

Título/Title:

Search for transiting planets in K2 light curves

Orientador/Supervisor:

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Local do Estágio/Host Place:

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Descrição/Description:

The NASA-Kepler satellite has revolutionized extra-solar planet sciences. Thousands of exoplanets have been discovered in its data and many more are still waiting to be discovered. We have developed a software to analyze these data and detect transits, the tell tales of the presence of an extra-solar planet.

This project aims at applying this software to search for new transiting extra-solar planets and specifically systems with multiple planets. Multi-planetary systems are particularly valuable to understand the formation of planets in general.

Our software has already allowed to find hundreds of planetary systems with up to 5 exoplanets and many more interesting candidates await to be discovered.

The student will produce a list of candidates and learn how to screen and prioritise them. The best candidates will be then followed-up up with state-of-the-art spectrographs like ESPRESSO installed at the ESO-VLT telescope. These observations will allow to confirm the planetary nature of the candidates and measure their mass and density. It is expected that the student will be involved in the scientific publications announcing the extra-solar planets discovered during the course of this project.

Requisitos/Requirements:

The software is mostly written in the Python programming language. Therefore, the candidate should be able and willing to program in Python.