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Stellar and Substellar Companions to Nearby Field M-dwarfs and Young Solar-type Stars

Stellar multiplicity provides a critical observational signature of the star formation process, and binaries and higher-order systems have important implications for planet formation and evolution. High-resolution direct imaging provides the capability to search for companions with projected separations covering a few AU outwards for the nearest stars. We present results from two studies probing the binary properties of nearby stars: (1) The MinMs (M-dwarfs in Multiples) volume-limited survey of 245 field M-dwarfs within 15 pc, and (2) an on-going MagAO/Clio2 AO imaging search for wide orbit giant planets and brown dwarfs to Gemini Planet Imager (GPI) Exoplanet Survey targets. The M-dwarf and solar-type studies cover both old (>5 Gyr) and young (10 - 70 Myr) populations, respectively, and provide benchmark measurements on the distributions of their stellar and substellar companions.