Small and rocky worlds orbiting M dwarfs:

GJ 3473 b (Kemmer et al .2020)

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GJ 3929 b (in prep.)

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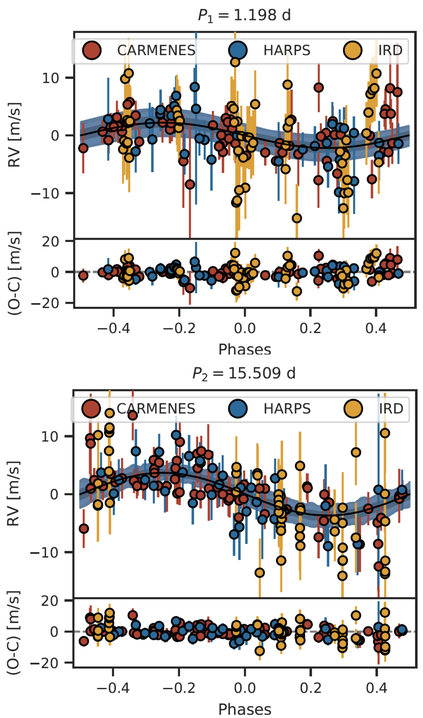
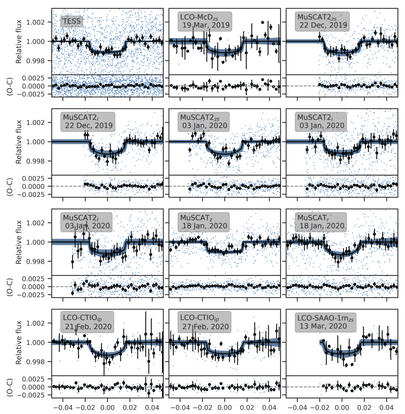
Abstract. GJ 3473 b is a hot, rocky, planet (P_b = 1.198 d, M_b = 1.86 ± 0.30 M_e, and radius, R_b = 1.264 ± 0.050 R_e), which is due to its high temperature and the brightness of its M4 host star a particularly attractive target for thermal emission spectroscopy. Further it is accompanied by another non-transiting planet (P_c = 15.509 ± 0.033 d) that has a minimum mass of M_c sin(i) = 7.41 ± 0.91 M_e.

Abstract. The preliminary analysis of GJ 3929 b yields a period of P_b = 2.616 d, mass M_b = 2.03 ± 0.59 M_e, and radius, R_b = 1.155 ± 0.043 R_e. The radial velocity data show evidence for another signal that is likely related with stellar activity.





Figures: *(left)* phase-folded RV plots of the two planets. *(top)* phase-folded transit light curves of GJ 3473 b. In all figures the blue shaded regions denote the 68, 95, and 99% credibility intervals, and the residuals are shown in the lower panels

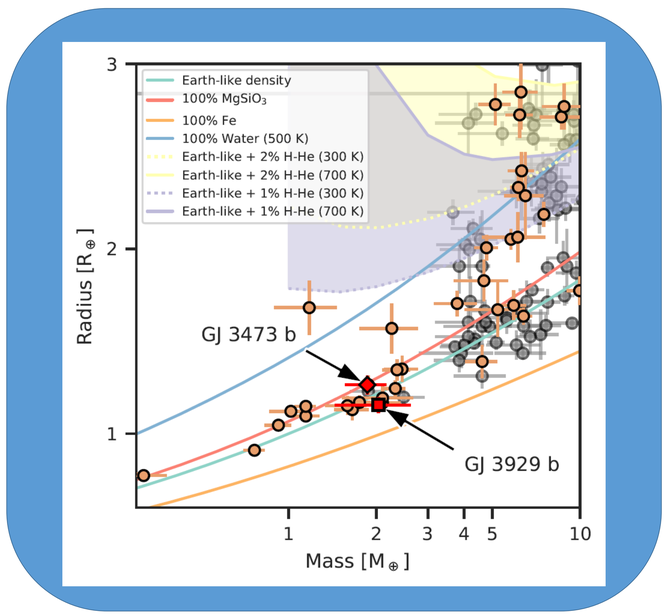
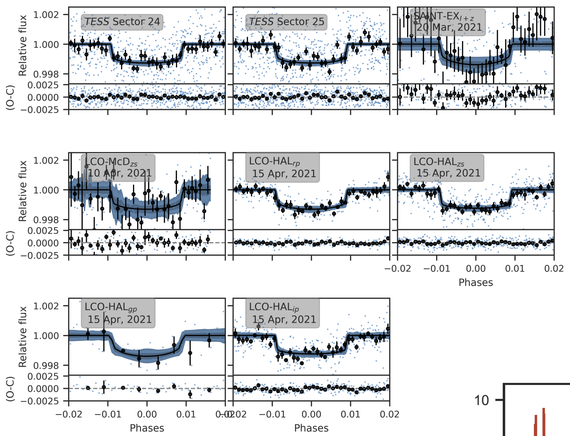
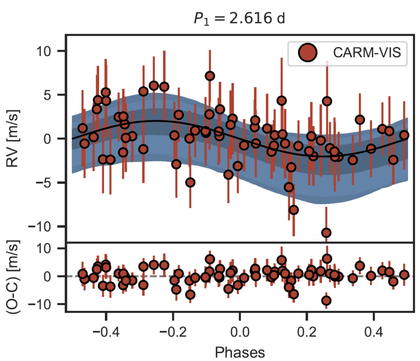


Figure: Mass-radius diagram based on the TEPcat catalogue (Southworth 2011, visited on 2 July 2021). Planets orbiting stars with temperature T_{eff} < 4000K are displayed in orange colour, while the rest is displayed as grey circles. GJ 3473 b and GJ 3929 b are marked with a red diamond and square, respectively. For comparison, theoretical mass-radius relations from Zeng et al. (2019) are overlayed.



Figures: *(left)* phase-folded transit light curves of GJ 3929 b. *(bottom)* phase-folded RV curve. In all figures the blue shaded regions denote the 68, 95, and 99% credibility intervals, and the residuals are shown in the lower panels



References: Kemmer, J., Stock, S., Kossakowski, D., et al. 2020, A&A, 642, A236
Southworth, J. 2011, MNRAS, 417, 2166
Zeng, L., Jacobsen, S. B., Sasselov, D. D., et al. 2019, Proc. Natl. Acad. Sci USA, 116, 9723