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Institution: Dept of Astronomy, University of Maryland at College Park
Title: A Statistical Characterization of the Atmospheres of Kepler's

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Abstract: Characterizing Transiting Planets

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We present a method to detect small atmospheric signals in Kepler's planet candidate light curves by transforming and averaging light curves for multiple candidates with similar orbital and physical characteristics. This statistical method greatly increases the signal to noise, allowing for very small signals to be detected. We are looking for reflected light and/or thermal emission at secondary eclipses of planets significantly smaller than hot Jupiters. We also apply a similar method to search for signatures of light refracted by the planetary atmosphere just outside of transit.