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Title: New Small Habitable Zone Candidates from Q1-Q12
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Abstract: Natalie Batalha - NASA Ames Research Center
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We report on the status of 12 new habitable zone small planet candidates uncovered in the search of the first three years of Kepler data (Quarters 1-12). We began this work as part of the triage and vetting procedure on the pipeline results from the Transiting Planet Search and Data Validation, which were released to the NASA Exoplanet Archive in December 2012. We selected nearly 400 detections with small ($R_p < 2 R_{\text{earth}}$) cool ($T_{\text{eq}} < 303\text{K}$) planet models having a signal-to-noise ratio > 7.0 . Importantly, nearly $2/3$ of the 400 detections meeting our cuts were due to focal plane image artifacts that are particularly vexing at periods of 1 year. Using the Data Validation products, UKIRT images, and autovetter results, we whittled the list down to 12 strong candidates. We have obtained Keck HIRES spectra and Keck Adaptive Optics images, and have run BLENDER on these candidates, four of which are in multiple planet systems. If these candidates are validated they will nearly double the number of small habitable zone planets uncovered by Kepler so far.