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# A search for circumbinary planets in CoRoT eclipsing binary light curves

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## Abstract

Several transiting circumbinary planets have been found in data of the Kepler mission. Both CoRoT and Kepler have surveyed similar numbers of stars, and the photometric precision of CoRoT is sufficient that it could detect most of the known circumbinary planets; the main draw-back by CoRoT is much shorter coverage. Still, there is a high chance that some circumbinary planets may be found in its sample of eclipsing binaries. For CoRoT data, such a search had previously been done only on a subsample of its first runs. This, and the development of a faster and more sensitive search algorithm, motivates us to search the whole CoRoT data-set for the presence of such planets. The task is not easy because of instrumental effects, especially jumps in the CoRoT light curves, which frequently mimic transit-like events. Our algorithm considers the quasi-periodic nature of circumbinary transits as well as their varying transit lengths and transit depths and has been implemented as a parallel code. For initial testing, the algorithm was able to detect previously known circumbinary planets in Kepler data. Currently, the first CoRoT runs are being searched systematically, and some interesting candidates have been found. Results from successive runs and from a more detailed analysis of the candidates are expected to be presented at the conference.

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