












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	2017.03 – 2018.09
Vector Nonlinear Fourier Optics 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 $\mathcal{F}[E_3] = \iiint \text{to } (\nabla^2 + k_3^2) E_3(r) \propto P_3^{(2)}(r)$ Nonlinear convolution solution to SFG	2022.03
Quit THz project formally – COMSOL	2022.01
Nonlinear THz LiNbO₃-based metasurface	
BWOPO + THz optical parametric amplification	Mathematica – BookxNote Pro
THz backward optical parametric oscillator (BWOPO)	Mathematica – VBA Excel
Multi-cycle THz orbital angular momentum (OAM) source	RoamEdit – Blender
Narrow-band THz OAM source via Optical Rectification (OR)	Python – Blender
Electricity $\xrightarrow{\text{produce}}$ Acoustics $\xrightarrow{\text{modulate}}$ Optics	RoamEdit – VBA Excel
Visible Photons $\xrightarrow{\text{SPDC}}$ THz Spectroscopy	BookxNote Pro – GeoGebra – VBA Excel
Cavity Phase Matching = Sheet OPO	Paint 3D – RoamEdit – GeoGebra – VBA Excel
THz Holography via Optical Rectification	Matlab – GeoGebra – VBA Excel
Femtosecond laser $\xrightarrow{\text{Optical Rectification}}$ Terahertz (THz)	GeoGebra – VBA Excel
Multicycle THz pulse generation by OR in LiNbO₃ ... crystals	VBA PowerPoinT



















SKILLS

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

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