



Universiteit
Leiden
The Netherlands

Parameters of red dwarf exoplanetary host stars

Fridlund, C.W.M.; Persson, C.

Citation

Fridlund, C. W. M., & Persson, C. (2022). Parameters of red dwarf exoplanetary host stars. *Bulletin Of The American Astronomical Society*, (5), 102.216. Retrieved from <https://hdl.handle.net/1887/3562752>

Version: Publisher's Version
License: [Creative Commons CC BY 4.0 license](https://creativecommons.org/licenses/by/4.0/)
Downloaded from: <https://hdl.handle.net/1887/3562752>

Note: To cite this publication please use the final published version (if applicable).

Bulletin of the AAS • Vol. 54, Issue 5

Parameters of Red Dwarf Exoplanetary Host Stars

Carl Fridlund¹ Carina Persson²

¹Leiden Observatory, ²Chalmers University of Technology

Published on: Jun 20, 2022

URL: <https://baas.aas.org/pub/2022n5i102p216>

License: [Creative Commons Attribution 4.0 International License \(CC-BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

The next generation of spacecrafts such as PLATO (ESA) and ARIEL (ESA) that are dedicated to exoplanetary research will focus on detailed studies of planetary parameters with the goal to understand under what circumstances different types of planets and systems form and evolve. Currently CHEOPS (ESA), is a small satellites with aa unique instrument, dedicated to measure light curves with unprecedented precision in order to extract a maximum of information from individual transits of exoplanets. In order to perform such a task, detailed knowledge of the host star itself is required. The precision in measurements of exoplanetary parameters stems to a large extent from uncertainties in the knowledge of the stellar host parameters. As we progress to smaller and cooler host stars, this analysis becomes progressively more complex. This is unfortunate because low-mass stars enable easier discovery and characterization of exoplanets, in particular small planets. With upcoming new missions the treatment of red dwarf host stars becomes very important. Here we discuss different methods and conclude that a multi-method approach, including comparison with library spectra, detailed spectral analysis, as well as SED fitting of photometric data , is necessary in order to get the best results.