



Amirkabir University of Technology
(Tehran Polytechnic)

Application of Wavelet on Electromagnetic Integral Equation

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Purpose: Why are wavelets significant in solving electromagnetic integral equations?

- Basics of wavelets.
- Overview of electromagnetic integral equations.
- Applications and results.

Wavelets Overview

- Definition of wavelets.
- Key properties: localization in time and frequency, multi-resolution analysis.

Electromagnetic Integral Equations

- Basic form and significance.
- Challenges in solving them, e.g., computational complexity.

Tip: Use diagrams to explain abstract concepts.

How wavelets are applied to electromagnetic integral equations:

- Why wavelets are suitable for these equations.
- Highlight the steps or algorithm involved.

Equations: Show key equations sparingly, explaining the meaning of each term.

Results and Analysis

- Improved computational efficiency.
- Accuracy of wavelet-based methods.

Visuals: Include graphs, charts, or images to showcase results, such as error comparisons or convergence plots.

Real-world examples:

- Antenna design.
- Signal propagation.

Broader impact: Potential applications in acoustics and signal processing.

Challenges and Limitations

- Computational resource requirements.
- Specific cases where wavelets are less effective.

Future Work: Discuss areas for improvement or future research.

- Benefits of wavelets for electromagnetic integral equations.
- Main results of your study.

Ending Note: Vision for future work and practical implications of findings.

- Acknowledge your professor, university, and anyone else who contributed.

Thank you for your attention!



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