Unveiling an exoplanetary Neptunian atmosphere through multiband transit photometry

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The "effective" radius of a planet is a function of wavelength due to scattering and/or absorption processes, and we can exploit simultaneous multiband transit photometry to probe the atmospheric scale height and composition. We present new photometric data of the recently discovered "hot Uranus" GJ3470b, gathered with the LBC camera at LBT. Light curves of unprecedented accuracy (0.0012 mag in U and 0.00028 mag in a narrow band centered at 972 nm) allowed us to measure an increasingly larger planetary radius at shorter wavelengths, which we interpret as a signature of Rayleigh scattering by a large scale height atmosphere. Further follow-up observations to confirm this result and probe the presence of specific atomic and molecular species is ongoing.