

PHYSICS AND ASTRONOMY COLLOQUIUM 10/10/2024

A NEW GENERATION OF MILLIMETER AND SUBMILLIMETER OBSERVATIONS FOR COSMOLOGY AND ASTROPHYSICS



PROF. EVE VAVAGIAKIS

DUKE UNIVERSITY



Rapid developments in instrumentation and highly sensitive superconducting detectors have provided a wealth of arcminute-scale cosmic microwave background (CMB) data. These measurements are transforming our understanding of the evolution of our cosmos. I will present recent results from the Atacama Cosmology Telescope (ACT) and discuss how our high-resolution CMB maps are at the frontier of Sunyaev-Zel'dovich effect science. I will also summarize the design and status of first light instruments and low temperature detectors for the CCAT Observatory and the Simons Observatory. These experiments will provide unparalleled measurements of the millimeter and submillimeter sky, offering rich opportunities for cross-correlation studies with upcoming surveys and paving the way towards CMB-S4. This will enable novel multifrequency science in the coming years, testing cosmological models and opening new windows on galaxy evolution and fundamental physics.



GRAD 2:30 PM
STUDENT MEET
N' GREET
(PHYSICS 3051)



COFFEE: 3:00 PM
BARKAS LOUNGE
(3049 PHYSICS)



COLLOQUIUM: 3:40 PM
WINSTON CHUNG HALL
(ROOM 138)



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