Correlations between exoplanets and ZTF alerts

Since the discovery of the first planets outside the Solar System, in the beginning of the 90's, various new techniques, dedicated programs and space missions have been conceived to find new exoplanets and characterizing the known ones. Nowadays, we know more than 5500 exoplanets, a number which might sound low if we consider that more than 30 years have passed and the amount of effort dedicated to the task. Most of known exoplanets are found using the primary transit technique, which requires light curves to be obtained periodically in order to detect eventual dips caused by the passage of a planet in front of the star. In this work, we compared a list of coordinates for the more than 4100 stars with confirmed exoplanets with the transient alerts generated by the Zwicky Transient Facility. We search for correlations between the matches and parameters such as planetary size and semi-major axis, number of planets in the system and stellar type.

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