

Kinematics of exoplanet host stars: membership in young moving groups and the thin/thick disc

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Abstract

We present a detailed study of the kinematics of known exoplanets host stars with known parallactic distance and precise proper motion and radial velocity measurements, from where the Galactic space motions (U , V , W) were computed. For the stars with U and V velocity components inside or near the boundaries that determine the young disc population, we have analyzed the possible membership in the classical moving groups and nearby loose associations with ages between 10 and 600 Ma. For the candidate members, we have compiled the information available in the literature in order to constrain their membership by applying age-dating methods for late-type stars. We identify several dozen young exoplanet host star candidates, many of which were considered to have solar-like ages. We also look for old exoplanet host stars in the Galactic thick disc and the thin-thick transition.

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