

Wu, Ya-Lin

Magellan AO Imaging of 1RXS1609 B: Evidence of a Dusty Disk

We used the Magellan AO system to image the 11 Myr substellar companion 1RXS1609 B at 0.9 and 1 micron. We found a higher temperature $T \sim 2000$ K, a significant extinction of $A_V \sim 4.5$ mag, and a higher mass of 0.012 to 0.015 M_{sun} . We suggest that 1RXS1609 B is likely a low-mass brown dwarf surrounded by a dusty disk, and it may have formed like a star out at 320 AU.