



PHYSICS COLLOQUIUM: Testing the Nature of Dark Matter with Strong Gravitational Lensing

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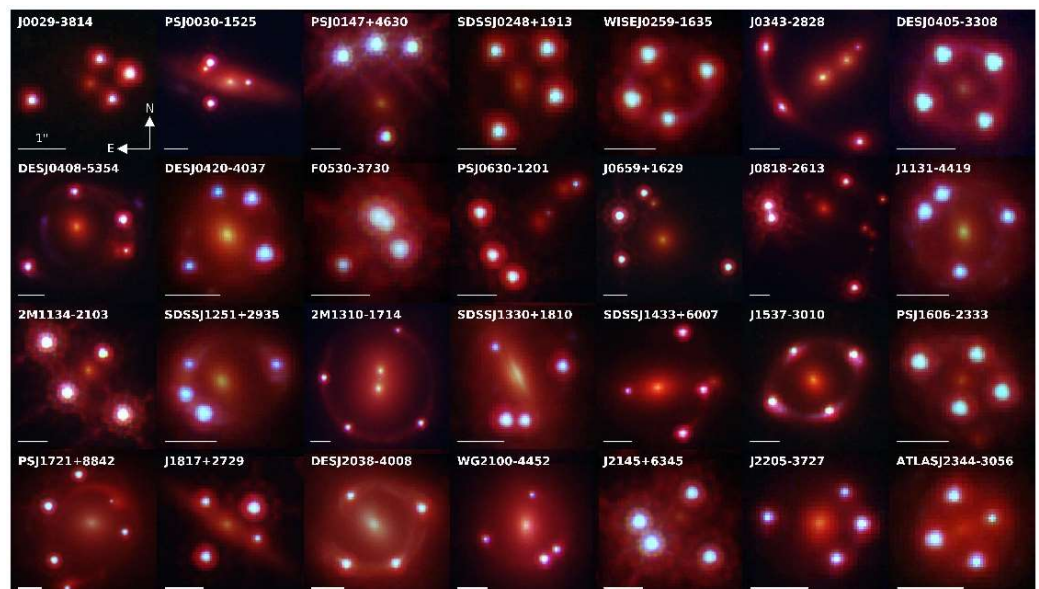


About The Speaker:

Anna was born in Sacramento, and has spent most of her life in California, completing her Bachelors of Science in physics at UCLA, and her Ph.D. in physics at UCSB. Anna started as faculty at UCM last July and is very excited to finally be on campus.

Abstract:

The nature of dark matter remains one of the major puzzles of modern physics. Traditional tests of the nature of dark matter rely on observations of stars and galaxies which form within larger dark matter structures known as halos. The abundance of dark matter halos, and thus the abundance of galaxies, depends on the fundamental properties of dark matter such as its free streaming-length and self-interaction cross section. I will present new results from my novel approach to strong gravitational lensing which makes it possible to detect low-mass dark matter halos in a much larger number of systems than was previously possible using spatially resolved spectroscopy of quasars. I will also discuss an upcoming JWST program to use strongly-lensed cold torus flux to push the sensitivity limits of the measurement even lower. I will conclude by discussing future progress which can be made with the next generation of ground and space-based telescopes.



Date:
11/19/2021

Time:
10:30 AM-11:50 AM

Link:
<https://ucmerced.zoom.us/j/85307217360?pwd=NUk4eHIOTUxOVzIDUmVzUURFd3B1UT09>

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