

Emma Wollman



Graduate Institution: Caltech

Location: Pasadena, CA

Graduate Discipline: Condensed matter physics

Hometown: Andover, MA

Research Interests:

Currently, I'm interested in the boundary between the quantum world and the macroscopic world. Quantum mechanics appears to be a complete theory, and yet it is useless for describing most everyday systems. I'd like to know whether quantum mechanics really governs systems on all scales, or if it is only applicable to studying the microscopic world. In particular, how do the interactions of a quantum system with its environment hinder us from applying quantum mechanics to macroscopic systems? My group at Caltech studies these questions using nanomechanical resonators – mechanical objects that are large enough to be described by their bulk properties, yet small enough to exhibit quantum effects at low temperatures.

My past research includes work with astrophysical masers done at the Maria Mitchell Observatory and with x-rays from stellar winds done at Swarthmore College.

About me:

I just finished my first year as a graduate student in the Physics Department at Caltech. I received my BA from Swarthmore College, where I studied physics, mathematics, and ancient Greek. At the moment, I do not have a particular career path in mind, since I can see myself in any of a variety of research positions: either at an academic institution, a private company, or a national lab. I enjoy explaining physics to others, so any future profession would include teaching or public outreach. When I'm not doing physics, I like to go hiking and camping. I also design and sew many of my own clothes.



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