Yongming Luo

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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

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)

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 (arxiv 2212.10908).

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 (arxiv 2212.00750).

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 (arxiv 2206.07346).

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 (arxiv 2108.00915).

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).