

Understanding Brown Dwarf Variability
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Surveys of brown dwarf variability continue to find that roughly half of all brown dwarfs are variable. While variability is observed amongst all types of brown dwarfs, amplitudes are typically greatest for L-T transition objects. In my talk I will discuss the possible physical mechanisms that are responsible for the observed variability. I will particularly focus on comparing and contrasting the effects of changes in atmospheric thermal profile and cloud opacity. The two different mechanisms will produce different variability signatures and I will discuss the extent to which the current datasets constrain both mechanisms. By combining constraints from studies of variability with existing spectral and photometric datasets we can begin to construct and test self-consistent models of brown dwarf atmospheres. These models not only aid in the interpretation of existing objects but also inform studies of directly imaged giant planets.