

Application of Exoplanetary database ExoKyoto into data archives for water planetary candidate

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In this survey, we will introduce strategic approach of extracting potentially water-planetary body candidate by using ExoKyoto - Extrasolar planetary database. Most of the earth-sized planets discovered by primary transit method does not possess its mass information and, thus, not confirmed as rocky and/or water planet. However it is an important approach to initially list-up potential candidate as water planets by mixing CHZ criteria, radiation from the host star, associated UV radiation in order to estimate roughly atmospheric escape ratio, and stellar flare impacts. Also for those planets located in the inner zone of CHZ we may assume the presence of water when planets are completely tidally locked. Moreover, for those stars with known mass the ExoKyoto module provides orbital period range for those planets fit in the CHZ - between Moisture Greenhouse Limit and Maximum Greenhouse Limit determined by Kopparapu et al.2013. The calculated period range for potential water planets are described in the system as "Water Planet Period" in the ExoKyoto application, enabling the target transit period seeking for potential "Water planet hunting".

Keywords: CHZ, Water planet