
The Search for and Characterization of Exoplanets

Abstract:

The active search for exoplanets is hundreds of years old, though most of our knowledge about them has only been gained in a little more than a decade. I will explain the main methods astronomers use to detect exoplanets, focusing on radial velocity searches and transit photometry which are the two most successful methods to date. The field of exoplanet studies has rapidly moved beyond simply locating planets around other stars to now actually characterizing these planets themselves in order to understand how they compare to our own solar system and what new discoveries they might hold for us. Thus in the second half of my talk, I will present some of the latest techniques used to study exoplanetary atmospheres and show some timely examples from current research in the field.

Bio of Michelle Creech-Eakman:

Dr. Creech-Eakman is an Associate Professor of Physics at NMT. She received her PhD in Physics from the University of Denver in 1997 and came to NMT in 2003 after working as a postdoc at the California Institute of Technology and the Jet Propulsion Laboratory. She is the Principal Investigator on a project to build a near-infrared spectrometer for studying exoplanets, NESSI, to be deployed at the MRO 2.4m telescope. As well, Michelle is the Project Scientist for the MRO Interferometer. Dr. Creech-Eakman's expertise is in the areas of infrared instrumentation and stellar evolution.