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Title: A Planet Hunters Assessment of the Kepler TCE Inventory  
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Abstract: M.E. Schwamb (1), C. J. Lintott(2,3), D. A. Fischer (4), A. M. Smith (3), T. S. Boyajian (4), J. M. Brewer(4), M. J. Giguere (4), S. Lynn (3), K. Schawinski (5) , J. Schmitt (4), R. J. Simpson(2), J. Wang (4)

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Planet Hunters (<http://www.planethunters.org>), part of the Zooniverse (<http://www.zooniverse.org>) collection of citizen science projects, uses the power of human pattern recognition via the World Wide Web to identify transits in the Kepler public data. We have demonstrated the success of a citizen science approach with the project's 20 planet candidates not previously identified by the Kepler team, the discovery of PH1b, a transiting circumbinary planet in a quadruple star system, and the discovery of PH2-b, a confirmed Jupiter-sized planet in the habitable zone of a Sun-like star.

The Kepler planet candidate list is produced through expert assessment of the detections from several runs of the automated Transit Planet Search (TPS) algorithm; to test the completeness of this we have undertaken an independent crowd-sourced effort to perform a systematic search of the 18,406 potential transit signals or threshold-crossing events (TCEs) identified in the first twelve quarters (~1000 days) by TPS. With the Internet we can obtain multiple assessments of each TCE. Planet Hunters volunteers evaluate whether a transit is visible in the Kepler light curve folded on the expected period, with 10 independent assessments per TCE. Classifications were obtained over a 2 month period with contributions from 439 Planet Hunters volunteers. We present the first results of this analysis, a significant extension to existing Planet Hunters efforts.

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