

Sarah Anderson

“Sarah”



Graduate Institution: University of Michigan

Location: Ann Arbor, MI

Graduate Discipline: Atomic, Molecular, and Optical Physics

Hometown: Saint Paul, MN

Research Interests:

My research interests are in atomic physics; specifically, atom-atom interactions, laser cooling and trapping of atoms, Rydberg atom trapping, and quantum computing. My current work involves demonstrating and utilizing a novel method for trapping Rydberg atoms in a ponderomotive optical lattice. Rydberg atoms have exaggerated properties, such as long lifetimes and strong atom-atom interactions. An optical lattice trap for Rydberg atoms would provide a means to exploit these beneficial properties, as well as a new way for controlling these atoms and studying atom-atom interactions at a fundamental level. Rydberg atoms trapped in an optical lattice are also an attractive candidate for accomplishing quantum computing.

About me:

I am entering my third year of graduate school in physics at the University of Michigan in Ann Arbor, where I study atomic, molecular, and optical physics. My research focuses on Rydberg atoms and is under the direction of Georg Raithel. A recent exciting achievement in my research is the publication of results demonstrating for the first time the existence of the ponderomotive lattice for Rydberg atoms. As a member of the American Physical Society, I recently attended its conference of the Division of Atomic, Molecular, and Optical Physics, where I presented these most recent developments in my research.

Outside of research, I am involved in Physics Olympiad events at the University of Michigan, which are physics competitions for high school students. Ultimately, my career goal is to become a college professor, as I want to be in a position that combines both research and teaching. The challenge of research is engaging for me, but I also find it rewarding to help others understand the richness of science. My hobbies include playing violin, reading, and running.



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