Yongming Luo

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Education

- Ph.D. in Mathematics, Universität Kassel (2014-2019)
  - Title: *Existence and Regularity Results of a Ferroelectric Phase-Field Model*
  - Advisor: Prof. Dr. Dorothee Knees
- M.Sc. in Mathematics, Technische Universität München (2011-2014)
- B.Sc. in Mathematics, Technische Universität München (2008-2011)

Positions

- *Senior Lecturer*, Shenzhen MSU-BIT University (2023.03-Present)
- *Postdoctoral Research Associate*, Technische Universität Dresden (2020.04-2023.01)
  - Mentor: Prof. Dr. Stefan Neukamm

Research Interests

- Long time dynamics of nonlinear dispersive equations
- Homogenization and dimension reduction problems arising in material science

Publications

1. Y. Luo. *A Legendre-Fenchel identity for the nonlinear Schrödinger equations on $\mathbb{R}^d \times \mathbb{T}^m$: theory and applications* . Submitted (arxiv 2307.16153).
2. A. Esfahani, H. Hajaiej, Y. Luo and L. Song. *On the focusing fractional nonlinear Schrödinger equation on the waveguide manifolds*. Submitted (arxiv 2305.19791).
3. Y. Luo. *Almost sure scattering for the defocusing cubic nonlinear Schrödinger equation on $\mathbb{R}^3 \times \mathbb{T}$*. Submitted (arxiv 2304.12914).
4. P. Dondl, Y. Luo, S. Neukamm and S. Wolff-Vorbeck. *Efficient uncertainty quantification for mechanical properties of randomly perturbed elastic rods*. Submitted (arxiv 2304.08785).
5. Y. Luo, X. Yu, H. Yue and Z. Zhao. *On well-posedness results for the cubic-quintic NLS on $\mathbb{T}^3$*. Submitted (arxiv 2301.13433).
6. Y. Luo. *Normalized ground states and threshold scattering for focusing NLS on $\mathbb{R}^d \times \mathbb{T}$ via semivirial-free geometry*. Submitted (arxiv 2205.04969).
7. Y. Luo. *Sharp scattering for focusing intercritical NLS on high-dimensional waveguide manifolds*. **Math. Ann.**, to appear.

8. H. Hajaiej, Y. Luo and L. Song. *On existence and stability results for normalized ground states of mass-subcritical biharmonic NLS on* $\mathbb{R}^d \times \mathbb{T}^n$. **SIAM J. Math. Anal.**, to appear.

9. Y. Luo. *On long time behavior of the focusing energy-critical NLS on* $\mathbb{R}^d \times \mathbb{T}$ *via semivirial-vanishing geometry.* **J. Math. Pures Appl.** 177 (2023), 415-454.

10. Y. Luo. *On sharp scattering threshold for the mass-energy double critical NLS via double track profile decomposition.* **Ann. Inst. H. Poincaré C Anal. Non Linéaire** 41 (2024), no. 1, 187-255.

11. Y. Luo. *Sharp scattering threshold for the cubic-quintic NLS in the focusing-focusing regime.* **J. Funct. Anal.** 283 (2022), no. 1, Paper No. 109489, 34 pp.

12. Y. Luo. *On the local in time well-posedness of an elliptic-parabolic ferroelectric phase-field model.* **Nonlinear Anal. Real World Appl.** 65 (2022), Paper No. 103462, 30 pp.

13. Y. Luo and A. Stylianou. *On 3d dipolar Bose-Einstein condensates involving quantum fluctuations and three-body interactions.* **Discrete Contin. Dyn. Syst. Ser. B** 26 (2021), no. 6, 3455-3477.

14. Y. Luo and A. Stylianou. *Ground states for a nonlocal mixed order cubic-quartic Gross-Pitaevskii equation.* **J. Math. Anal. Appl.** 496 (2021), no. 1, Paper No. 124802, 20 pp.

Permanent notes

1. Y. Luo. *Large data global well-posedness and scattering for the focusing cubic nonlinear Schrödinger equation on* $\mathbb{R}^2 \times \mathbb{T}$. Permanent note (arxiv 2202.10219).

2. Y. Luo and A. Stylianou. *Normalized ground states for 3D dipolar Bose-Einstein condensate with attractive three-body interactions.* Permanent note (arxiv 2202.09801).

3. Y. Luo. *Scattering threshold for radial defocusing-focusing mass-energy double critical nonlinear Schrödinger equation in* $d \geq 5$. Permanent note (arxiv 2106.06993).