

# Solihin

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## Personal Information

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**Place, Date of Birth:** Jogja Lama, Indonesia — January 10, 2003  
**Address:** Bogor Regency, West Java, Indonesia  
**Languages:** English (Fluent), Indonesian (Native), Javanese (Native)

## Education

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**Master of Physics**, Universitas Indonesia, Depok, Indonesia (August 2024 – Present). Thesis project: quantum description of magnon-polariton in electromagnetic cavities.

**Bachelor of Science in Physics**, Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia (2020 – 2024). Final project: synthesis and characterization of B/N doped carbon dots.

## Work & Internship Experience

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**Research Assistant**, Research Center for Quantum Physics, BRIN, South Tangerang, Indonesia (May 2023 – Present). Investigated the coupling of magnon-photon in electromagnetic cavities and analyzed the electronic, topological, and magnonic properties of layered van der Waals materials, specifically  $CrSiSe_3$ .

**Physics and Mathematics Teacher**, Brain Academy Ruangguru, South Tangerang, Indonesia (January 2024 – Present). Conducted intensive physics and mathematics teaching sessions and academic mentoring for high school students.

**Internship Student**, Department of Condensed Matter Physics, Hokkaido University, Japan (November 2025 – December 2025). Studied the anomaly of longitudinal spin susceptibility at superconducting instabilities within magnetic phases and investigated nematic susceptibility in the interplay between nematic and superconducting phases.

**Internship Student**, Research Center for Quantum Physics, BRIN, South Tangerang, Indonesia (December 2022 – January 2023). Investigated light propagation in undoped graphene sandwiched between multilayer dielectric structures.

**Internship Student**, Research Center for Advanced Materials, BRIN, South Tangerang, Indonesia (December 2022 – January 2023). Investigated optical properties of carbon dots synthesized via the microwave and laser ablation method.

**Teaching Assistant**, Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia (2022 – 2023). Assisted first-year undergraduate students in Fundamental Physics courses, providing guidance in problem-solving and conceptual understanding.

## Research Interests

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Condensed Matter Theory, Quantum Magnonics, Quantum Mechanics.

## Publications

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Kengo, F., **Solihin, S.**, Ukhtary, M. S., et al. (2024). Tunable optical absorption in undoped graphene sandwiched between multilayer dielectric stacks with mirror symmetry. *Physica Scripta*, 99(3), 035513.

## Technical Skills

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**Operating Systems:** Windows (advanced), Linux (advanced).

**Programming:** Python (advanced), MATLAB (intermediate), Fortran (basic).

**Computational Tools:** Quantum ESPRESSO (advanced), Wannier90 (advanced), TB2J (advanced), VESTA (intermediate).

**Document Preparation:**  $\text{\LaTeX}$ (advanced)