

# USQCD Publications

October, 2013

## Publications in or Submitted to Refereed Journals

- [1] R. R. Horgan, Z. Liu, S. Meinel and M. Wingate, “Lattice QCD calculation of form factors describing the rare decays  $B$  to  $K^*l^+l^-$  and  $\bar{B}_s$  to  $\phi l^+l^-$ ,” arXiv:1310.3722 [hep-lat].
- [2] A. Bazavov, H. -T. Ding, P. Hegde, F. Karsch, C. Miao, S. Mukherjee, P. Petreczky and C. Schmidt *et al.*, “On quark number susceptibilities at high temperatures,” arXiv:1309.2317 [hep-lat].
- [3] M. I. Buchoff, M. Cheng, N. H. Christ, H. -T. Ding, C. Jung, F. Karsch, R. D. Mawhinney and S. Mukherjee *et al.*, “The QCD chiral transition,  $ua$  symmetry and the Dirac spectrum using domain wall fermions,” arXiv:1309.4149 [hep-lat].
- [4] L. Levkova and C. DeTar, “Quark-gluon plasma in an external magnetic field,” arXiv:1309.1142 [hep-lat].
- [5] R. J. Dowdall, C. T. H. Davies, R. R. Horgan, G. P. Lepage, C. McNeile, C. J. Monahan and J. Shigemitsu, “ $B$ ,  $B_s$ ,  $K$  and  $\pi$  weak matrix elements with physical light quarks,” arXiv:1309.4610 [hep-lat].
- [6] J. J. Dudek, R. G. Edwards, P. Guo and C. E. Thomas, “Toward the excited isoscalar meson spectrum from lattice QCD,” arXiv:1309.2608 [hep-lat].
- [7] W. Detmold and A. N. Nicholson, “Baryon masses at nonzero isospin/kaon density,” Phys. Rev. D **88**, **074501** (2013) [arXiv:1308.5186 [hep-lat]].
- [8] M. Padmanath, R. G. Edwards, N. Mathur and M. Peardon, “Spectroscopy of triply-charmed baryons from lattice QCD,” arXiv:1307.7022 [hep-lat].
- [9] C. Aubin, T. Blum, M. Golterman and S. Peris, “The hadronic vacuum polarization with twisted boundary conditions,” arXiv:1307.4701 [hep-lat].
- [10] C. Bouchard, G. P. Lepage, C. Monahan, H. Na and J. Shigemitsu, “Rare decay  $B \rightarrow K \ell \ell$  form factors from lattice QCD,” Phys. Rev. D **88**, **054509** (2013) [Phys. Rev. D **88**, 054509 (2013)] [arXiv:1306.2384 [hep-lat]].
- [11] C. Bouchard, G. P. Lepage, C. Monahan, H. Na and J. Shigemitsu, “Standard Model predictions for  $B \rightarrow K \ell \ell$  with form factors from lattice QCD,” Phys. Rev. Lett. **111**, 162002 (2013) [arXiv:1306.0434 [hep-ph]].
- [12] W. Detmold, C. -J. D. Lin, S. Meinel and M. Wingate, “ $\Lambda_b \rightarrow p l^- \bar{\nu}$  form factors from lattice QCD with static  $b$  quarks,” Phys. Rev. D **88**, 014512 (2013) [arXiv:1306.0446 [hep-lat]].
- [13] T. Bhattacharya, S. D. Cohen, R. Gupta, A. Joseph and H. -W. Lin, “Nucleon Charges and Electromagnetic Form Factors from 2+1+1-Flavor Lattice QCD,” arXiv:1306.5435 [hep-lat].

- [14] S. R. Beane, S. D. Cohen, W. Detmold, H. -W. Lin and M. J. Savage, “Nuclear  $\sigma$ -terms and Scalar-Isoscalar WIMP-Nucleus Interactions from Lattice QCD,” arXiv:1306.6939 [hep-ph].
- [15] J. Koponen, C. T. H. Davies, G. C. Donald, E. Follana, G. P. Lepage, H. Na and J. Shigemitsu, “The shape of the  $D \rightarrow K$  semileptonic form factor from full lattice QCD and  $V_{cs}$ ,” arXiv:1305.1462 [hep-lat].
- [16] M. Gong, A. Alexandru, Y. Chen, T. Doi, S. J. Dong, T. Draper, W. Freeman and M. Glatzmaier *et al.*, “Strangeness and charmness content of nucleon from overlap fermions on 2+1-flavor domain-wall fermion configurations,” Phys. Rev. D **88**, 014503 (2013) [arXiv:1304.1194 [hep-ph]].
- [17] Y. Aoki, E. Shintani and A. Soni, “Proton decay matrix elements on the lattice,” arXiv:1304.7424 [hep-lat].
- [18] A. Bazavov, H. -T. Ding, P. Hegde, O. Kaczmarek, F. Karsch, E. Laermann, Y. Maezawa and S. Mukherjee *et al.*, “Strangeness at high temperatures: from hadrons to quarks,” Phys. Rev. Lett. **111**, 082301 (2013) [Phys. Rev. Lett. **111**, 082301 (2013)] [arXiv:1304.7220 [hep-lat]].
- [19] A. Bazavov and P. Petreczky, “Static meson correlators in 2+1 flavor QCD at non-zero temperature,” Eur. Phys. J. A **49**, 85 (2013) [arXiv:1303.5500 [hep-lat]].
- [20] S. Catterall and A. Veernala, “Four Fermion Interactions in Non-Abelian Gauge Theory,” arXiv:1303.6187 [hep-lat].
- [21] R. J. Dowdall, C. T. H. Davies, G. P. Lepage and C. McNeile, “ $V_{us}$  from  $\pi$  and  $K$  decay constants in full lattice QCD with physical u, d, s and c quarks,” arXiv:1303.1670 [hep-lat].
- [22] R. J. Dowdall *et al.* [HPQCD Collaboration], “B-meson decay constants from improved lattice NRQCD and physical u, d, s and c sea quarks,” Phys. Rev. Lett. **110** (2013) 222003 [arXiv:1302.2644 [hep-lat]].
- [23] A. M. Abdel-Rehim, A. Stathopoulos and K. Orginos, “Extending the eigCG algorithm to nonsymmetric Lanczos for linear systems with multiple right-hand sides,” arXiv:1302.4077 [hep-lat].
- [24] A. Stathopoulos, J. Laeuchli and K. Orginos, “Hierarchical probing for estimating the trace of the matrix inverse on toroidal lattices,” arXiv:1302.4018 [hep-lat].
- [25] A. Cheng, A. Hasenfratz, G. Petropoulos and D. Schaich, “Scale-dependent mass anomalous dimension from Dirac eigenmodes,” JHEP **1307**, 061 (2013) [arXiv:1301.1355 [hep-lat]].
- [26] S. R. Beane, E. Chang, S. D. Cohen, W. Detmold, P. Junnarkar, H. W. Lin, T. C. Luu and K. Orginos *et al.*, “Nucleon-Nucleon Scattering Parameters in the Limit of SU(3) Flavor Symmetry,” Phys. Rev. C **88**, 024003 (2013) [arXiv:1301.5790 [hep-lat], arXiv:1301.5790 [hep-lat]].
- [27] A. Bazavov and P. Petreczky, “On the Polyakov loop in 2+1 flavor QCD,” Phys. Rev. D **87**, 094505 (2013) [arXiv:1301.3943 [hep-lat]].
- [28] A. Bazavov *et al.* [MILC Collaboration], “Leptonic decay-constant ratio  $f_{K^+}/f_{\rho^{+}}$  from lattice QCD with physical light quarks,” Phys. Rev. Lett. **110**, 172003 (2013) [arXiv:1301.5855 [hep-ph]].

- [29] A. Bazavov *et al.* [MILC Collaboration], “Lattice QCD ensembles with four flavors of highly improved staggered quarks,” Phys. Rev. D **87**, 054505 (2013) [arXiv:1212.4768 [hep-lat]].
- [30] A. Bazavov, C. Bernard, C. M. Bouchard, C. DeTar, D. Du, A. X. El-Khadra, J. Foley and E. D. Freeland *et al.*, “Kaon semileptonic vector form factor and determination of  $|V_{us}|$  using staggered fermions,” Phys. Rev. D **87**, 073012 (2013) [arXiv:1212.4993 [hep-lat]].
- [31] P. A. Boyle *et al.* [RBC and UKQCD Collaborations], “Emerging understanding of the  $\Delta I = 1/2$  Rule from Lattice QCD,” Phys. Rev. Lett. **110**, 152001 (2013) [arXiv:1212.1474 [hep-lat]].
- [32] R. G. Edwards, N. Mathur, D. G. Richards and S. J. Wallace, “The Flavor Structure of the Excited Baryon Spectra from Lattice QCD,” Phys. Rev. D **87**, 054506 (2013) [arXiv:1212.5236 [hep-ph]].
- [33] W. Detmold, C. -J. D. Lin, S. Meinel and M. Wingate, “ $\Lambda_b^- \rightarrow \Lambda l^+ l^-$  form factors and differential branching fraction from lattice QCD,” Phys. Rev. D **87**, 074502 (2013) [arXiv:1212.4827 [hep-lat]].
- [34] J. J. Dudek, R. G. Edwards and C. E. Thomas, “Energy dependence of the  $\rho$  resonance in  $\pi\pi$  elastic scattering from lattice QCD,” Phys. Rev. D **87**, 034505 (2013) [arXiv:1212.0830 [hep-ph]].
- [35] C. McNeile, A. Bazavov, C. T. H. Davies, R. J. Dowdall, K. Hornbostel, G. P. Lepage and H. D. Trottier, “Direct determination of the strange and light quark condensates from full lattice QCD,” Phys. Rev. D **87**, 034503 (2013) [arXiv:1211.6577 [hep-lat]].
- [36] Z. Fodor, K. Holland, J. Kuti, D. Nogradi, C. Schroeder and C. H. Wong, “Can the nearly conformal sextet gauge model hide the Higgs impostor?,” Phys. Lett. B **718**, 657 (2012) [arXiv:1209.0391 [hep-lat]].
- [37] L. Liu, K. Orginos, F. -K. Guo, C. Hanhart and U. -G. Meissner, “Interactions of Charmed Mesons with Light Pseudoscalar Mesons from Lattice QCD and Implications on the Nature of the  $D_{s0}^*(2317)$ ,” Phys. Rev. D **87**, 014508 (2013) [arXiv:1208.4535 [hep-lat]].
- [38] G. C. Donald, C. T. H. Davies, R. J. Dowdall, E. Follana, K. Hornbostel, J. Koponen, G. P. Lepage and C. McNeile, “Precision tests of the  $J/\psi$  from full lattice QCD: mass, leptonic width and radiative decay rate to  $\eta_c$ ,” Phys. Rev. D **86**, 094501 (2012) [arXiv:1208.2855 [hep-lat]].
- [39] A. Bazavov, H. T. Ding, P. Hegde, O. Kaczmarek, F. Karsch, E. Laermann, S. Mukherjee and P. Petreczky *et al.*, “Freeze-out Conditions in Heavy Ion Collisions from QCD Thermodynamics,” Phys. Rev. Lett. **109**, 192302 (2012) [arXiv:1208.1220 [hep-lat]].
- [40] R. Arthur *et al.* [RBC and UKQCD Collaborations], “Domain Wall QCD with Near-Physical Pions,” Phys. Rev. D **87**, 094514 (2013) [arXiv:1208.4412 [hep-lat]].
- [41] C. McNeile, C. T. H. Davies, E. Follana, K. Hornbostel and G. P. Lepage, “Heavy meson masses and decay constants from relativistic heavy quarks in full lattice QCD,” Phys. Rev. D **86**, 074503 (2012) [arXiv:1207.0994 [hep-lat]].
- [42] R. A. Bréno, H. -W. Lin and D. R. Bolton, “Charmed-Baryon Spectroscopy from Lattice QCD with  $N_f = 2 + 1 + 1$  Flavors,” Phys. Rev. D **86**, 094504 (2012) [arXiv:1207.3536 [hep-lat]].

- [43] H. Na, C. T. H. Davies, E. Follana, G. P. Lepage and J. Shigemitsu, “ $|V_{cd}|$  from D Meson Leptonic Decays,” Phys. Rev. D **86**, 054510 (2012) [arXiv:1206.4936 [hep-lat]].
- [44] O. Kaczmarek, F. Karsch, M. Kitazawa and W. Soldner, “Thermal mass and dispersion relations of quarks in the deconfined phase of quenched QCD,” Phys. Rev. D **86**, 036006 (2012) [arXiv:1206.1991 [hep-lat]].
- [45] S. R. Beane, E. Chang, S. D. Cohen, W. Detmold, H. W. Lin, T. C. Luu, K. Orginos and A. Parreno *et al.*, “Light Nuclei and Hypernuclei from Quantum Chromodynamics in the Limit of SU(3) Flavor Symmetry,” Phys. Rev. D **87**, 034506 (2013) [arXiv:1206.5219 [hep-lat]].
- [46] J. A. Bailey, A. Bazavov, C. Bernard, C. M. Bouchard, C. DeTar, D. Du, A. X. El-Khadra and J. Foley *et al.*, “Refining new-physics searches in  $B \rightarrow D\pi$  decay with lattice QCD,” Phys. Rev. Lett. **109**, 071802 (2012) [arXiv:1206.4992 [hep-ph]].
- [47] A. Bazavov, C. Bernard, C. M. Bouchard, C. DeTar, M. Di Pierro, A. X. El-Khadra, R. T. Evans and E. D. Freeland *et al.*, “Neutral B-meson mixing from three-flavor lattice QCD: Determination of the SU(3)-breaking ratio  $\xi$ ,” Phys. Rev. D **86**, 034503 (2012) [arXiv:1205.7013 [hep-lat]].
- [48] L. Liu *et al.* [Hadron Spectrum Collaboration], “Excited and exotic charmonium spectroscopy from lattice QCD,” JHEP **1207**, 126 (2012) [arXiv:1204.5425 [hep-ph]].
- [49] T. Appelquist, R. C. Brower, M. I. Buchoff, M. Cheng, S. D. Cohen, G. T. Fleming, J. Kiskis and M. Lin *et al.*, “Approaching Conformality with Ten Flavors,” arXiv:1204.6000 [hep-ph].
- [50] M. Lujan, A. Alexandru, Y. Chen, T. Draper, W. Freeman, M. Gong, F. X. Lee and A. Li *et al.*, “The  $\Delta_{mix}$  parameter in the overlap on domain-wall mixed action,” Phys. Rev. D **86**, 014501 (2012) [arXiv:1204.6256 [hep-lat]].
- [51] J. J. Dudek, R. G. Edwards and C. E. Thomas, “S and D-wave phase shifts in isospin-2 pi pi scattering from lattice QCD,” Phys. Rev. D **86**, 034031 (2012) [arXiv:1203.6041 [hep-ph]].
- [52] A. Bazavov *et al.* [HotQCD Collaboration], “Fluctuations and Correlations of net baryon number, electric charge, and strangeness: A comparison of lattice QCD results with the hadron resonance gas model,” Phys. Rev. D **86**, 034509 (2012) [arXiv:1203.0784 [hep-lat]].
- [53] T. Ishikawa, T. Blum, M. Hayakawa, T. Izubuchi, C. Jung and R. Zhou, “Full QED+QCD low-energy constants through reweighting,” Phys. Rev. Lett. **109**, 072002 (2012) [arXiv:1202.6018 [hep-lat]].
- [54] T. DeGrand, Y. Shamir and B. Svetitsky, “SU(4) lattice gauge theory with decuplet fermions: Schrodinger functional analysis,” Phys. Rev. D **85**, 074506 (2012) [arXiv:1202.2675 [hep-lat]].
- [55] H. Na, C. J. Monahan, C. T. H. Davies, R. Horgan, G. P. Lepage and J. Shigemitsu, “The  $B$  and  $B_s$  Meson Decay Constants from Lattice QCD,” Phys. Rev. D **86**, 034506 (2012) [arXiv:1202.4914 [hep-lat]].
- [56] J. A. Bailey, A. Bazavov, C. Bernard, C. M. Bouchard, C. DeTar, D. Du, A. X. El-Khadra and J. Foley *et al.*, “ $B_s \rightarrow D_s/B \rightarrow D$  Semileptonic Form-Factor Ratios and Their Application to  $\text{BR}(B_s^0 \rightarrow \mu^+\mu^-)$ ,” Phys. Rev. D **85**, 114502 (2012) [Erratum-ibid. D **86**, 039904 (2012)] [arXiv:1202.6346 [hep-lat]].

- [57] T. DeGrand, Y. Shamir and B. Svetitsky, “Mass anomalous dimension in sextet QCD,” Phys. Rev. D **87**, 074507 (2013) [arXiv:1201.0935 [hep-lat]].
- [58] A. Bazavov and B. A. Berg, “Program package for multicanonical simulations of U(1) lattice gauge theory. Second version,” Comput. Phys. Commun. **184**, 1075 (2013).
- [59] J. J. Dudek and R. G. Edwards, “Hybrid Baryons in QCD,” Phys. Rev. D **85**, 054016 (2012) [arXiv:1201.2349 [hep-ph]].
- [60] T. Appelquist, R. Babich, R. C. Brower, M. I. Buchoff, M. Cheng, M. A. Clark, S. D. Cohen and G. T. Fleming *et al.*, “WW Scattering Parameters via Pseudoscalar Phase Shifts,” Phys. Rev. D **85**, 074505 (2012) [arXiv:1201.3977 [hep-lat]].
- [61] C. Alexandrou, G. Koutsou, J. Negele, Y. Proestos, and A. Tsapalis, “Nucleon to Delta transition form factors with  $N_F = 2 + 1$  domain wall fermions,” Phys. Rev. **D83** (2011) 014501, arXiv:1011.3233 [hep-lat].
- [62] C. Alexandrou, E. B. Gregory, T. Korzec, G. Koutsou, J. W. Negele, *et al.*, “The  $\Delta(1232)$  axial charge and form factors from lattice QCD,” Phys. Rev. Lett. **107** (2011) 141601, arXiv:1106.6000 [hep-lat].
- [63] R. Arthur *et al.* [RBC and UKQCD Collaboration], “Opening the Rome-Southampton window for operator mixing matrices,” Phys. Rev. D **85**, 014501 (2012) [arXiv:1109.1223 [hep-lat]].
- [64] R. Arthur, P. Boyle, D. Brommel, M. Donnellan, J. Flynn, *et al.*, “Lattice Results for Low Moments of Light Meson Distribution Amplitudes,” Phys. Rev. **D83** (2011) 074505, arXiv:1011.5906 [hep-lat].
- [65] Y. Aoki *et al.*, “Continuum Limit Physics from 2+1 Flavor Domain Wall QCD,” Phys. Rev. **D83** (2011) 074508, arXiv:1011.0892 [hep-lat].
- [66] Y. Aoki, R. Arthur, T. Blum, P. Boyle, D. Brommel, *et al.*, “Continuum Limit of  $B_K$  from 2+1 Flavor Domain Wall QCD,” Phys. Rev. **D84** (2011) 014503, arXiv:1012.4178 [hep-lat].
- [67] T. Blum, P. A. Boyle, N. H. Christ, N. Garron, E. Goode, T. Izubuchi, C. Jung and C. Kelly *et al.*, “The  $K \rightarrow (\pi\pi)_{I=2}$  Decay Amplitude from Lattice QCD,” Phys. Rev. Lett. **108**, 141601 (2012) [arXiv:1111.1699 [hep-lat]].
- [68] T. Blum, P. Boyle, N. Christ, N. Garron, E. Goode, *et al.*, “ $K$  to  $\pi\pi$  Decay amplitudes from Lattice QCD,” Phys. Rev. **D84** (2011) 114503, arXiv:1106.2714 [hep-lat]. 40 pages, 12 figures.
- [69] Z. Fodor, K. Holland, J. Kuti, D. Nogradi, C. Schroeder, “Twelve massless flavors and three colors below the conformal window,” Phys. Lett. B **703**, 348 (2011) [arXiv:1104.3124 [hep-lat]].
- [70] A. Bazavov *et al.* [Fermilab Lattice and MILC Collaborations], “B- and D-meson decay constants from three-flavor lattice QCD,” Phys. Rev. D **85**, 114506 (2012) [arXiv:1112.3051 [hep-lat]].
- [71] L. Levkova and C. DeTar, “Charm annihilation effects on the hyperfine splitting in charmonium,” Phys. Rev. D **83**, 074504 (2011) [arXiv:1012.1837 [hep-lat]].
- [72] A. Bazavov *et al.* [MILC Collaboration], “Scaling studies of QCD with the dynamical HISQ action,” Phys. Rev. D **82**, 074501 (2010) [arXiv:1004.0342 [hep-lat]].

- [73] C. DeTar, L. Levkova, S. Gottlieb, U. M. Heller, J. E. Hetrick, R. Sugar and D. Toussaint, “QCD thermodynamics with nonzero chemical potential at  $N_t = 6$  and effects from heavy quarks,” Phys. Rev. D **81**, 114504 (2010) [arXiv:1003.5682 [hep-lat]].
- [74] C. Bernard *et al.* [Fermilab Lattice and MILC Collaborations], “Tuning Fermilab Heavy Quarks in 2+1 Flavor Lattice QCD with Application to Hyperfine Splittings,” Phys. Rev. D **83**, 034503 (2011) [arXiv:1003.1937 [hep-lat]].
- [75] ”Clark, M. A. and Joo, Balint and Kennedy, A. D. and Silva, P. J.”, ”Improving dynamical lattice QCD simulations through integrator tuning using Poisson brackets and a force-gradient integrator”, Phys. Rev. D84 (2011), 071502, [arXiv:1108.1828].
- [76] B. U. Musch, P. .Hagler, M. Engelhardt, J. W. Negele and A. Schafer, “Sivers and Boer-Mulders observables from lattice QCD,” Phys. Rev. D **85**, 094510 (2012) [arXiv:1111.4249 [hep-lat]].
- [77] S. Catterall, R. Galvez, A. Joseph and D. Mehta, “On the sign problem in 2D lattice super Yang-Mills,” JHEP **1201**, 108 (2012) [arXiv:1112.3588 [hep-lat]].
- [78] S. Catterall, R. Galvez, J. Hubisz, D. Mehta and A. Veernala, “Non-abelian gauged NJL models on the lattice,” Phys. Rev. D **86**, 034502 (2012) [arXiv:1112.1855 [hep-lat]].
- [79] S. Catterall, L. Del Debbio, J. Giedt and L. Keegan, “MCRG Minimal Walking Technicolor,” Phys. Rev. D **85**, 094501 (2012) [arXiv:1108.3794 [hep-ph]].
- [80] S. Catterall and A. Joseph, “An Object oriented code for simulating supersymmetric Yang-Mills theories,” Comput. Phys. Commun. **183**, 1336 (2012) [arXiv:1108.1503 [hep-lat]].
- [81] A. Alexandru and I. Horvath, “How Self-Dual is QCD?,” Phys. Lett. B **706**, 436 (2012) [arXiv:1110.2762 [hep-lat]].
- [82] A. Alexandru, C. Pelissier, B. Gamari and F. Lee, “Multi-mass solvers for lattice QCD on GPUs,” J. Comput. Phys. **231**, 1866 (2012) [arXiv:1103.5103 [hep-lat]].
- [83] A. Li, A. Alexandru and K. -F. Liu, “Critical point of  $N_f = 3$  QCD from lattice simulations in the canonical ensemble,” Phys. Rev. D **84**, 071503 (2011) [arXiv:1103.3045 [hep-ph]].
- [84] A. Alexandru, T. Draper, I. Horvath and T. Streuer, “The Analysis of Space-Time Structure in QCD Vacuum II: Dynamics of Polarization and Absolute X-Distribution,” Annals Phys. **326**, 1941 (2011) [arXiv:1009.4451 [hep-lat]].
- [85] A. Alexandru and U. Wenger, “QCD at non-zero density and canonical partition functions with Wilson fermions,” Phys. Rev. D **83**, 034502 (2011) [arXiv:1009.2197 [hep-lat]].
- [86] A. Li *et al.* [xQCD Collaboration], “Overlap Valence on 2+1 Flavor Domain Wall Fermion Configurations with Deflation and Low-mode Substitution,” Phys. Rev. D **82**, 114501 (2010) [arXiv:1005.5424 [hep-lat]].
- [87] A. Li, A. Alexandru, K. -F. Liu and X. Meng, “Finite density phase transition of QCD with  $N_f = 4$  and  $N_f = 2$  using canonical ensemble method,” Phys. Rev. D **82**, 054502 (2010) [arXiv:1005.4158 [hep-lat]].
- [88] T. Appelquist *et al.* [LSD Collaboration], “Parity Doubling and the S Parameter Below the Conformal Window,” Phys. Rev. Lett. **106**, 231601 (2011) [arXiv:1009.5967 [hep-ph]].

- [89] R. Babich, R. C. Brower, M. A. Clark, G. T. Fleming, J. C. Osborn, C. Rebbi and D. Schaich, “Exploring strange nucleon form factors on the lattice,” Phys. Rev. D **85**, 054510 (2012) [arXiv:1012.0562 [hep-lat]].
- [90] C. E. Thomas, R. G. Edwards and J. J. Dudek, “Helicity operators for mesons in flight on the lattice,” Phys. Rev. D **85**, 014507 (2012) [arXiv:1107.1930 [hep-lat]].
- [91] R. G. Edwards, J. J. Dudek, D. G. Richards and S. J. Wallace, “Excited state baryon spectroscopy from lattice QCD,” Phys. Rev. D **84**, 074508 (2011) [arXiv:1104.5152 [hep-ph]].
- [92] C. Morningstar, J. Bulava, J. Foley, K. J. Juge, D. Lenkner, M. Peardon and C. H. Wong, “Improved stochastic estimation of quark propagation with Laplacian Heaviside smearing in lattice QCD,” Phys. Rev. D **83**, 114505 (2011) [arXiv:1104.3870 [hep-lat]].
- [93] J. J. Dudek, R. G. Edwards, B. Joo, M. J. Peardon, D. G. Richards and C. E. Thomas, “Isoscalar meson spectroscopy from lattice QCD,” Phys. Rev. D **83**, 111502 (2011) [arXiv:1102.4299 [hep-lat]].
- [94] E. B. Gregory, C. T. H. Davies, I. D. Kendall, J. Koponen, K. Wong, E. Follana, E. Gamiz, G. P. Lepage, E. Mueller, H. Na, and J. Shigemitsu, “Precise  $B$ ,  $B_s$  and  $B_c$  meson spectroscopy from full lattice QCD,” Phys. Rev. D **83**, 014506 (2011) [arXiv:1010.3848 [hep-lat]].
- [95] G. C. Donald, C. T. H. Davies, E. Follana and A. S. Kronfeld, “Staggered fermions, zero modes, and flavor-singlet mesons,” Phys. Rev. D **84**, 054504 (2011) [arXiv:1106.2412 [hep-lat]].
- [96] H. Na, C. T. H. Davies, E. Follana, J. Koponen, G. P. Lepage and J. Shigemitsu, “ $D \rightarrow \pi, l\nu$  Semileptonic Decays,  $|V_{cd}|$  and 2<sup>nd</sup> Row Unitarity from Lattice QCD,” Phys. Rev. D **84**, 114505 (2011) [arXiv:1109.1501 [hep-lat]].
- [97] C. McNeile, C. T. H. Davies, E. Follana, K. Hornbostel and G. P. Lepage, “High-Precision  $f_{B_s}$  and HQET from Relativistic Lattice QCD,” Phys. Rev. D **85**, 031503 (2012) [arXiv:1110.4510 [hep-lat]].
- [98] K. Hornbostel, G. P. Lepage, C. T. H. Davies, R. J. Dowdall, H. Na and J. Shigemitsu, “Fast Fits for Lattice QCD Correlators,” Phys. Rev. D **85**, 031504 (2012) [arXiv:1111.1363 [hep-lat]].
- [99] A. Bazavov, T. Bhattacharya, M. Cheng, C. DeTar, H. T. Ding, S. Gottlieb, R. Gupta and P. Hegde *et al.*, “The chiral and deconfinement aspects of the QCD transition,” Phys. Rev. D **85**, 054503 (2012) [arXiv:1111.1710 [hep-lat]].
- [100] T. Bae, Y. -C. Jang, C. Jung, H. -J. Kim, J. Kim, J. Kim, K. Kim and S. Kim *et al.*, “Kaon  $B$ -parameter from improved staggered fermions in  $N_f = 2+1$  QCD,” arXiv:1111.5698 [hep-lat].
- [101] J. Kim, W. Lee and S. R. Sharpe, “One-loop matching of improved four-fermion staggered operators with an improved gluon action,” Phys. Rev. D **83**, 094503 (2011) [arXiv:1102.1774 [hep-lat]].
- [102] J. Kim, C. Jung, H. -J. Kim, W. Lee and S. R. Sharpe, “Finite volume effects in  $B_K$  with improved staggered fermions,” Phys. Rev. D **83**, 117501 (2011) [arXiv:1101.2685 [hep-lat]].
- [103] J. M. M. Hall, F. X. Lee, D. B. Leinweber, K. F. Liu, N. Mathur, R. D. Young and J. B. Zhang, “Chiral extrapolation beyond the power-counting regime,” Phys. Rev. D **84**, 114011 (2011) [arXiv:1101.4411 [hep-lat]].

- [104] S. Prelovsek, T. Draper, C. B. Lang, M. Limmer, K. -F. Liu, N. Mathur and D. Mohler, “Lattice study of light scalar tetraquarks with  $I=0,2,1/2,3/2$ : Are  $\sigma$  and  $\kappa$  tetraquarks?,” Phys. Rev. D **82**, 094507 (2010) [arXiv:1005.0948 [hep-lat]].
- [105] H. -W. Lin and K. -F. Liu, “Comment on ‘Controversy concerning the definition of quark and gluon angular momentum’ by Elliot Leader (PRD 83, 096012 (2011)),” Phys. Rev. D **85**, 058901 (2012) [arXiv:1111.0678 [hep-ph]].
- [106] O. Kaczmarek, F. Karsch, E. Laermann, C. Miao, S. Mukherjee, P. Petreczky, C. Schmidt, W. Soeldner *et al.*, “Phase boundary for the chiral transition in (2+1) -flavor QCD at small values of the chemical potential,” Phys. Rev. **D83**, 014504 (2011). [arXiv:1011.3130 [hep-lat]].
- [107] S. R. Beane, E. Chang, W. Detmold, B. Joo, H. W. Lin, T. C. Luu, K. Orginos and A. Parreno *et al.*, “Present Constraints on the H-dibaryon at the Physical Point from Lattice QCD,” Mod. Phys. Lett. A **26**, 2587 (2011) [arXiv:1103.2821 [hep-lat]].
- [108] S. R. Beane, E. Chang, W. Detmold, H. W. Lin, T. C. Luu, K. Orginos, A. Parreno and M. J. Savage *et al.*, “High Statistics Analysis using Anisotropic Clover Lattices: (IV) Volume Dependence of Light Hadron Masses,” Phys. Rev. D **84**, 014507 (2011) [arXiv:1104.4101 [hep-lat]].
- [109] “High Statistics Analysis using Anisotropic Clover Lattices: (III) Baryon-Baryon Interactions”, Silas R. Beane, William Detmold, Huey-Wen Lin, Thomas C. Luu, Kostas Orginos, Martin J. Savage, Aaron Torok, Andre Walker-Loud. *Phys. Rev.* **D81**:054505,2010. arXiv:0912.4243 [hep-lat] .
- [110] C. T. H. Davies *et al.* [ HPQCD Collaboration ], “Precise determination of the lattice spacing in full lattice QCD,” Phys. Rev. **D81**, 034506 (2010). [arXiv:0910.1229 [hep-lat]].
- [111] C. T. H. Davies, C. McNeile, K. Y. Wong, E. Follana, R. Horgan, K. Hornbostel, G. P. Lepage, J. Shigemitsu *et al.*, “Precise Charm to Strange Mass Ratio and Light Quark Masses from Full Lattice QCD,” Phys. Rev. Lett. **104**, 132003 (2010). [arXiv:0910.3102 [hep-ph]].
- [112] E. B. Gregory, C. T. H. Davies, E. Follana, E. Gamiz, I. D. Kendall, G. P. Lepage, H. Na, J. Shigemitsu *et al.*, “A Prediction of the  $B^*(c)$  mass in full lattice QCD,” Phys. Rev. Lett. **104**, 022001 (2010). [arXiv:0909.4462 [hep-lat]].
- [113] “ A Method to Study Complex Systems of Mesons in Lattice QCD”, William Detmold, Martin J. Savage, *Phys. Rev.* **D82** :014511,2010. arXiv:1001.2768 [hep-lat] .
- [114] “Nuclear Physics from Lattice QCD”, Silas R. Beane, William Detmold, Kostas Orginos, and Martin J. Savage. *Progress in Particle and Nuclear Physics*, 66:1-40,2011. edited by Amand Faessler. arXiv:1004.2935 [hep-lat]. NT@UW-10-05.
- [115] S. R. Beane *et al.* [NPLQCD Collaboration], “Evidence for a Bound H-dibaryon from Lattice QCD,” Phys. Rev. Lett. **106**, 162001 (2011) [arXiv:1012.3812 [hep-lat]].
- [116] “Full nonperturbative QCD simulations with 2+1 flavors of improved staggered quarks”, The MILC Collaboration: A. Bazavov, C. Bernard, C. DeTar, Steven Gottlieb, U.M. Heller, J.E. Hetrick, J. Laiho, L. Levkova, P.B. Mackenzie, M.B. Oktay, R. Sugar, D. Toussaint, and R.S. Van de Water, *Rev. Mod. Phys.* **82**, 1349-1417 (2010) [arXiv:0903.3598].
- [117] “Quarkonium mass splittings in three-flavor lattice QCD”, T. Burch, C. DeTar, M. Di Pierro, A.X. El-Khadra, E.D. Freeland, Steven Gottlieb, A.S. Kronfeld, L. Levkova, P.B. Mackenzie, J.N. Simone, *Phys. Rev.* **D81**, 034508 (2010) [arXiv:0912.2701].

- [118] “Topological susceptibility with the asqtad action”, MILC collaboration: A. Bazavov, C. Bernard, B. Billeter, C. DeTar, Steven Gottlieb, U. M. Heller, J. E. Hetrick, J. Laiho, L. Levkova, M.B. Oktay, J. Osborn, R. L. Sugar, D. Toussaint, R. S. Van de Water, Phys. Rev. D**81** 114501 (2010) [arXiv:1003.5695].
- [119] “Scaling studies of QCD with the dynamical HISQ action”, MILC collaboration: A. Bazavov, C. Bernard, C. DeTar, W. Freeman, Steven Gottlieb, U. M. Heller, J. E. Hetrick, J. Laiho, L. Levkova, M. Oktay, J. Osborn, R.L. Sugar, D. Toussaint, R.S. Van de Water, Phys. Rev. D **82**, 074501 (2010) [arXiv:1004.0342].
- [120] S. Catterall, A. Joseph, T. Wiseman, “Thermal phases of D1-branes on a circle from lattice super Yang-Mills,” JHEP **1012**, 022 (2010). [arXiv:1008.4964 [hep-th]].
- [121] S. Catterall, R. Galvez, M. Unsal, “Realization of Center Symmetry in Two Adjoint Flavor Large-N Yang-Mills,” JHEP **1008**, 010 (2010). [arXiv:1006.2469 [hep-lat]].
- [122] S. Catterall, “Topological gravity on the lattice,” JHEP **1007**, 066 (2010). [arXiv:1003.5202 [hep-lat]].
- [123] S. Catterall, G. van Anders, “First Results from Lattice Simulation of the PWMM,” JHEP **1009**, 088 (2010). [arXiv:1003.4952 [hep-th]].
- [124] T. Bae, Y. -C. Jang, C. Jung, H. -J. Kim, J. Kim, K. Kim, W. Lee, S. R. Sharpe *et al.*, “ $B_K$  using HYP-smeared staggered fermions in  $N_f = 2 + 1$  unquenched QCD,” Phys. Rev. D**82**, 114509 (2010). [arXiv:1008.5179 [hep-lat]].
- [125] Z. Fodor, K. Holland, J. Kuti, D. Nogradi, C. Schroeder, “Nearly conformal gauge theories on the lattice,” Int. J. Mod. Phys. A**25**, 5162-5174 (2010).
- [126] M. Cheng, S. Datta, A. Francis, J. van der Heide, C. Jung, O. Kaczmarek, F. Karsch, E. Laermann *et al.*, “Meson screening masses from lattice QCD with two light and the strange quark,” Eur. Phys. J. C**71**, 1564 (2011). [arXiv:1010.1216 [hep-lat]].
- [127] E. B. Gregory, C. T. H. Davies, I. D. Kendall, J. Koponen, K. Wong, E. Follana, E. Gamiz, G. P. Lepage *et al.*, “Precise  $B$ ,  $B_s$  and  $B_c$  meson spectroscopy from full lattice QCD,” Phys. Rev. D**83**, 014506 (2011). [arXiv:1010.3848 [hep-lat]].
- [128] H. Na, C. T. H. Davies, E. Follana, G. P. Lepage, J. Shigemitsu, “The  $D \rightarrow K, l\nu$  Semileptonic Decay Scalar Form Factor and  $|V_{cs}|$  from Lattice QCD,” Phys. Rev. D**82**, 114506 (2010). [arXiv:1008.4562 [hep-lat]].
- [129] C. T. H. Davies, C. McNeile, E. Follana, G. P. Lepage, H. Na, J. Shigemitsu, “Update: Precision  $D_s$  decay constant from full lattice QCD using very fine lattices,” Phys. Rev. D**82**, 114504 (2010). [arXiv:1008.4018 [hep-lat]].
- [130] C. McNeile, C. T. H. Davies, E. Follana, K. Hornbostel, G. P. Lepage, “High-Precision c and b Masses, and QCD Coupling from Current-Current Correlators in Lattice and Continuum QCD,” Phys. Rev. D**82**, 034512 (2010). [arXiv:1004.4285 [hep-lat]].
- [131] E. Gamiz *et al.* [ HPQCD Collaboration ], “Neutral  $B$  Meson Mixing in Unquenched Lattice QCD,” Phys. Rev. D**80**, 014503 (2009). [arXiv:0902.1815 [hep-lat]].
- [132] “Equation of state and QCD transition at finite temperature”, The HotQCD Collaboration: A. Bazavov, T. Bhattacharya, M. Cheng, N.H. Christ, C. DeTar, S. Ejiri, Steven Gottlieb, R. Gupta, U.M. Heller, K. Huebner, C. Jung, F. Karsch, E. Laermann, L. Levkova, C. Miao, R.D. Mawhinney, P. Petreczky, C. Schmidt, R.A. Soltz, W. Soeldner, R. Sugar, D. Toussaint, and P. Vranas, Phys. Rev. D**80**, 014504 (2009) [arXiv:0903.4379].

- [133] “Equation of state and QCD transition at finite temperature”, The HotQCD Collaboration: A. Bazavov, T. Bhattacharya, M. Cheng, N.H. Christ, C. DeTar, S. Ejiri, Steven Gottlieb, R. Gupta, U.M. Heller, K. Huebner, C. Jung, F. Karsch, E. Laermann, L. Levkova, C. Miao, R.D. Mawhinney, P. Petreczky, C. Schmidt, R.A. Soltz, W. Soeldner, R. Sugar, D. Toussaint, and P. Vranas, Phys. Rev. D**80**, 014504 (2009) [arXiv:0903.4379].
- [134] “Visualization of semileptonic form factors from lattice QCD”, The Fermilab Lattice and MILC Collaborations: C. Bernard, C. DeTar, M. Di Pierro, A.X. El-Khadra, R.T. Evans, E.D. Freeland, E. Gamiz, Steven Gottlieb, U.M. Heller, J.E. Hetrick, A.S. Kronfeld, J. Laiho, L. Levkova, P.B. Mackenzie, M. Okamoto, M.B. Oktay, J.N. Simone, R. Sugar, D. Toussaint, R.S. Van de Water, Phys. Rev. D**80**, 034026, (2009) [arXiv:0906.2498].
- [135] ”The  $B \rightarrow D^* l \bar{v}$  form factor at zero recoil from three-flavor lattice QCD: A model independent determination of  $|V_{cb}|$ ”, The Fermilab Lattice and MILC Collaborations: C. Bernard, C. DeTar, M. Di Pierro, A.X. El-Khadra, R.T. Evans, E.D. Freeland, E. Gamiz, Steven Gottlieb, U.M. Heller, J.E. Hetrick, A.S. Kronfeld, J. Laiho, L. Levkova, P.B. Mackenzie, M. Okamoto, J. Simone, R. Sugar, D. Toussaint, R.S. Van de Water, Phys. Rev. D**79**, 014506 (2009) [arXiv:0808.2519].
- [136] ”The  $B \rightarrow \pi l \bar{v}$  semileptonic form factor from three-flavor lattice QCD: A model-independent determination of  $|V_{ub}|$ ”, The Fermilab Lattice and MILC Collaborations: Jon A. Bailey, C. Bernard, C. DeTar, M. Di Pierro, A. X. El-Khadra, R. T. Evans, E. D. Freeland, E. Gamiz, Steven Gottlieb, U. M. Heller, J. E. Hetrick, A. S. Kronfeld, J. Laiho, L. Levkova, P. B. Mackenzie, M. Okamoto, J. N. Simone, R. Sugar, D. Toussaint, R. S. Van de Water, Phys. Rev. D**79**, 054507 (2009) [arXiv:0811.3640].
- [137] T. Bae *et al.*, “Taste symmetry breaking with HYP-smeared staggered fermions,” Phys. Rev. D **77**, 094508 (2008) arXiv:0801.3000 [hep-lat].
- [138] T. Yamazaki *et al.* [RBC+UKQCD Collaboration], “Nucleon axial charge in 2+1 flavor dynamical lattice QCD with domain wall fermions,” Phys. Rev. Lett. **100**, 171602 (2008) arXiv:0801.4016 [hep-lat].
- [139] C. Aubin, J. Laiho and R. S. Van de Water, “Discretization effects and the scalar meson correlator in mixed-action lattice simulations,” Phys. Rev. D **77**, 114501 (2008) arXiv:0803.0129 [hep-lat].
- [140] ‘Hadronic Interactions from Lattice QCD’, Silas R. Beane, Kostas Orginos, and Martin J. Savage. arXiv:0805.4629v1 (hep-latt). *Int. J. Mod. Phys. E* **17**, 1157 (2008).
- [141] ‘Kaon Condensation with Lattice QCD’, William Detmold, Kostas Orginos, Martin J. Savage, and Andre Walker-Loud. arXiv:0807.1856 [hep-lat]. *Phys. Rev. D***78**:054514 (2008).
- [142] ‘Color Screening by Pions’, William Detmold and Martin J. Savage, *Phys. Rev. Lett.* **102**:032004 (2009). arXiv.org/abs/0809.0892 [hep-lat].
- [143] W. Detmold, M. J. Savage, A. Torok, S. R. Beane, T. C. Luu, K. Orginos and A. Parreno, “Multi-Pion States in Lattice QCD and the Charged-Pion Condensate,” Phys. Rev. D **78**, 014507 (2008) [arXiv:0803.2728 [hep-lat]].
- [144] H. -W. Lin, S. D. Cohen, R. G. Edwards and D. G. Richards, “First Lattice Study of the N - P(11)(1440) Transition Form Factors,” Phys. Rev. D **78**, 114508 (2008) [arXiv:0803.3020 [hep-lat]].

- [145] R. G. Edwards, B. Joo and H. -W. Lin, “Tuning for Three-flavors of Anisotropic Clover Fermions with Stout-link Smearing,” Phys. Rev. D **78**, 054501 (2008) [arXiv:0803.3960 [hep-lat]].
- [146] S. Catterall and T. Wiseman, “Black hole thermodynamics from simulations of lattice Yang-Mills theory,” Phys. Rev. D **78**, 041502 (2008) arXiv:0803.4273 [hep-th].
- [147] C. Allton *et al.* [RBC-UKQCD Collaboration], “Physical Results from 2+1 Flavor Domain Wall QCD and SU(2) Chiral Perturbation Theory,” Phys. Rev. D **78**, 114509 (2008) [arXiv:0804.0473 [hep-lat]].
- [148] E. Gamiz, J. Shigemitsu and H. Trottier, “Four Fermion Operator Matching with NRQCD Heavy and AsqTad Light Quarks,” Phys. Rev. D **77**, 114505 (2008) arXiv:0804.1557 [hep-lat].
- [149] S. Catterall, “First results from simulations of supersymmetric lattices,” JHEP **0901**, 040 (2009). [arXiv:0811.1203 [hep-lat]].
- [150] J. Giedt, R. Brower, S. Catterall, G. T. Fleming, P. Vranas, “Lattice super-Yang-Mills using domain wall fermions in the chiral limit,” Phys. Rev. D**79**, 025015 (2009). [arXiv:0810.5746 [hep-lat]].
- [151] S. Catterall, J. Giedt, F. Sannino, J. Schneible, “Phase diagram of SU(2) with 2 flavors of dynamical adjoint quarks,” JHEP **0811**, 009 (2008). [arXiv:0807.0792 [hep-lat]].
- [152] M. Cheng, P. Hendege, C. Jung, F. Karsch, O. Kaczmarek, E. Laermann, R. D. Mawhinney, C. Miao *et al.*, “Baryon Number, Strangeness and Electric Charge Fluctuations in QCD at High Temperature,” Phys. Rev. D**79**, 074505 (2009). [arXiv:0811.1006 [hep-lat]].
- [153] M. Cheng, S. Datta, J. van der Heide, K. Huebner, F. Karsch, O. Kaczmarek, E. Laermann, J. Liddle *et al.*, “The Spatial String Tension and Dimensional Reduction in QCD,” Phys. Rev. D**78**, 034506 (2008). [arXiv:0806.3264 [hep-lat]].
- [154] C. T. H. Davies *et al.* [ HPQCD Collaboration ], “Update: Accurate Determinations of alpha(s) from Realistic Lattice QCD,” Phys. Rev. D**78**, 114507 (2008). [arXiv:0807.1687 [hep-lat]].
- [155] I. Allison *et al.* [ HPQCD Collaboration ], “High-Precision Charm-Quark Mass from Current-Current Correlators in Lattice and Continuum QCD,” Phys. Rev. D**78**, 054513 (2008). [arXiv:0805.2999 [hep-lat]].
- [156] “The  $B \rightarrow D^* l \bar{\nu}$  form factor at zero recoil from three-flavor lattice QCD: A model independent determination of  $|V_{cb}|$ ”, The Fermilab Lattice and MILC Collaborations: C. Bernard, C. DeTar, M. Di Pierro, A.X. El-Khadra, R.T. Evans, E.D. Freeland, E. Gamiz, Steven Gottlieb, U.M. Heller, J.E. Hetrick, A.S. Kronfeld, J. Laiho, L. Levkova, P.B. Mackenzie, M. Okamoto, J. Simone, R. Sugar, D. Toussaint, R.S. Van de Water, Phys. Rev. D**79**, 014506 (2009) [arXiv:0808.2519].
- [157] “The  $B \rightarrow \pi l \bar{\nu}$  semileptonic form factor from three-flavor lattice QCD: A model-independent determination of  $|V_{ub}|$ ”, The Fermilab Lattice and MILC Collaborations: Jon A. Bailey, C. Bernard, C. DeTar, M. Di Pierro, A. X. El-Khadra, R. T. Evans, E. D. Freeland, E. Gamiz, Steven Gottlieb, U. M. Heller, J. E. Hetrick, A. S. Kronfeld, J. Laiho, L. Levkova, P. B. Mackenzie, M. Okamoto, J. N. Simone, R. Sugar, D. Toussaint, R. S. Van de Water, Phys. Rev. D**79**, 054507 (2009) [arXiv:0811.3640].

- [158] Z. Fodor, K. Holland, J. Kuti, D. Nogradi, C. Schroeder, “Chiral properties of SU(3) sextet fermions,” *JHEP* **0911**, 103 (2009). [arXiv:0908.2466 [hep-lat]].
- [159] Z. Fodor, K. Holland, J. Kuti, D. Nogradi, C. Schroeder, “Nearly conformal gauge theories in finite volume,” *Phys. Lett.* **B681**, 353-361 (2009). [arXiv:0907.4562 [hep-lat]].
- [160] Z. Fodor, K. Holland, J. Kuti, D. Nogradi, C. Schroeder, “Topology and higher dimensional representations,” *JHEP* **0908**, 084 (2009). [arXiv:0905.3586 [hep-lat]].
- [161] “High Statistics Analysis using Anisotropic Clover Lattices: (I) Single Hadron Correlation Functions”, Silas R. Beane, William Detmold, Thomas C. Luu, Kostas Orginos, Assumpta Parreno, Martin J. Savage, Aaron Torok, Andre Walker-Loud. *Phys. Rev.* **D79**:114502 (2009). arXiv:0903.2990 [hep-lat].
- [162] “High Statistics Analysis using Anisotropic Clover Lattices: (II) Three-Baryon Systems”, Silas R. Beane, William Detmold, Thomas C. Luu, Kostas Orginos, Assumpta Parreno, Martin J. Savage, Aaron Torok, Andre Walker-Loud. *Phys. Rev.* **D80**:074501 (2009). arXiv:0905.0466 [hep-lat].
- [163] S. Catterall, T. Wiseman, “Extracting black hole physics from the lattice,” *JHEP* **1004**, 077 (2010). [arXiv:0909.4947 [hep-th]].
- [164] S. Catterall, D. B. Kaplan, M. Unsal, “Exact lattice supersymmetry,” *Phys. Rept.* **484**, 71-130 (2009). [arXiv:0903.4881 [hep-lat]].
- [165] M. Cheng, S. Ejiri, P. Hegde, F. Karsch, O. Kaczmarek, E. Laermann, R. D. Mawhinney, C. Miao *et al.*, “Equation of State for physical quark masses,” *Phys. Rev.* **D81**, 054504 (2010). [arXiv:0911.2215 [hep-lat]].
- [166] S. Ejiri, F. Karsch, E. Laermann, C. Miao, S. Mukherjee, P. Petreczky, C. Schmidt, W. Soeldner *et al.*, “On the magnetic equation of state in (2+1)-flavor QCD,” *Phys. Rev.* **D80**, 094505 (2009). [arXiv:0909.5122 [hep-lat]].
- [167] “Meson-Baryon Scattering Lengths from Mixed-Action Lattice QCD”, Aaron Torok, Silas R. Beane, William Detmold, Thomas C Luu, Kostas Orginos, Assumpta Parreno, Martin J. Savage, and Andre Walker-Loud. *Phys. Rev.* **D81**:074506,2010. arXiv:0907.1913 [hep-lat].
- [168] Ph. Hagler *et al.* [LHPC Collaborations], “Nucleon Generalized Parton Distributions from Full Lattice QCD,” *Phys. Rev. D* **77**, 094502 (2008) [arXiv:0705.4295 [hep-lat]].
- [169] E. Follana, C. T. H. Davies, G. P. Lepage and J. Shigemitsu [HPQCD Collaboration], “High Precision determination of the  $\pi$ , K, D and  $D_s$  decay constants from lattice QCD,” *Phys. Rev. Lett.* **100**, 062002 (2008) [arXiv:0706.1726 [hep-lat]].
- [170] S. R. Beane, T. C. Luu, K. Orginos, A. Parreno, M. J. Savage, A. Torok and A. Walker-Loud, “Precise Determination of the I=2  $\pi\pi$  Scattering Length from Mixed-Action Lattice QCD,” *Phys. Rev. D* **77**, 014505 (2008) [arXiv:0706.3026 [hep-lat]].
- [171] S. Catterall and T. Wiseman, “Towards lattice simulation of the gauge theory duals to black holes and hot strings,” *JHEP* **0712**, 104 (2007) [arXiv:0706.3518 [hep-lat]].
- [172] A. Stathopoulos and K. Orginos, “Computing and deflating eigenvalues while solving multiple right hand side linear systems in quantum chromodynamics,” *SIAM J. Sci. Comput.* **32**, 439 (2010) [arXiv:0707.0131 [hep-lat]].

- [173] J. J. Dudek, R. G. Edwards, N. Mathur and D. G. Richards, “Charmonium excited state spectrum in lattice QCD,” Phys. Rev. D **77**, 034501 (2008) [arXiv:0707.4162 [hep-lat]].
- [174] S. Basak *et al.*, “Lattice QCD determination of patterns of excited baryon states,” Phys. Rev. D **76**, 074504 (2007) [arXiv:0709.0008 [hep-lat]].
- [175] S. R. Beane, T. C. Luu, K. Orginos, A. Parreno, M. J. Savage, A. Torok and A. Walker-Loud [NPLQCD Collaboration], “The K+K+ Scattering Length from Lattice QCD,” Phys. Rev. D **77**, 094507 (2008) arXiv:0709.1169 [hep-lat].
- [176] M. Cheng *et al.*, “The QCD Equation of State with almost Physical Quark Masses,” Phys. Rev. D **77**, 014511 (2008) [arXiv:0710.0354 [hep-lat]].
- [177] S. R. Beane, W. Detmold, T. C. Luu, K. Orginos, M. J. Savage and A. Torok, “Multi-Pion Systems in Lattice QCD and the Three-Pion Interaction,” Phys. Rev. Lett. **100**, 082004 (2008) [arXiv:0710.1827 [hep-lat]].
- [178] C. Alexandrou, G. Koutsou, H. Neff, J. W. Negele, W. Schroers and A. Tsapalis, “The nucleon to Delta electromagnetic transition form factors in lattice QCD,” Phys. Rev. D **77**, 085012 (2008) [arXiv:0710.4621 [hep-lat]].
- [179] P. A. Boyle *et al.*, “Kl3 semileptonic form factor from 2+1 flavour lattice QCD,” Phys. Rev. Lett. **100**, 141601 (2008) [arXiv:0710.5136 [hep-lat]].
- [180] A. M. Garcia-Garcia and J. C. Osborn, “Is the chiral phase transition induced by a metal-insulator transition?,” Braz. J. Phys. **37**, 246 (2007) [arXiv:0711.2789 [hep-ph]].
- [181] H. -W. Lin and K. Orginos, “First Calculation of Hyperon Axial Couplings from Lattice QCD,” Phys. Rev. D **79**, 034507 (2009) [arXiv:0712.1214 [hep-lat]].
- [182] S. Catterall, “From Twisted Supersymmetry to Orbifold Lattices,” JHEP **0801**, 048 (2008) [arXiv:0712.2532 [hep-th]].
- [183] S. Catterall and A. Joseph, “Lattice Actions for Yang-Mills Quantum Mechanics with Exact Supersymmetry,” Phys. Rev. D **77**, 094504 (2008) arXiv:0712.3074 [hep-lat].
- [184] K. Orginos, “Lattice QCD And Nuclear Physics: Computations Of Hadron Hadron Scattering,” Eur. Phys. J. A **31**, 799 (2007).
- [185] S. R. Beane, K. Orginos and M. J. Savage, “The Gell-Mann - Okubo mass relation among baryons from fully-dynamical mixed-action lattice QCD,” Phys. Lett. B **654**, 20 (2007) [arXiv:hep-lat/0604013].
- [186] S. R. Beane, K. Orginos and M. J. Savage, “Strong-isospin violation in the neutron proton mass difference from fully-dynamical lattice QCD and PQQCD,” Nucl. Phys. B **768**, 38 (2007) [arXiv:hep-lat/0605014].
- [187] M. Cristoforetti, P. Faccioli, M. C. Traini and J. W. Negele, “Exploring the chiral regime of QCD in the interacting instanton liquid model,” Phys. Rev. D **75**, 034008 (2007) [arXiv:hep-ph/0605256].
- [188] S. R. Beane, P. F. Bedaque, K. Orginos and M. J. Savage, “ $f(K)/f(\pi)$  in full QCD with domain wall valence quarks,” Phys. Rev. D **75**, 094501 (2007) [arXiv:hep-lat/0606023].
- [189] S. Catterall and S. Ghadab, “Twisted supersymmetric sigma model on the lattice,” JHEP **0610**, 063 (2006) [arXiv:hep-lat/0607010].

- [190] S. R. Beane, P. F. Bedaque, T. C. Luu, K. Orginos, E. Pallante, A. Parreno and M. J. Savage, “pi K scattering in full QCD with domain-wall valence quarks,” Phys. Rev. D **74**, 114503 (2006) [arXiv:hep-lat/0607036].
- [191] C. Alexandrou, T. Leontiou, J. W. Negele and A. Tsapalis, “The axial N to Delta transition form factors from lattice QCD,” Phys. Rev. Lett. **98**, 052003 (2007) [arXiv:hep-lat/0607030].
- [192] N. Mathur *et al.*, “Scalar mesons a0(1450) and sigma(600) from lattice QCD,” Phys. Rev. D **76**, 114505 (2007) [arXiv:hep-ph/0607110].
- [193] J. J. Dudek and R. G. Edwards, “Two photon decays of charmonia from lattice QCD,” Phys. Rev. Lett. **97**, 172001 (2006) [arXiv:hep-ph/0607140].
- [194] C. Aubin and T. Blum, “Calculating the hadronic vacuum polarization and leading hadronic contribution to the muon anomalous magnetic moment with improved staggered quarks,” Phys. Rev. D **75**, 114502 (2007) [arXiv:hep-lat/0608011].
- [195] M. Cheng *et al.*, “The transition temperature in QCD,” Phys. Rev. D **74**, 054507 (2006) [arXiv:hep-lat/0608013].
- [196] C. Schmidt and T. Umeda [RBC-Bielefeld Collaboration], “Thermodynamics of (2+1)-flavor QCD,” Nucl. Phys. A **785**, 274 (2007) [arXiv:hep-lat/0609032].
- [197] P. Petreczky, “Lattice QCD at finite temperature,” Nucl. Phys. A **785**, 10 (2007) [arXiv:hep-lat/0609040].
- [198] E. Follana *et al.* [HPQCD Collaboration], “Highly improved staggered quarks on the lattice, with applications to charm physics,” Phys. Rev. D **75**, 054502 (2007) [arXiv:hep-lat/0610092].
- [199] E. Dalgic *et al.*, “B/s0 - anti-B/s0 mixing parameters from unquenched lattice QCD,” Phys. Rev. D **76**, 011501 (2007) [arXiv:hep-lat/0610104].
- [200] A. M. Garcia-Garcia and J. C. Osborn, “Chiral phase transition in lattice QCD as a metal - insulator Phys. Rev. D **75**, 034503 (2007) [arXiv:hep-lat/0611019].
- [201] M. Cheng *et al.*, “Study of the finite temperature transition in 3-flavor QCD using the R and RHMC algorithms,” Phys. Rev. D **75**, 034506 (2007) [arXiv:hep-lat/0612001].
- [202] D. J. Antonio *et al.* [RBC and UKQCD Collaborations], “First results from 2+1-flavor domain wall QCD: Mass spectrum, topology change and chiral symmetry with L(s) = 8,” Phys. Rev. D **75**, 114501 (2007) [arXiv:hep-lat/0612005].
- [203] S. Catterall, “On the restoration of supersymmetry in twisted two-dimensional lattice Yang-Mills theory,” JHEP **0704**, 015 (2007) [arXiv:hep-lat/0612008].
- [204] S. R. Beane, P. F. Bedaque, T. C. Luu, K. Orginos, E. Pallante, A. Parreno and M. J. Savage [NPLQCD Collaboration], “Hyperon nucleon scattering from fully-dynamical lattice QCD,” Nucl. Phys. A **794**, 62 (2007) [arXiv:hep-lat/0612026].
- [205] M. Cheng, N. H. Christ, C. Jung, F. Karsch, R. D. Mawhinney, P. Petreczky and K. Petrov, “Flavor symmetry breaking and scaling for improved staggered actions in quenched QCD,” Eur. Phys. J. C **51**, 875 (2007) [arXiv:hep-lat/0612030].

- [206] K. Orginos, “Lattice QCD and Nuclear Physics,” *Eur. Phys. J. A* **31**, 799 (2007).
- “Scalar Meson Spectroscopy with Lattice Staggered Fermions,” C. Bernard, C. DeTar, Z. Fu and S Prelovsek, *Phys. Rev. D* **76**, 094504 (2007) [arXiv:0707.2402].
- “Scalar Meson Spectroscopy with Lattice Staggered Fermions”, C. Bernard, C. DeTar, Z. Fu and S Prelovsek, *Phys. Rev. D* **76**, 094504 (2007) [arXiv:0707.2402].
- [207] C. Allton *et al.* [RBC and UKQCD Collaborations], “2+1 flavor domain wall QCD on a  $(2fm)^3$  lattice: light meson spectroscopy with  $L_s = 16$ ,” *Phys. Rev. D* **76**, 014504 (2007) [arXiv:hep-lat/0701013].
- [208] C. Alexandrou, G. Koutsou, T. Leontiou, J. W. Negele and A. Tsapalis, “Axial Nucleon And Nucleon To Delta Form Factors And The Goldberger-Treiman Relations From Lattice QCD,” *Phys. Rev. D* **76**, 094511 (2007).
- [209] D. J. Antonio *et al.* [RBC Collaboration], “Neutral kaon mixing from 2+1 flavor domain wall QCD,” *Phys. Rev. Lett.* **100**, 032001 (2008) [arXiv:hep-ph/0702042].
- [210] W. Detmold, K. Orginos and M. J. Savage, “BB potentials in quenched lattice QCD,” *Phys. Rev. D* **76**, 114503 (2007) [arXiv:hep-lat/0703009].
- [211] K. Orginos and A. Walker-Loud, “Mixed meson masses with domain-wall valence and staggered sea fermions,” *Phys. Rev. D* **77**, 094505 (2008) [arXiv:0705.0572 [hep-lat]].
- [212] S. Catterall and F. Sannino, “Minimal walking on the lattice,” *Phys. Rev. D* **76**, 034504 (2007) [arXiv:0705.1664 [hep-lat]].
- [213] E. Dalgic, A. Gray, M. Wingate, C. T. H. Davies, G. P. Lepage and J. Shigemitsu, “B Meson Semileptonic Form Factors from Unquenched Lattice QCD,” *Phys. Rev. D* **73**, 074502 (2006) [Erratum-*ibid. D* **75**, 119906 (2007)] [arXiv:hep-lat/0601021].
- [214] J. J. Dudek, R. G. Edwards and D. G. Richards, “Radiative transitions in charmonium from lattice QCD,” *Phys. Rev. D* **73**, 074507 (2006) [arXiv:hep-ph/0601137].
- [215] S. Catterall, “Simulations of  $N = 2$  super Yang-Mills theory in two dimensions,” *JHEP* **0603**, 032 (2006) [arXiv:hep-lat/0602004].
- [216] S. R. Beane, P. F. Bedaque, K. Orginos and M. J. Savage, “Nucleon nucleon scattering from fully-dynamical lattice QCD,” *Phys. Rev. Lett.* **97**, 012001 (2006) [arXiv:hep-lat/0602010].
- [217] E. Gamiz, S. Collins, C. T. H. Davies, G. P. Lepage, J. Shigemitsu and M. Wingate [HPQCD Collaboration], “Unquenched determination of the kaon parameter  $B(K)$  from improved staggered fermions,” *Phys. Rev. D* **73**, 114502 (2006) [arXiv:hep-lat/0603023].