
Transiting sub-stellar companions of Intermediate-mass stars

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Abstract

We use the CoRoT-survey to search for transiting close-in planets of intermediate-mass stars ($M = 1.3\text{-}2.1 M_{\text{sun}}$). In this talk we will be presenting the statistics of the transiting companions, found as result of our survey.

RV-surveys and direct imaging campaigns showed, that intermediate-mass main-sequence stars have more massive planets than solar-like stars. Even brown dwarfs have been found and many of these stars have planets with masses near the border between planets and brown dwarfs. In our study we concentrated on short-period planets for which a mass-determination is possible. Determining the fraction of close-in planets of intermediate-mass stars is important, because Spitzer observations show that the life-time of the proto-planetary disks of such stars is half as long as the life-time of disks of solar-like stars. The detection of close-in planets of intermediate-mass stars therefore would put strong constraints on the timescales of the formation and migration. Furthermore while determining the physical parameters of such close-in objects we can study the evaporation rate of planets. We already have identified transiting Jupiter-like planet candidates with short orbital periods and observed these candidates with high-resolution echelle-spectrographs at various Telescopes.

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