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Inspire HEP

PUBLICATIONS

Thesis

- Renormalization with the gradient flow
  M.D. Rizik
  Ph.D. Michigan State U. (2023)

Peer-Reviewed

- One-loop matching of the CP-odd three-gluon operator to the gradient flow
  Ò.L. Crosas, C.J. Monahan, M.D. Rizik, A. Shindler, P. Stoffer
  Physics Letters B, 847:138301 (2023)
  arXiv:2308.16221
- One-loop matching for quark dipole operators in a gradient-flow scheme
  E. Mereghetti, C.J. Monahan, M.D. Rizik, A. Shindler, P. Stoffer
  J. High Energy Physics 2022, 50 (2022)
  arXiv:2111.11449
- Nonperturbative renormalization of the quark chromoelectric dipole moment with the gradient flow: Power divergences
  J. Kim, T. Luu, M.D. Rizik, A. Shindler
  Physical Review D 104, 074516 (2021)
  arXiv:2106.07633
- Short flow-time coefficients of CP-violating operators
  M.D. Rizik, C.J. Monahan, A. Shindler
  Physical Review D 102, 034509 (2020)
  arXiv:2005.04199

Proceedings

- Two-loop matching of the chromo-magnetic dipole operator with the gradient flow
  J. Borgulat, R. Harlander, M.D. Rizik, A. Shindler
  Proceedings from the 39^{th} International Symposium on Lattice Field Theory
  PoS LATTICE2022 (2022) 313
  arXiv:2212.09824
- A novel nonperturbative renormalization scheme for local operators
  A. Hasenfratz, C.J. Monahan, M.D. Rizik, A. Shindler, O. Witzel
  Proceedings from the 38^{th} International Symposium on Lattice Field Theory
  PoS LATTICE2021 (2021) 155
  arXiv:2201.09740
- Renormalization of CP-violating pure gauge operators in perturbative QCD using the gradient flow
  M.D. Rizik, C.J. Monahan, A. Shindler
  Proceedings from the 36^{th} International Symposium on Lattice Field Theory
  PoS LATTICE2018 (2018) 215
  arXiv:1810.05637

In Preparation

- A gradient flow lattice renormalization scheme
  A. Hasenfratz, C.J. Monahan, M.D. Rizik, A. Shindler, O. Witzel
  Physical Review Letters, 2025
- A combinatorial approach to Schwinger parametrization
  M.D. Rizik
  Journal of Mathematical Physics, 2025