Biddle, Lauren

Revised Planetary and Stellar Parameters of Warm Ice Giant, GJ 3470b

We present a homogeneous analysis of 21 broadband photometric transit observations of the Uranus-sized extrasolar planet, GJ 3470b, which we use to characterize the physical parameters of the orbiting body. To aid our analysis we also utilize spectroscopic measurements of the M-dwarf host star from 0.33 to 2.42μm, allowing us to more precisely ascertain the properties of the system. We also perform an analysis of the transmission spectrum of the entire ensemble of ground-based transit observations to date, supporting the existence of a H2 dominated atmosphere exhibiting a strong Rayleigh scattering slope.