束红非 (Hongfei Shu)

✉ 个人信息

- 生日：1991年7月12日，　　　性别：男，　　国籍：中国
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🎓 学位及研究方向

- 最高学位：物理学博士
- 获得日期：2019年3月26日
- 所在学校：东京工业大学 (Tokyo Institute of Technology)
- 研究方向: 弦论, 量子场论，数学物理

🎓 教育经历

- **东京工业大学 (Tokyo Institute of Technology), 东京, 日本**
  物理学博士, 2016年4月 - 2019年3月，　导师: 伊藤克司 (Katsushi Ito)
  博士论文: ODE/IM correspondence and its applications

- **东京工业大学 (Tokyo Institute of Technology), 东京, 日本**
  物理学硕士, 2014年4月 - 2016年3月，　导师: 伊藤克司 (Katsushi Ito)

- **东京工业大学 (Tokyo Institute of Technology), 东京, 日本**
  物理学学士, 2010年4月 - 2014年3月

💼 工作经历

- **北欧理论物理研究所 (Nordic Institute for Theoretical Physics), 斯德哥尔摩，瑞典**
  博士后, 2019年9月 - 2021年8月

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Personal Details

- Family Name: Shu,   First Name: Hongfei
- Date of Birth: July 12, 1991,   Gender: Male
- Nationality: Chinese

Education and Work

- **Beijing Institute of Mathematical Science and Applications**, Beijing, China
  Postdoc fellow, Oct 2021 - now

- **Nordic Institute for Theoretical Physics, Stockholm, Sweden**
  Postdoc fellow, Sep 2019 - Aug 2021

- **Tokyo Institute of Technology, Tokyo, Japan**
  PhD in Physics, Apr 2016 - Mar 2019
  Advisor: Katsushi Ito
  Thesis: ODE/IM correspondence and its applications

- **Tokyo Institute of Technology, Tokyo, Japan**
  Master in Physics, Apr 2014 - Mar 2016
  Advisor: Katsushi Ito
  Thesis: Minimal surface in AdS spacetime and ODE/IM correspondence

- **Tokyo Institute of Technology, Tokyo, Japan**
  Bachelor in Physics, Apr 2010 - Mar 2014

Grants and Honors

- JSPS Research Fellowship for Young Scientists, Apr 2017-Mar 2019
- Grant-in-Aid for JSPS Fellows, Apr 2017-Mar 2019

Publications

[1] "WKB periods for higher order ODE and TBA equations,"
Katsushi Ito, Takayasu Kondo, Kohei Kuroda and **Hongfei Shu**,
JHEP **10** (2021), 167 [arXiv:2104.13680 [hep-th]].

[2] "U(1) CS Theory vs SL(2) CS Formulation: Boundary Theory and Wilson Line,"
Xing Huang, Chen-Te Ma, **Hongfei Shu** and Chih-Hung Wu,
arXiv:2011.03953 [hep-th]

[3] "Extended systems of Baxter Q-functions and fused flags I: simply-laced case,"
Simon Ekhammar, **Hongfei Shu** and Dmytro Volin,
arXiv:2008.10597 [math-ph]

[4] "$T\bar{T}$ deformation of chiral bosons and Chern-Simons AdS$_3$ gravity,"

Hao Ouyang and **Hongfei Shu**,
Eur. Phys. J. C **80** (2020) no.12, 1155 [arXiv:2006.10514 [hep-th]]

[5] "QQ-system and non-linear integral equations for scattering amplitudes at strong coupling,"
Davide Fioravanti, Marco Rossi and **Hongfei Shu**
JHEP **12** (2020), 086 [arXiv:2004.10722 [hep-th]]

[6] "ODE/IM correspondence for affine Lie algebras: A numerical approach,"
Katsushi Ito, Takayasu Kondo, Kohei Kuroda and **Hongfei Shu**,
J. Phys. A **54** (2021) no 4, 044001 [arXiv:2004.09856 [hep-th]]

[7] "Quantum correction of the Wilson line and entanglement entropy in the pure AdS$_3$ Einstein gravity theory,"
Xing Huang, Chen-Te. Ma and **Hongfei Shu**
Phys. Lett. B **806** (2020), 135515 [arXiv:1911.03841 [hep-th]].

[8] "TBA equations for the Schrödinger equation with a regular singularity,"
Katsushi Ito and **Hongfei Shu**
J. Phys. A **53** (2020) no.33, 335201 [arXiv:1910.09406 [hep-th]].

[9] "Correlation functions, entanglement and chaos in the $T\overline{T}/J\overline{T}$-deformed CFTs,"
Song He and **Hongfei Shu**,
JHEP **02** (2020), 088 [arXiv:1907.12603 [hep-th]].

[10] "Integrability and Spectral Form Factor in Chern-Simons Formulation,"
Chen-Te Ma and **Hongfei Shu**,
Int. J. Mod. Phys. A **35** (2020) no.24, 2050143 [arXiv:1902.10279 [hep-th]].

[11] "TBA equations and resurgent Quantum Mechanics,"
Katsushi Ito, Marcos Mariño and **Hongfei Shu**,
JHEP **01** (2019), 228 [arXiv:1811.04812 [hep-th]].

[12] "T-duality to Scattering Amplitude and Wilson Loop in Non-commutative Super Yang-Mills Theory,"
Song He and **Hongfei Shu**,
JHEP **1808**, 172 (2018) [arXiv:1806.02707 [hep-th]].

[13] "Massive ODE/IM Correspondence and Non-linear Integral Equations for $A_r^{(1)}$-type modified Affine Toda Field Equations,"
Katsushi Ito and **Hongfei Shu**,
J. Phys. A **51**, no. 38, 385401 (2018) [arXiv:1805.08062 [hep-th]].

[14] "ODE/IM correspondence and the Argyres-Douglas theory"
Katsushi Ito and **Hongfei Shu**,
JHEP **1708**, 071 (2017) [arXiv:1707.03596[hep-th]]

[15] "ODE/IM correspondence for modified $B_2^{(1)}$ affine Toda field equation"
Katsushi Ito and **Hongfei Shu**,
Nucl. Phys. B **916**, 414 (2017)[arXiv:1605.04668[hep-th]]

Talks and Seminars

- Department of Physics, Jilin University, April 24, 2019, Online talk. "Wall-crossing of TBA equations and WKB periods for the higher order ODE."

- Center for Joint Quantum Studies (CJQS), Tianjin University, May 14, 2020, Online talk. "ODE/IM correspondence and its application to scattering amplitude/Wilson loop dual"

- Sezione INFN di Bologna, Department of Physics and Astronomia, University di Bologna, November 14 2019, Bologna, Italy, "TBA system and schrödinger equation"

- Korea Institute for Advanced Study, July 4, 2019, Seoul, Korea, "TBA equations and resurgent Quantum Mechanics"

- School of Physics and Telecommunication Engineering, South China Normal University, May 14, 2019, Guangzhou, China. "TBA equations and Schrödinger equation with angular momentum"

- Department of Physics, Sun Yat-sen University, May 7, 2019, Guangzhou, China
  "TBA equations and resurgent Quantum Mechanics"

- School of Physics and Astronomy, Sun Yat-sen University, May 5, 2019, Guangzhou, China
  "Solving Quantum Mechanics by using Integrability"

- Department of Physics, Jilin University, April 24, 2019, Jilin China
  "Thermodynamic Bethe ansatz equations and resurgent Quantum Mechanics"

- String Theory and Quantum Field Theory Conference, Fudan University, March 13, 2019, ShangHai China
  "TBA equations and resurgent Quantum Mechanics"

- Department of Physics, Rikkyo University, May 29, 2018, Tokyo Japan
  "ODE/IM correspondence and its application to N=2 gauge theories"

- Physical Society of Japan Spring meeting 2018, Mar 22 2018, Tokyo Japan
  "ODE/IM correspondence for modified affine Toda field equation"

- Department of Physics, Kyoto University, Dec 13, 2017, Kyoto Japan
  "ODE/IM correspondence and its application to N=2 SCFT"

- Keio University, Sep 6, 2017, Tokyo Japan
  "ODE/IM correspondence and the Argyres-Douglas theory"

- Max Planck Institute, Aug 14, 2017, Potsdam German
  "ODE/IM correspondence and the Argyres-Douglas theory"

- Department of Physics, Sichuan University, May 26, 2017, Chengdu China: "ODE/IM correspondence and the Argyres-Douglas theory"

- Institute of Theoretical Physics Beijing, May 15, 2017, Beijing China
  "ODE/IM correspondence and the Argyres-Douglas theory"

- Physical Society of Japan Spring meeting 2017, Mar 20 2017, Osaka Japan
  "ODE/IM correspondence and Argyres-Douglas theory"

- Physical Society of Japan Spring meeting 2016, Mar 22, 2016, Senda, Japan
  "T-Q relation for modified affine B_2 Toda field equation"

- Physical Society of Japan Autumn meeting 2015, Sep 27, 2015, Osaka, Japan
  "Affine B_2 Toda field theory and AdS4 minimal surface"