

The University of Texas at San Antonio

# UTSA Physics and Astronomy



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### **The Origin and Demographics of Long-Period Giant Planets**

Direct imaging is a powerful method to probe the architectures, atmospheres, and formation of long-period giant planets. Large dedicated surveys have provided insight into the frequency and demographics of this population over the past decade with progressively improved precision, offering valuable clues about the efficiency with which planets form and migrate at wide orbital distances. I will review recent observational programs aimed at understanding the overall occurrence rates, circumplanetary disk properties, dynamical masses, and subtler statistical properties of directly imaged exoplanets. Together these multi-faceted approaches are beginning to clarify the dominant origin of these companions and their relationship with planets at smaller separations. In the future, imaging exoplanets will become routine with JWST, the ELTs, and WFIRST, paving the way for a dedicated space-based mission to image and characterize Earth analogs.

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