苏州大学

Soochow University

Curriculum Vitae: Dongliang Gao (高东梁)

Professor
School of Physical Science and Technology
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Research Expertise and Interests

- Optical force and optical manipulation in nano systems
- Spin Hall shift of light by nanostructures
- Spatiotemporal metamaterials
- Nonlinear optics

Professional Experience / Education

- School of Physical Science and Technology, **Soochow University, China**
  Jul. 2023- Present *Professor*
- School of Physical Science and Technology, **Soochow University, China**
  Jan. 2015- Jun. 2023 *Assistant Professor*, and then *Associate Professor*
- School of Electrical & Electronic Engineering, **Nanyang Technological University, Singapore**
  Oct. 2018- Oct. 2019 *Visiting Scholar*, Nanophotonics Lab
- Electrical & Computer Engineering Department, **National University of Singapore, Singapore**
  Aug. 2013- Jan. 2015 *Research Fellow*, Microware Research Lab
  Aug. 2011- Aug. 2012 *Research Assistant*, Radar & Signal Processing Laboratory
- School of Physical Science and Technology, **Soochow University, China**
  Sep. 2008- Jul. 2013 *Ph.D*, Supervisor: Prof. Lei Gao

Teaching Courses

Quantum Mechanics
Interesting Physics in Quantum Systems
Interesting Physics in Financial Markets
General Physics Experiment Course

Honors

1. 1st Class Science and Technology Award of Jiangsu Provincial Physical Society (2022)
2. 2nd Class Award of Science and Technology Progress of Jiangsu Province (2014)
3. National Scholarship for Graduate Students (2012)
4. 1st Class Award for Academic Research In Science In Suzhou (2008-2009)

5. 3rd Class Award for Academic Research In Science In Suzhou (2010-2011)
6. Best award in the Competition of science and technology works of Jiangsu Province (2010)
7. Outstanding Student (Soochow University, 2009-2010)

Research Grants

1. **Principal Investigator**, 2022-2025, Funding Amount: 560K RMB,
   National Natural Science Foundation of China (No. 12174281)
2. **Principal Investigator**, 2016-2018, Funding Amount: 200K RMB,
   National Natural Science Foundation of China (No. 11504252)
3. **Principal Investigator**, 2016-2018, Funding Amount: 200K RMB,
   Natural Science Foundation of Jiangsu Province (No. BK20150306)
4. **Principal Investigator**, 2018-2019, Funding Amount: 150K RMB,
   Jiangsu Provincial Innovation and Entrepreneurship Doctoral Program
5. **Principal Investigator**, 2021-2023, Funding Amount: 100K RMB,
   Engineering Research of the Ministry of Education
6. **Principal Investigator**, 2018-2019, Funding Amount: 80K RMB,
   Postdoctoral Science Foundation of China (No. 2018M630596)
7. **Principal Investigator**, 2022-2025, Funding Amount: 100K RMB,
   Top Young Talents in Physics Program, Soochow University
8. **Principal Investigator**, 2020-2022, Funding Amount: 50K RMB,
   Cultivating Young Talents in Physics Program, Soochow University
9. **Principal Investigator**, 2015-2025, Funding Amount: 100K RMB,
   Start-up Grant, Soochow University

Publications (only show first/corresponding author's papers)

1. A. Khan, X. Gu, L. Gao*, A. Novitsky, and **D.L. Gao***, "Photonic Spin Hall Effect of Nanoparticles: Fundamentals, Advances, and Applications," Annalen der Physik (2024 online).
2. Y. Yu, **D.L. Gao***, Y. Yang, L. Liu, Z. Li, Q. Yang, H. Wu, L. Zou, X. Lin, J. Xiong, S. Hou, L. Gao*, and H. Hu*, "Generalized Coherent Wave Control at Dynamic Interfaces," Laser & Photonics Reviews (2024 online). DOI: 10.1002/lpor.202400399
3. Aizaz Khan, X. Gu, L. Gao*, A. Novitsky, **D.L. Gao***, "Photonic spin Hall effect of nanoparticles: Fundamentals, advances, and applications," Annalen der Physik (Accepted)
4. Aizaz Khan, X. Gu, L. Gao*, L. Hou, J. Akbar*, and **D.L. Gao***, "Tunable superluminal propagation at spectral hole-burning regions in magneto-optical atomic medium," Results in Physics **58**, 107507 (2024).
5. Y. Yu, H. Hu*, L. Zou, Q. Yang, X. Lin, Z. Li, L. Gao*, and **D.L. Gao***, "Antireflection spatiotemporal metamaterials," Laser & Photonics Reviews **17**, 2300130 (2023). **(Cover)**
6. C. Wang, A. Novitsky, W. Ge, **D.L. Gao***, and L. Gao*, "Anisotropy-enhanced second-harmonic generation from graphene-wrapped nanoparticles," Optik **276**, 170651 (2023).
7. C. Wang, **D.L. Gao***, and L. Gao*, "Detecting nonlocality by second-harmonic generation from a graphene-wrapped nanoparticle," Optics Express **30**(8), 12722-12731 (2022).
8. Y. C. Sun **(undergraduate student)**, P. Xu, L. Gao*, A. E. Miroshnichenko*, and **D.L. Gao***, "Wavelength-scale spin Hall shift of light with morphology-enhanced scattering efficiency from nanoparticles," Laser & Photonics Reviews **16**(11), 2200289 (2022).
9. X. Gu, Y. Sun, L. Gao*, A. Novitsky, W. Yu*, and **D.L. Gao**, "Nonlinearity-tuned optical spin-orbit interaction of graphene-wrapped nanoparticles," IEEE Photonics Journal **14**(6), 1-5 (2022).
10. **D.L. Gao**, H. Ye, and L. Gao*, "Topology-tuned light scattering around Fano resonances by a core-shell cylinder," Optics Express **30**(5), 8399-8408 (2022).

11. Q. Zhang, **D.L. Gao***, and L. Gao*, "Tunable spin Hall shift of light from graphene-wrapped spheres," Optics Express **29**(7), 9816-9825 (2021).
12. Y. Q. Wang **(undergraduate student)**, H. Hu, Q. Zhang, **D.L. Gao*** and L. Gao*, "Topologically-tuned spin Hall shift around Fano resonance," Optics Express **28**(15), 21641-21649 (2020).
13. X. C. Jiang, Y. W. Zhou, **D.L. Gao***, Y. Huang, and L. Gao*, "Realizing optical bistability and tristability in plasmonic coated nanoparticles with radial-anisotropy and Kerr-nonlinearity," Optics Express **28**(12), 17384 (2020).
14. C. L. Wang, Y. Q. Wang, H. Hu, D. J. Liu, **D.L. Gao***, and L. Gao*, "Reconfigurable sensor and nanoantenna by graphene-tuned Fano resonance," Optics Express **27**(24), 35925 (2019).
15. R. Shi, **D.L. Gao***, H. Hu, Y. Q. Wang, and L. Gao*, "Enhanced broadband spin Hall effects by core-shell nanoparticles," Optics Express **27**(4), 4808-4817 (2019).
16. H. Hu, L. Liu*, X. Hu, D. Liu, and **D.L. Gao***, "Routing emission with a multi-channel nonreciprocal waveguide," Photonics Research **7**(6), 642 (2019).
17. X. Hou, **D.L. Gao***, and L. Gao*, "Graphene-tuned optical manipulation on microparticle by Bessel beam," AIP Advances **9**(3), 035154 (2019).
18. H. Zhou, **D.L. Gao***, and L. Gao*, "Tunability of multipolar plasmon resonances and Fano resonances in bimetallic nanoshells," Plasmonics **13**(2), 623-630 (2018).
19. **D.L. Gao**, R. Shi, A. E. Miroshnichenko, and L. Gao*, "Enhanced spin Hall effect of light in spheres with dual symmetry," Laser & Photonics Reviews **12**(11), 1800130 (2018). **(Cover)**
20. **D.L. Gao**, R. Shi, Y. Huang, and L. Gao*, "Fano-enhanced pulling and pushing optical force on active plasmonic nanoparticles," Physical Review A **96**(4), 043826 (2017).
21. **D.L. Gao**, W. Q. Ding, M. Nieto-Vesperinas, X. Ding, M. Rahman, T. H. Zhang, C. T. Lim, and C.-W. Qiu*, "Optical manipulation from microscale to nanoscale: Fundamentals, advances, and prospects," Light: Science & Applications **6,** e17039 (2017).
22. X. Bian, **D.L. Gao***, and L. Gao*, "Tailoring optical pulling force on gain coated nanoparticles with nonlocal effective medium theory," Optics Express **25**(20), 24566-24578 (2017).
23. P. J. Ma, **D.L. Gao***, Y. X. Ni, and L. Gao*, "Enhancement of optical nonlinearity by core-shell bimetallic nanostructures," Plasmonics **11**(1), 183-187 (2016).
24. **D.L. Gao**, A. Novitsky, T. Zhang, F. C. Cheong, L. Gao, C. T. Lim, B. Luk'yanchuk, and C.-W. Qiu*, "Unveiling the correlation between non-diffracting tractor beam and its singularity in Poynting vector," Laser & Photonics Reviews **9**(1), 75-82 (2015).
25. **D.L. Gao** L. Gao*, A. Novitsky, H. Chen, and B. Luk'yanchuk, "Topological effects in anisotropy-induced nano-Fano resonance of a cylinder," Optics Letters **40**(17), 4162-4165 (2015).
26. **D.L. Gao**, C. W. Qiu*, L. Gao, T. Cui, and S. Zhang, "Macroscopic broadband optical escalator with force-loaded transformation optics," Optics Express **21**(1), 796-803 (2013).
27. **D.L. Gao**, L. Gao*, and C. W. Qiu*, "Birefringence-induced polarization-independent and nearly all-angle transparency through a metallic film," Europhysics Letters **95**(3), 34004 (2011).
28. **D.L. Gao**, and L. Gao*, "Goos–Hänchen shift of the reflection from nonlinear nanocomposites with electric field tunability," Applied Physics Letters **97**(4), 041903 (2010).
29. **D.L. Gao**, and L. Gao*, "Tunable lateral shift through nonlinear composites of nonspherical particles," Progress In Electromagnetics Research **99,** 273-287 (2009).