep-lat/0509072].
- [152] M. N. Chernodub, A. Schiller and E.-M. Ilgenfritz,
 “An Abelian two-Higgs model and high temperature superconductivity,”
 PoS LAT **2005** (2005) 295 [arXiv:hep-lat/0509088].
- [153] A. Sternbeck, E.-M. Ilgenfritz, M. Müller-Preussker and A. Schiller,
 “Studying the infrared region in Landau gauge QCD,”
 PoS LAT **2005** (2005) 333 [arXiv:hep-lat/0509090].
- [154] S. Wenzel, E. Bittner, W. Janke, A. M. J. Schakel and A. Schiller,
 “Vortex proliferation and the dual superconductor scenario for confinement: The 3D compact U(1) lattice Higgs model,”
 PoS LAT **2005** (2005) 248 [arXiv:hep-lat/0510099].
- [155] M. Göckeler, R. Horsley, H. Perlt, P. E. L. Rakow, A. Schäfer, G. Schierholz and A. Schiller,
 “Perturbative Renormalisation for Low Moments of Generalised Parton Distributions with Clover Fermions,”
 Nucl. Phys. Proc. Suppl. **153** (2006) 269 [arXiv:hep-lat/0511041].
- [156] A. Sternbeck, E.-M. Ilgenfritz, M. Müller-Preussker and A. Schiller,
 “Landau gauge ghost and gluon propagators and the Faddeev-Popov operator spectrum,”
 Nucl. Phys. Proc. Suppl. **153** (2006) 185 [arXiv:hep-lat/0511053].
- [157] M. N. Chernodub, E.-M. Ilgenfritz and A. Schiller,
 “Phase structure of an Abelian two-Higgs model and high temperature superconductors,”
 Phys. Rev. B **73** (2006) 100506 [arXiv:cond-mat/0512111].
- [158] E.-M. Ilgenfritz, M. Müller-Preussker, A. Sternbeck and A. Schiller,
 “Gauge-variant propagators and the running coupling from lattice QCD,”
 in “Sense of Beauty in Physics”, ed. by M. D’Elia, K. Konishi, E. Meggiolaro, P. Rossi, Pisa University Press (2006) 359-368 [arXiv:hep-lat/0601027].
- [159] M. Gockeler, R. Horsley, H. Perlt, P. E. L. Rakow, A. Schafer, G. Schierholz and A. Schiller,
 “Renormalisation of composite operators in lattice perturbation theory with clover fermions: Non-forward matrix elements,”
 Eur. Phys. J. C **48** (2006) 523 [Erratum-ibid. C **56** (2008) 161] [hep-lat/0605002].
- [160] V. M. Braun, M. Göckeler, R. Horsley, H. Perlt, D. Pleiter, P. E. L. Rakow, G. Schierholz, A. Schiller, W. Schroers, H. Stüben, J. M. Zanotti
 “Moments of pseudoscalar meson distribution amplitudes from the lattice,”
 Phys. Rev. D **74** (2006) 074501 [arXiv:hep-lat/0606012].

- [161] D. Galletly, M. Gürtler, R. Horsley, H. Perlt, P. E. L. Rakow, G. Schierholz, A. Schiller, T. Streuer, “Hadron spectrum, quark masses and decay constants from light overlap fermions on large lattices,” *Phys. Rev. D* **75** (2007) 073015 [arXiv:hep-lat/0607024].
- [162] E.-M. Ilgenfritz, M. Müller-Preussker, A. Sternbeck, A. Schiller and I. L. Bogolubsky, “Landau gauge gluon and ghost propagators from lattice QCD,” *Braz. J. Phys.* **37** (2007) 193 [arXiv:hep-lat/0609043].
- [163] A. Sternbeck, E.-M. Ilgenfritz, M. Müller-Preussker, A. Schiller and I. L. Bogolubsky, “Lattice study of the infrared behavior of QCD Green’s functions in Landau gauge,” *PoS LAT 2006* (2006) 076 [arXiv:hep-lat/0610053].
- [164] V. M. Braun, M. Göckeler, R. Horsley, H. Perlt, D. Pleiter, P. E. L. Rakow, G. Schierholz, A. Schiller, W. Schroers, H. Stüben, J. M. Zanotti “Distribution Amplitudes of Pseudoscalar Mesons,” *PoS LAT 2006* (2006) 122 [arXiv:hep-lat/0610055].
- [165] M. Göckeler, R. Horsley, H. Perlt, P. E. L. Rakow, G. Schierholz and A. Schiller, “One-loop Renormalisation of Lattice QCD Operators for Non-forward Matrix Elements: From Clover to Overlap Fermions,” *PoS LAT 2006* (2006) 161 [arXiv:hep-lat/0610060].
- [166] M. Göckeler, R. Horsley, H. Perlt, P. E. L. Rakow, G. Schierholz and A. Schiller, “Operator product expansion on the lattice: analytic Wilson coefficients,” *PoS LAT 2006* (2006) 119 [arXiv:hep-lat/0610064].
- [167] M. Bock, M. N. Chernodub, E.-M. Ilgenfritz and A. Schiller, “An Abelian two-Higgs model of strongly correlated electrons: phase structure, strengthening of phase transition and QCD at finite density,” *Phys. Rev. B* **76** (2007) 184502 [arXiv:0705.1528 [cond-mat.str-el]].
- [168] E.-M. Ilgenfritz, H. Perlt and A. Schiller, “The lattice gluon propagator in stochastic perturbation theory,” *PoS LAT 2007* (2007) 251 [arXiv:0710.0560[hep-lat]].
- [169] R. Horsley, H. Perlt, A. Schiller, P. E. L. Rakow and G. Schierholz, “Perturbative determination of c_{SW} with Symanzik improved gauge action and stout smearing,” *PoS LAT 2007* (2007) 250 [arXiv:0710.0990 [hep-lat]].
- [170] V. M. Braun *et al.* [QCDSF-UKQCD Collaboration], “Distribution Amplitudes of Vector Mesons,” *PoS LAT 2007* (2007) 144 [arXiv:0711.2174 [hep-lat]].
- [171] M. Göckeler *et al.*, “A status report of the QCDSF $N_f = 2 + 1$ Project,” *PoS LAT 2007* (2007) 041 [arXiv:0712.3525 [hep-lat]].
- [172] W. Bietenholz *et al.*, “The operator product expansion on the lattice,” *PoS LAT 2007* (2007) 159 [arXiv:0712.3772 [hep-lat]].
- [173] R. Horsley, H. Perlt, P. E. L. Rakow, G. Schierholz and A. Schiller, “Perturbative determination of c_{SW} for plaquette and Symanzik gauge action and stout link clover fermions,” *Phys. Rev. D* **78** (2008) 054504 [arXiv:0807.0345 [hep-lat]].

- [174] W. Bietenholz *et al.*,
“Nucleon structure in terms of OPE with non-perturbative Wilson coefficients,”
PoS LATTICE **2008** (2008) 149 [arXiv:0808.3637 [hep-lat]].
- [175] R. Horsley, H. Perlt, P. E. L. Rakow, G. Schierholz and A. Schiller,
“Clover improvement for stout-smear 2+1 flavour SLiNC fermions: perturbative results,”
PoS LATTICE **2008** (2008) 164 [arXiv:0809.4769 [hep-lat]].
- [176] F. Di Renzo, E.-M. Ilgenfritz, H. Perlt, A. Schiller and C. Torrero,
“The Landau gauge lattice ghost propagator in stochastic perturbation theory,”
PoS LATTICE **2008** (2008) 217 [arXiv:0809.4950 [hep-lat]].
- [177] N. Cundy *et al.* [QCDSF-UKQCD Collaborations],
“Clover improvement for stout-smear 2+1 flavour SLiNC fermions: non-perturbative results,”
PoS LATTICE **2008** (2008) 132 arXiv:0811.2355 [hep-lat].
- [178] F. Di Renzo, E.-M. Ilgenfritz, H. Perlt, A. Schiller and C. Torrero,
“Higher-loop gluon and ghost propagators in Landau gauge from numerical stochastic perturbation theory,”
PoS CONFINEMENT **8** (2008) 050 [arXiv:0812.3307 [hep-lat]].
- [179] N. Cundy, M. Göckeler, R. Horsley, T. Kaltenbrunner, A. D. Kennedy, Y. Nakamura, H. Perlt, D. Pleiter, P. E. L. Rakow, A. Schäfer, G. Schierholz, A. Schiller, T. Stüben and J. M. Zanotti,
“Non-perturbative improvement of stout-smear three flavour clover fermions,”
Phys. Rev. D **79** (2009) 094507 [arXiv:0901.3302 [hep-lat]].
- [180] W. Bietenholz, N. Cundy, M. Göckeler, R. Horsley, H. Perlt, D. Pleiter, P. E. L. Rakow, G. Schierholz, A. Schiller, T. Streuer and J. M. Zanotti,
“A Non-Perturbative Operator Product Expansion,”
PoS LAT **2009** (2009) 138 [arXiv:0910.2437 [hep-lat]].
- [181] E.-M. Ilgenfritz, Y. Nakamura, H. Perlt, P. E. L. Rakow, G. Schierholz and A. Schiller,
“Wilson loops in very high order lattice perturbation theory,”
PoS LAT **2009** (2009) 236 [arXiv:0910.2795 [hep-lat]].
- [182] F. Di Renzo, E.-M. Ilgenfritz, H. Perlt, A. Schiller and C. Torrero,
“The Lattice ghost propagator in Landau gauge up to three loops using Numerical Stochastic Perturbation Theory,”
PoS LAT **2009** (2009) 234 [arXiv:0910.2905 [hep-lat]].
- [183] W. Bietenholz *et al.* [QCDSF and UKQCD Collaborations],
“Results from 2+1 flavours of SLiNC fermions,”
PoS LAT **2009** (2009) 102 [arXiv:0910.2963 [hep-lat]].
- [184] W. Bietenholz *et al.* [QCDSF Collaboration],
“Quark structure from the lattice Operator Product Expansion,”
PoS LAT **2009** (2009) 139 [arXiv:0911.4892 [hep-lat]].
- [185] F. Di Renzo, E.-M. Ilgenfritz, H. Perlt, A. Schiller and C. Torrero,
“Two-point functions of quenched lattice QCD in Numerical Stochastic Perturbation Theory. (I) The ghost propagator in Landau gauge,”
Nucl. Phys. B **831** (2010) 262 [arXiv:0912.4152 [hep-lat]].
- [186] W. Bietenholz, V. Bornyakov, N. Cundy, M. Göckeler, R. Horsley, A. D. Kennedy, W. G. Lockhart, Y. Nakamura, H. Perlt, D. Pleiter, P. E. L. Rakow, A. Schäfer, G. Schierholz, A. Schiller, H. Stüben and J. M. Zanotti,

- “Tuning the strange quark mass in lattice simulations,”
 Phys. Lett. B **690** (2010) 436 [arXiv:1003.1114 [hep-lat]].
- [187] M. Göckeler, R. Horsley, Y. Nakamura, H. Perlt, D. Pleiter, P. E. L. Rakow, A. Schäfer, G. Schierholz, A. Schiller, H. Stüben and J. M. Zanotti
 “Perturbative and Nonperturbative Renormalization in Lattice QCD,”
 Phys. Rev. D **82** (2010) 114511 [Erratum-ibid. D **86** (2012) 099903] [arXiv:1003.5756 [hep-lat]].
- [188] W. Bietenholz *et al.* [QCDSF Collaboration],
 “Exploring the Nucleon Structure from First Principles of QCD,”
 J. Phys. Conf. Ser. **239** (2010) 012011 [arXiv:1004.2100 [hep-lat]].
- [189] F. Di Renzo, E.-M. Ilgenfritz, H. Perlt, A. Schiller and C. Torrero,
 “Two-point functions of quenched lattice QCD in Numerical Stochastic Perturbation Theory. (II)
 The Gluon propagator in Landau gauge,”
 Nucl. Phys. B **842** (2011) 122 [arXiv:1008.2617 [hep-lat]].
- [190] M. Göckeler, R. Horsley, Y. Nakamura, H. Perlt, D. Pleiter, P. E. L. Rakow, A. Schäfer, G. Schierholz, A. Schiller, H. Stüben and J. M. Zanotti
 “Renormalisation of composite operators in lattice QCD: perturbative versus nonperturbative,”
 PoS LATTICE **2010** (2010) 228 [arXiv:1010.1360 [hep-lat]].
- [191] E.-M. Ilgenfritz, C. Menz, M. Müller-Preussker, A. Schiller and A. Sternbeck,
 “SU(3) Landau gauge gluon and ghost propagators using the logarithmic lattice gluon field definition,”
 Phys. Rev. D **83** (2011) 054506 [arXiv:1010.5120 [hep-lat]].
- [192] R. Horsley, G. Hotzel, E.-M. Ilgenfritz, Y. Nakamura, H. Perlt, P. E. L. Rakow, G. Schierholz and A. Schiller,
 “Very high order lattice perturbation theory for Wilson loops,”
 PoS LATTICE **2010** (2010) 264 [arXiv:1010.4674 [hep-lat]].
- [193] C. Torrero, F. Di Renzo, E.-M. Ilgenfritz, H. Perlt and A. Schiller,
 “NSPT study of the three-loop lattice gluon propagator in Landau gauge,”
 PoS LATTICE **2010** (2010) 291 [arXiv:1010.5353 [hep-lat]].
- [194] F. Di Renzo, E.-M. Ilgenfritz, H. Perlt, A. Schiller and C. Torrero,
 “Two-point functions of quenched lattice QCD in Numerical Stochastic Perturbation Theory,”
 AIP Conf. Proc. **1343** (2011) 236 [arXiv:1012.1764 [hep-lat]].
- [195] W. Bietenholz *et al.* [QCDSF and UKQCD Collaborations],
 “Flavour symmetry breaking and tuning the strange quark mass for 2+1 quark flavours,”
 PoS LATTICE **2010** (2010) 122 [arXiv:1012.4371 [hep-lat]].
- [196] W. Bietenholz, V. Bornyakov, M. Göckeler, R. Horsley, W. G. Lockhart, Y. Nakamura, H. Perlt, D. Pleiter, P. E. L. Rakow, G. Schierholz, A. Schiller, T. Streuer, H. Stüben, F. Winter, J.M. Zanotti
 “Flavour blindness and patterns of flavour symmetry breaking in lattice simulations of up, down and strange quarks,”
 Phys. Rev. D **84** (2011) 054509 [arXiv:1102.5300 [hep-lat]].
- [197] R. Horsley, Y. Nakamura, H. Perlt, D. Pleiter, P. E. L. Rakow, G. Schierholz, A. Schiller and H. Stüben *et al.*,
 “Hyperon sigma terms for 2+1 quark flavours,”
 Phys. Rev. D **85** (2012) 034506 [arXiv:1110.4971 [hep-lat]].

- [198] R. Horsley, Y. Nakamura, H. Perlt, D. Pleiter, P. E. L. Rakow, G. Schierholz, A. Schiller and H. Stüben *et al.*,
 “Nucleon sigma terms for 2+1 quark flavours,”
 PoS LATTICE **2011** (2011) 158 [arXiv:1112.1883 [hep-lat]].
- [199] R. Horsley, G. Hotzel, E.-M. Ilgenfritz, R. Mollo, Y. Nakamura, H. Perlt, P. E. L. Rakow, G. Schierholz and A. Schiller,
 “Wilson loops to 20th order numerical stochastic perturbation theory,”
 Phys. Rev. D **86** (2012) 054502 [arXiv:1205.1659 [hep-lat]].
- [200] R. Horsley *et al.* [QCDSF and UKQCD Collaborations],
 “A Lattice Study of the Glue in the Nucleon,”
 Phys. Lett. B **714** (2012) 312 [arXiv:1205.6410 [hep-lat]].
- [201] M. Constantinou, M. Costa, M. Göckeler, R. Horsley, H. Panagopoulos, H. Perlt, P. E. L. Rakow, G. Schierholz and A. Schiller,
 “Perturbative subtraction of lattice artifacts in the computation of renormalization constants,”
 PoS LATTICE **2012** (2012) 239 [arXiv:1210.7737 [hep-lat]].
- [202] M. Constantinou, M. Costa, M. Göckeler, R. Horsley, H. Panagopoulos, H. Perlt, P. E. L. Rakow, G. Schierholz and A. Schiller,
 “Perturbatively improving RI-MOM renormalization constants,”
 Phys. Rev. D **87** (2013) 9, 096019 [arXiv:1303.6776 [hep-lat]].
- [203] R. Horsley, H. Perlt, P. E. L. Rakow, G. Schierholz and A. Schiller,
 “The SU(3) Beta Function from Numerical Stochastic Perturbation Theory,”
 Phys. Lett. B **728** (2014) 1 [arXiv:1309.4311 [hep-lat]].
- [204] M. Constantinou, M. Costa, M. Göckeler, R. Horsley, H. Panagopoulos, H. Perlt, P. E. L. Rakow, G. Schierholz and A. Schiller,
 “Perturbatively improving renormalization constants,”
 PoS LATTICE **2013** (2014) 310 [arXiv:1310.6504 [hep-lat]].
- [205] J. Simeth, A. Sternbeck, E.-M. Ilgenfritz, H. Perlt and A. Schiller,
 “Discretization Errors for the Gluon and Ghost Propagators in Landau Gauge using NSPT,”
 PoS LATTICE **2013** (2014) 459 [arXiv:1311.1934 [hep-lat]].
- [206] R. Horsley, J. Najjar, Y. Nakamura, H. Perlt, D. Pleiter, P. E. L. Rakow, G. Schierholz, A. Schiller, H. Stüben and J. M. Zanotti,
 “SU(3) flavour symmetry breaking and charmed states,”
 PoS LATTICE **2013** (2014) 249 [arXiv:1311.5010 [hep-lat]].
- [207] A. J. Chambers, R. Horsley, Y. Nakamura, H. Perlt, D. Pleiter, P. E. L. Rakow, G. Schierholz, A. Schiller H. Stüben, R. D. Young and J. M. Zanotti,
 “A Feynman-Hellmann approach to the spin structure of hadrons,”
 Phys. Rev. D **90** (2014) 014510 [arXiv:1405.3019 [hep-lat]].
- [208] M. Constantinou, R. Horsley, H. Panagopoulos, H. Perlt, P. E. L. Rakow, G. Schierholz, A. Schiller and J. M. Zanotti,
 “Renormalization of local quark-bilinear operators for $N_f=3$ flavors of stout link nonperturbative clover fermions,”
 Phys. Rev. D **91** (2015) 1, 014502 [arXiv:1408.6047 [hep-lat]].
- [209] A. J. Chambers, R. Horsley, Y. Nakamura, H. Perlt, P. E. L. Rakow, G. Schierholz, A. Schiller and J. M. Zanotti,
 “A novel approach to nonperturbative renormalization of singlet and nonsinglet lattice operators,”
 Phys. Lett. B **740** (2015) 30 [arXiv:1410.3078 [hep-lat]].

- [210] R. Horsley, J. Najjar, Y. Nakamura, H. Perlt, D. Pleiter, P. E. L. Rakow, G. Schierholz, A. Schiller, H. Stüben and J. M. Zanotti, [QCDSF-UKQCD Collaboration],
“Lattice determination of Sigma-Lambda mixing,”
Phys. Rev. D **91** (2015) 7, 074512 [arXiv:1411.7665 [hep-lat]].
- [211] R. Horsley, J. Najjar, Y. Nakamura, H. Perlt, D. Pleiter, P. E. L. Rakow, G. Schierholz, A. Schiller, H. Stüben and J. M. Zanotti, [QCDSF-UKQCD Collaboration],
“Determining Sigma - Lambda mixing,”
PoS LATTICE **2014** (2015) 110 [arXiv:1412.0970 [hep-lat]].
- [212] A. J. Chambers, R. Horsley, Y. Nakamura, H. Perlt, D. Pleiter, P. E. L. Rakow, G. Schierholz, A. Schiller, H. Stüben, R. D. Young and J. M. Zanotti,
“Connected and disconnected quark contributions to hadron spin,”
PoS LATTICE **2014** (2015) 165 [arXiv:1412.6569 [hep-lat]].
- [213] J. Simeth, A. Sternbeck, M. Göckeler, H. Perlt and A. Schiller,
“Using NSPT for the Removal of Hypercubic Lattice Artifacts,”
PoS LATTICE **2014** (2015) 294 [arXiv:1501.06322 [hep-lat]].
- [214] F.-K. Guo, R. Horsley, U.-G. Meissner, Y. Nakamura, H. Perlt, P. E. L. Rakow, G. Schierholz, A. Schiller and J. M. Zanotti,
“The electric dipole moment of the neutron from 2+1 flavor lattice QCD,”
Phys. Rev. Lett. **115** (2015) 6, 062001 [arXiv:1502.02295 [hep-lat]].
- [215] R. Horsley, J. Najjar, Y. Nakamura, H. Perlt, D. Pleiter, P. E. L. Rakow, G. Schierholz, A. Schiller, H. Stüben and J. M. Zanotti, [QCDSF-UKQCD Collaboration],
“Reply to ‘Comment on ‘Lattice determination of Σ - Λ mixing’ ””
Phys. Rev. D **92** (2015) 018502 [arXiv:1507.07825 [hep-lat]].
- [216] V. G. Bornyakov, R. Horsley, R. Hudspith, Y. Nakamura, H. Perlt, D. Pleiter, P. E. L. Rakow, G. Schierholz, A. Schiller, H. Stüben and J. M. Zanotti,
“Wilson flow and scale setting from lattice QCD,”
arXiv:1508.05916 [hep-lat].
- [217] R. Horsley, Y. Nakamura, H. Perlt, D. Pleiter, P. E. L. Rakow, G. Schierholz, A. Schiller, R. Stokes, H. Stüben, R. D. Young and J. M. Zanotti,
“Isospin splittings of meson and baryon masses from three-flavor lattice QCD + QED,”
arXiv:1508.06401 [hep-lat].
- [218] A. J. Chambers, R. Horsley, Y. Nakamura, H. Perlt, D. Pleiter, P. E. L. Rakow, G. Schierholz, A. Schiller, H. Stüben, R. D. Young and J. M. Zanotti,
“Disconnected contributions to the spin of the nucleon,”
arXiv:1508.06856 [hep-lat].
- [219] R. Horsley, Y. Nakamura, H. Perlt, D. Pleiter, P. E. L. Rakow, G. Schierholz, A. Schiller, R. Stokes, H. Stüben, R. D. Young and J. M. Zanotti,
“QED effects in the pseudoscalar meson sector,”
arXiv:1509.00799 [hep-lat].