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Personal Information

Male, born in November, 1990, Chinese citizen.

Timeline

Bachelor of Science, in *Physics*, Shandong University, China, 2006 – 2010.

Ph.D., in *Theoretical Physics*, Shandong University, China, 2010 – 2015.

Postdoc, Central China Normal University, China, 2015 – 2017.

Postdoc, CPHT, Ecole Polytechnique, France, 2017 – 2019.

Postdoc, ECT*, Italy, 2019 – 2021.

Junior, Shandong University, China, 2021 – Now.

Research Interests

Phenomenology of QCD resummations, small- x saturation physics and jet quenching in high energy heavy-ion collisions.

List of Publications

- The decay contribution to the parity-odd fragmentation functions**
Y.L. Pan, K.B. Chen, Y.K. Song, S.Y. Wei. [arXiv:2311.04462](https://arxiv.org/abs/2311.04462). (2023)
- Correlations of dihadron polarization in central, peripheral and ultraperipheral heavy-ion collisions**
X. Li, Z.X. Chen, S. Cao, S.Y. Wei. [arXiv:2309.09487](https://arxiv.org/abs/2309.09487). (2023)
- Parton shower algorithm with saturation effect**
Y. Shi, S.Y. Wei, J.Zhou. [Phys.Rev.D 108, 096025](https://arxiv.org/abs/2309.09487). (2023)
- Probing gluon saturation via diffractive jets in ultra-peripheral nucleus-nucleus collisions**
E. Iancu, A.H. Mueller, D.N. Triantafyllopoulos, S.Y. Wei. [Eur.Phys.J.C 83, 1078](https://arxiv.org/abs/2309.09487). (2023)

5. **Incoherent diffractive dijet production in electron DIS off nuclei at high energy**
B. Rodríguez-Aguilar, D.N. Triantafyllopoulos, S.Y. Wei. [Phys.Rev.D107, 114007.](#) (2023)
6. **Probing the longitudinal spin transfer via dihadron polarization correlations in unpolarized e^+e^- and pp collisions**
H.C. Zhang, S.Y. Wei. [Phys.Lett.B839, 137821.](#) (2023)
7. **Several topics on transverse momentum-dependent fragmentation functions**
K.B. Chen, T. Liu, Y.K. Song, S.Y. Wei. [Particles 6, 515-545.](#) (2023)
8. **Parton shower generator based on the Gribov-Levin-Ryskin equation**
Y. Shi, S.Y. Wei, J. Zhou. [Phys.Rev.D107, 016017.](#) (2023)
9. **Forward inclusive jet productions in pA collisions**
L. Wang, L. Chen, Z. Gao, Y. Shi, S.Y. Wei, B.W. Xiao. [Phys.Rev.D107, 016016.](#) (2023)
10. **Gluon dipole factorisation for diffractive dijets**
E. Iancu, A.H. Mueller, D.N. Triantafyllopoulos, S.Y. Wei. [JHEP10, 2022, 103.](#) (2022)
11. **Pursuing the precision study for color glass condensate in forward hadron productions**
Y. Shi, L. Wang, S.Y. Wei, B.W. Xiao. [Phys.Rev.Lett.128, 202302.](#) (2022)
12. **Longitudinal and transverse polarizations of Λ hyperon in unpolarized SIDIS and e^+e^- annihilation**
K.B. Chen, Z.T. Liang, Y.K. Song, S.Y. Wei. [Phys.Rev.D105, 034027.](#) (2022)
13. **Science requirements and detector concepts for the Electron-Ion Collider: EIC yellow report**
R.A. Khalek, et al. [Nucl.Phys.A1026, 122447.](#) (2021)
14. **Isospin symmetry of fragmentation functions**
K.B. Chen, Z.T. Liang, Y.L. Pan, Y.K. Song, S.Y. Wei. [Phys.Lett.B816, 136217.](#) (2021)
15. **Saturation effects in SIDIS at very forward rapidities**
E. Iancu, A.H. Mueller, D.N. Triantafyllopoulos, S.Y. Wei. [JHEP07, 2021, 196.](#) (2021)
16. **Exploring the non-perturbative Sudakov factor via Z^0 -boson production in pp collisions**
S.Y. Wei. [Phys.Lett.B817, 136356.](#) (2021)
17. **Exploring collective phenomena at the electron-ion collider**
Y. Shi, L. Wang, S.Y. Wei, B.W. Xiao, L. Zheng. [Phys.Rev.D103, 054017.](#) (2021)

18. Spin alignment of vector mesons in high energy pp collisions

K.B. Chen, Z.T. Liang, Y.K. Song, S.Y. Wei. [Phys.Rev.D102, 034001.](#) (2020)

19. Collectivity of heavy mesons in proton-nucleus collisions

C. Zhang, C. Marquet, G.Y. Qin, Y. Shi, L. Wang, S.Y. Wei, B.W. Xiao. [PRD102, 034010.](#) (2020)

20. Probing jet medium interaction via $Z(H)$ + jet momentum imbalance

L. Chen, S.Y. Wei, H.Z. Zhang. [Eur.Phys.J.C80, 1136.](#) (2020)

21. Medium-induced transverse momentum broadening via forward dijet correlations

J.Y. Jia, S.Y. Wei, B.W. Xiao, F. Yuan. [Phys.Rev.D101, 094008.](#) (2020)

22. Probing parton saturation with forward Z^0 -boson production at small transverse momentum in pp and pA collisions

C. Marquet, S.Y. Wei, B.W. Xiao. [Phys.Lett.B802, 135253.](#) (2020)

23. Elliptic flow of heavy quarkonia in pA collisions

C. Zhang, C. Marquet, G.Y. Qin, S.Y. Wei, B.W. Xiao. [Phys.Rev.Lett.122, 172302.](#) (2019)

24. Extracting jet transport coefficient via single hadron and dihadron productions in high-energy heavy-ion collisions

M. Xie, S.Y. Wei, G.Y. Qin, H.Z. Zhang. [Eur.Phys.J.C79, 589.](#) (2019)

25. On the dihadron angular correlations in forward pA collisions

A. Stasto, S.Y. Wei, B.W. Xiao, F. Yuan. [Phys.Lett.B784, 301-306.](#) (2018)

26. Dijet asymmetry in the resummation improved perturbative QCD approach

L. Chen, G.Y. Qin, S.Y. Wei, B.W. Xiao, H.Z. Zhang. [Phys.Lett.B782, 773-778.](#) (2018)

27. Study of isolated-photon and jet momentum imbalance in pp and PbPb collisions

L. Chen, G.Y. Qin, L. Wang, S.Y. Wei, B.W. Xiao, H.Z. Zhang, Y.Q. Zhang. [Nucl.Phys.B933, 306-319.](#) (2018)

28. Probing transverse momentum broadening via dihadron and hadron-jet angular correlations in relativistic heavy-ion collisions

L. Chen, G.Y. Qin, S.Y. Wei, B.W. Xiao, H.Z. Zhang. [Phys.Lett.B773, 672-676.](#) (2017)

29. Effect of medium recoil and p_T broadening on single inclusive jet suppression in high-energy heavy-ion collisions in the high-twist approach

X.N. Wang, S.Y. Wei, H.Z. Zhang. [Phys.Rev.C96, 034903.](#) (2017)

30. **Twist-4 contributions to semi-inclusive deeply inelastic scatterings with polarized beam and target**
S.Y. Wei, Y.K. Song, K.B. Chen, Z.T. Liang. [Phys.Rev.D95, 074017.](#) (2017)
31. **Tensor polarization dependent fragmentation functions and $e^+e^- \rightarrow \pi V X$ at high energies**
K.B. Chen, W.H. Yang, S.Y. Wei, Z.T. Liang. [Phys.Rev.D94, 034003.](#) (2016)
32. **Leading and higher twist contributions in semi-inclusive e^+e^- annihilation at high energies**
S.Y. Wei, K.B. Chen, Y.K. Song, Z.T. Liang. [Phys.Rev.D91, 034015.](#) (2015)
33. **Three dimensional imaging of the nucleon and semi-inclusive high energy reactions**
K.B. Chen, S.Y. Wei, Z.T. Liang. [Front.Phys.10\(6\), 101204.](#) (2015)
34. **Higher-twist contribution to fragmentation function in inclusive hadron production in e^+e^- annihilation**
S.Y. Wei, Y.K. Song, Z.T. Liang. [Phys.Rev.D89, 014024.](#) (2014)

Ph.D Dissertation

1. **A study of fragmentation functions in electron positron annihilation at high energies**
Shu-yi Wei. Ph.D. Supervisor: Zuo-tang Liang. [Personal copy in Chinese.](#) (May, 2015)

Selected Talks [†: Speaker]

1. **Elliptic flow in small collisional systems**
S.Y. Wei[†]. The 52nd International Symposium on Multiparticle Dynamics (ISMD 2023).
[Gyongyos, Hungary.](#)
2. **Inclusive hadron production in forward pA collisions**
Y. Shi, L. Wang, S.Y. Wei[†], *B.W. Xiao.*
[Resummation, Evolution, Factorization 2022 \(REF2022\).](#) Online Talk. [Recording.](#)
3. **Elliptic flow at EicC**
S.Y. Wei[†]. [The 2nd EicC CDR workshop \(2022\).](#) Online Talk.
4. **Longitudinal and transverse polarizations of Λ hyperons in unpolarized SIDIS and e^+e^- annihilations**
S.Y. Wei[†] [Spin 2021.](#) Online Talk. [JPS Conference Proceedings.](#)

5. **Angular de-correlation of forward di-hadrons: on the optimal p_T range to probe gluon saturation**
G. Giacalone, C. Marquet, M. Matas, S.Y. Wei[†]. [Hard Probes 2020. Recording.](#)
6. **Phenomenology of Sudakov Resummation in the CGC Framework**
S.Y. Wei[†]. [Workshop on Resummation, Evolution, Factorization \(REF 2019\).](#)
7. **Probing jet medium interaction via dijet and photon-jet p_T imbalance**
L. Chen, G.Y. Qin, S.Y. Wei[†], B.W. Xiao, H.Z. Zhang. [Hard Probes 2018.](#)
8. **Probing transverse momentum broadening via dihadron and hadron-jet angular decorrelations**
L. Chen, G.Y. Qin, S.Y. Wei[†], B.W. Xiao, H.Z. Zhang. [Hard Probes 2016.](#)
9. **Higher twist effects in e^+e^- annihilation at high energies**
S.Y. Wei[†]. [21st International Symposium on Spin Physics \(Spin2014\).](#)