Machine Learning to detect pulsations in M dwarfs radial velocity time series

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Abstract

PLATO mission will deliver hundredths of thousands of high precision light curves, and ground-based spectroscopic RV observations of thousands of interesting targets will follow. Machine Learning techniques must be applied to get insights from such a huge volume of data. We present an example of the application of Machine Learning techniques to search for pulsations in ground-based RV observations of M dwarfs. Thermodynamically and solar-like pulsations have been theoretically predicted for M dwarfs, but not yet detected observationally. PLATO mission will deliver high precision light curves for more than 5000 M dwarfs, that are also amenable of these ML techniques for pulsation searches.

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