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Title: A search for giant planets orbiting M giant stars in the Kepler database
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Planetary occurrence rate with respect to stellar type has been found to increase with increasing stellar mass for late type stars. However, doppler and transit detection of planets orbiting A-stars is difficult due to stellar noise and low transit probabilities. Observations of evolved A-stars with large radii promise to increase the probability of transit detection. We have examined the light curves of a sample of ~350 Kepler late type M stars for evidence of planetary transits. We identified our sample through a combination of colors, effective temperatures, and estimates of surface gravities. Our pipeline is capable of extracting periodic behavior from these light curves. We find no evidence for detectable planetary transits at the 3.7 sigma level. While previous results in the literature suggest that Jupiter-sized planets should occur around as many as 20% the dwarf-type progenitors of these stars, we find no evidence for detectable planetary transits at the 3.7 sigma level. We do note that there may be many physical mechanisms through which planets could be lost, or rendered difficult to observe.