PHYS 493 Dr. Lau
5 March 2018

Colloquium Date: 5 March 2018
Colloquium Speaker: Dr. Timothy Morton
Colloquium Title: A New Paradigm for Transiting Exoplanets
Speaker Affiliation: Princeton University

Dr. Morton began his talk with a great and in-depth introduction to the theory behind exoplanet transits. He described the probability associated with an observed transit event being a false-positive planet discovery. With the development and deployment of the Kepler telescope, the number of discovered exoplanets increased exponentially overnight, and Dr. Morton led the team that developed statistical modeling to help determine the percentage of false positives which made up the whole population of transit events observed by the Kepler telescope. He showed that the vast majority of the observed transit events were in fact planets, and furthermore how each of the observed exoplanets fell into mass categories. Dr. Morton's research is very interesting, and helped shift the field of astronomy into a more statistical approach for labeling and talking about exoplanets. It would be interesting to learn how machine-learning algorithms could help play a role in future exoplanet research, since the statistical approach and the basic requirements for exoplanets are still being established. Overall I enjoyed Dr. Morton's talk, and look forward to seeing what paradigm shifting ideas he can bring to the field of astronomy with the development of the newest exoplanet telescope project.