
Sixty new non-eclipsing BEER binaries discovered in CoRoT lightcurves confirmed by RV from AAOmega

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Abstract

We present the discovery of sixty new non-eclipsing short-period. The CoRoT lightcurves of the newly discovered binaries displayed periodic photometric modulations with amplitudes of 0.5–80 mmag. They were confirmed in a seven-night campaign at the AAOmega multi-object spectrograph. The medium-resolution spectra yielded ~ 1 km/s RV precision, confirming 60 of the BEER candidates to be binaries with RV semi-amplitudes of the primary stars of 10-100 km/s. Together with the discovery of the first seven BEER binaries in the Kepler lightcurves and the first BEER planet, Kepler-76b (Faigler et al. 2012, 2013), the binaries reported here demonstrate the potential of the BEER algorithm to detect numerous short-period non-eclipsing binaries using space-based photometric lightcurves. With the upcoming TESS and PLATO missions, BEER has the potential to detect thousands of previously unknown short-period binaries and brown dwarfs around nearby bright stars.

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