

EDUCATION

Nanjing University

College of Engineering and Applied Sciences

Nanjing, Jiangsu

Doctor of Philosophy

Optical Engineering

Q.E. – Top 15%

Nonlinear Fourier Optics

2025 '27

Dissertation:

“Analytic 3D vector linear non-uniform & nonlinear Fourier crystal optics in arbitrary $\bar{\epsilon}$, $\bar{\chi}$ dielectrics”

Master’s Studies

Quantum Electronics

Courses Score – 93.5

THz OAM Source

2022 '24

Northeastern University

School of Physics, College of Science

Shenyang, Liaoning

Bachelor of Science

Applied Physics

GPA Rank – 1/400

DDTank Aimbots

2020 '22

Thesis:

“Research & design of nonlinear holography based on lithium niobate 3D nonlinear photonic crystal”

Freshman in College

Science

Sichuan Prov. – Top 2%

7 Notes → 3 Books

2016 '18

RESEARCH PROJECTS

3D Vector Nonlinear Fourier Crystal Optics	Analytic solution to	2017.03 – 2018.09
		Python – SiYuan – Mathematica
Memberships	test test test test test test test test test	2017.03 – 2018.09
	test test test test test test test test test test test test test test test	
Vector Nonlinear Fourier Optics test test test test	test test test test test test test test test test test test test test test test test test test test	2017.03 – 2018.09

SCIENTIFIC ACTIVITIES

- **Head Teaching Assistant** at University Name Spring 2019
Course Name (COURSE CODE)
- **Teaching Assistant** at University Name Spring 2017
Course Name (COURSE CODE)

Next generation high N.A. 3D vector non-uniform analytic linear & nonlinear Fourier crystal optics	2024.06
!Paraxial k_0^ω High N.A. 3D vector non-uniform analytic linear & nonlinear Fourier crystal optics	2024.03
Emphasizing G_{xyz}^ω 3D vector non-uniform analytic linear & nonlinear Fourier crystal optics	2023.12
Involving $\bar{\chi}_\omega^{(2)}$ anisotropy Vector non-uniform analytic linear & nonlinear Fourier crystal optics	2023.06
!Unitary $G_\omega^\pm \Leftarrow$!Hermitian $\bar{\epsilon}_r^\omega \Rightarrow$ Non-uniform analytic linear & nonlinear Fourier crystal optics	2023.03
Solution $\mathcal{F}[E_\omega^\pm]$ to $(\nabla^2 + k_{\omega\pm}^2) E_\omega^\pm \propto P_{\omega\pm}^{(2)}$ Analytic linear & nonlinear Fourier crystal optics	2022.09
Solution $\mathcal{F}[E_3] = \mathcal{F}[f(\mathcal{F}^{-1}[\cdot])]$ to the Eq. below Nonlinear angular spectrum theory for SFG	2022.06
Solution $\mathcal{F}[E_3] = \iiint (\nabla^2 + k_3^2) E_3(r) \propto P_3^{(2)}(r)$ Nonlinear convolution solution to SFG	2022.03
Nonlinear THz LiNbO ₃ -based metasurface	Quit THz project formally – COMSOL 2022.01
BWOPO + THz optical parametric amplification	Mathematica – BookxNote Pro 2021.12
THz backward optical parametric oscillator (BWOPO)	Mathematica – VBA Excel 2021.11
Multi-cycle THz orbital angular momentum (OAM) source	RoamEdit – Blender 2021.11
Narrow-band THz OAM source via Optical Rectification (OR)	Python – Blender 2021.10
Electricity $\xrightarrow{\text{produce}}$ Acoustics $\xrightarrow{\text{modulate}}$ Optics	RoamEdit – VBA Excel 2021.07
Visible Photons $\xrightarrow{\text{SPDC}}$ THz Spectroscopy	BookxNote Pro – GeoGebra – VBA Excel 2021.06
Cavity Phase Matching = Sheet OPO	Paint 3D – RoamEdit – GeoGebra – VBA Excel 2021.05
THz Holography via Optical Rectification	Matlab – GeoGebra – VBA Excel 2021.01
Femtosecond laser $\xrightarrow{\text{Optical Rectification}}$ Terahertz (THz)	GeoGebra – VBA Excel 2020.12
Multicycle THz pulse generation by OR in LiNbO ₃ ... crystals	VBA PowerPoinT 2020.10



















SKILLS

- **Skill Group:** List of technologies
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LANGUAGES

- **Language:** language proficiency level
- **EXAM:** details
- **Language:** language proficiency level
- **Language:** language proficiency level

HONORS & AWARDS

Academia	Doctor's Qualification Exam (Oral) 	Excellent 	Top 15%	Nanjing U.	2024.01
	Bachelor Dissertation  & Defense 	Excellent 	1/90	Northeastern U.	2020.06
Competition	Three Provinces Achievement Expo 	Exhibition 	Leader	Three Prov.	2019.10
	"Challenge Cup" Tech Competition 	Grand prize 	Leader	Liaoning Prov.	2019.06
Scholarships & Fellowships	Academic Fellowship	1st class	¥40,000	Nanjing U.	2020-24
	"Jinchuan" Scholarship	1st place 	¥5,000	Northeastern U.	2019.04
	Academic Scholarship	1st place 	¥2,000	Northeastern U.	2018.06
	Entrance Scholarship	3rd place	¥5,000	Leshan No.1 H.S.	2013.09
Honors & Titles	Graduation with Honor 	Outstanding		Northeastern U.	2020.07
	League Member 	Excellent 		Northeastern U.	2019.11
	Undergraduate Student	Excellent 		Northeastern U.	2018.12
Memberships	Chinese Society for Optical Engineering	Member 		Nanjing U.	2021-25
	"Qian Sanqiang" Talent Class	Head 		I.H.E.P. 	2017-20

EXTRACURRICULAR ACTIVITIES

- Member at Some Club 2017–Current
Detailed explanation of what you do at this club
- Member at Some Club 2016–2017
Detailed explanation of what you do at this club
- Volunteer at Some Event Fall 2019
Detailed explanation of what you do in this event
- Volunteer at Some Event Winter 2015
Detailed explanation of what you do in this event