

Nuwan Yapa¹

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Research Interests

Low-energy nuclear theory, non-Hermitian quantum mechanics, few/many-body methods, nuclear astrophysics, machine learning

Education

2019–2024	North Carolina State University PhD in Theoretical Nuclear Physics Advisor: Sebastian König Dissertation: Efficient Techniques for Studying Few-body Resonances in Nuclear Physics
2014–2017	University of Peradeniya, Sri Lanka BSc (Hons) in Physics First-class honors Minors: Mathematics, Computer Science

Professional Experience

2024–Present	Department of Physics, Florida State University Postdoctoral Scholar
2019–2023	Department of Physics, North Carolina State University Graduate Teaching/Research Assistant
2018–2019	Department of Physics, University of Peradeniya, Sri Lanka Temporary Demonstrator

Publications

2025	Toward scalable bound-to-resonance extrapolations for few- and many-body systems Nuwan Yapa, Sebastian König, and Kévin Fosse Phys. Rev. C 111, 064318
2024	Complex scaling in finite volume Hang Yu, Nuwan Yapa, and Sebastian König Phys. Rev. C 109, 014316
2023	Effective field theory analysis of the Coulomb breakup of the one-neutron halo nucleus ¹⁹C Pierre Capel, ..., Nuwan Yapa Eur. Phys. J. A 59, 273
2023	Eigenvector continuation for emulating and extrapolating two-body resonances Nuwan Yapa, Kévin Fosse, and Sebastian König Phys. Rev. C 107, 064316 (Editor's Suggestion)
2022	Volume extrapolation via eigenvector continuation Nuwan Yapa and Sebastian König Phys. Rev. C 106, 014309

¹ Full legal name: Yapa Mudiyanseelage Nuwan Subhashana Yapa

Invited Talks	2025	From weak binding to resonances: extrapolating unbound nuclei 2025 Fall Meeting of the APS Division of Nuclear Physics Chicago, Illinois
	2024	Towards scalable emulators for unbound nuclei Nuclear Physics Seminar Florida State University, Tallahassee, Florida
	2023	Eigenvector continuation for few-body resonances ESNT workshop Paris-Saclay, Saclay, France
Contributed Talks	2025	Extrapolating many-body resonances in the $N = 2$ isotonic chain Oak Ridge Annual Nuclear Gathering Event 2025 University of Tennessee, Knoxville, Tennessee
	2025	Towards scalable emulators for few- and many-body resonances in nuclei NMP2025 at Facility for Rare Isotope Beams (FRIB) Michigan State University, East Lansing, Michigan
	2025	Towards scalable emulators for many-body resonances STREAMLINE symposium at Facility for Rare Isotope Beams (FRIB) Michigan State University, East Lansing, Michigan
	2024	Reduced basis methods (RBMs) for few-body resonances in nuclei Institute for Nuclear Theory (INT) conference University of Washington, Seattle, Washington
	2024	Emulators for unbound nuclei STREAMLINE symposium at Facility for Rare Isotope Beams (FRIB) Michigan State University, East Lansing, Michigan
	2021	Eigenvector continuation for resonance states 88th Annual Meeting of the Southeastern Section of the APS Florida State University, Tallahassee, Florida
	2021	Eigenvector continuation for resonance states 2021 Fall Meeting of the APS Division of Nuclear Physics Virtual Conference
Honors and Awards	2018	Lakshman Dissanayake Gold Medal for Excellence in Physics
	2018	George Dissanaikie Memorial Gold Medal for Physics
	2018	University Award for Academic Excellence
	2015	Sujatha Guruge Foundation Scholarship
Technical Skills	Languages : Julia, C++, Python, Wolfram Mathematica, MATLAB	
	Machine Learning : PyTorch, JAX	
	Parallel Computing : CUDA, MPI, SLURM	
	Tools : Git, LaTeX, PGF/TikZ, Inkscape, Microsoft Excel	
References	Kévin Fosse < kfossez@fsu.edu > Assistant Professor, Department of Physics, Florida State University Bridge Faculty, Facility for Rare Isotope Beams, Michigan State University	
	Sebastian König < skoenig@ncsu.edu > Associate Professor, Department of Physics, North Carolina State University Bridge Faculty, Facility for Rare Isotope Beams, Michigan State University	
	Jorge Piekarewicz < jpiekarewicz@fsu.edu > Professor, Department of Physics, Florida State University	