











EDUCATION

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|--|---|--|
| 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 (> 6G) 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

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|--|---|-------------------------------------|
| 3D Vector Nonlinear Fourier Crystal Optics | Analytic solution to | 2017.03 – 2018.9 |
| | | Python – SiYuan – Mathematica |
| Memberships | test | 2017.03 – 2018.9 |
| Vector Nonlinear Fourier Optics test test test test | test | 2017.03 – 2018.9 |

SCIENTIFIC ACTIVITIES

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|--|-------------|
| • Head Teaching Assistant at University Name | Spring 2019 |
| Course Name (COURSE CODE) | |

ACADEMIC FOCUS

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|---|--|
| 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 $\chi_{\omega}^{(2)}$ anisotropy Vector non-uniform analytic linear & nonlinear Fourier crystal optics | 2023.06 |
| !Unitary $G_\omega^\pm \Leftarrow$!Hermitian $\bar{e}_r^\omega \Rightarrow$ 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 $\mathcal{F}[E_3] = \iiint (\nabla^2 + k_3^2) E_3(\mathbf{r}) \propto P_3^{(2)}(\mathbf{r})$ 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

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|----------------------------|---|---|---------|--|---------|
| 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