

Description of additional supplementary files

Name: Supplementary Data 1

Description: Those parts of the 1800-sec-binned TESS observational data, which were used for the spectro-photodynamical analysis (see in the Methods section)

The data columns are:

Col. 1: BJD - 2400000[in days]

Col. 2: Normalized (or relative) flux

Col. 3: Observational uncertainties (in normalized flux)

Name: Supplementary Data 2

Description: The original Sloan-z' filtered GAO80 observations of TIC 120362137 (see in the Methods section).

The data columns are:

Col. 1: BJD - 2400000[in days]

Col. 2: Normalized (or relative) flux

Col. 3: Observational uncertainties (in normalized flux)

Name: Supplementary Data 3

Description: The original Sloan-r' filtered BAO80 observations together with the Cousins R observations of other observers of TIC 120362137 (see in the Methods section).

The data columns are:

Col. 1: BJD - 2400000 [in days]

Col. 2: Normalized (or relative) flux

Col. 3: Observational uncertainties (in normalized flux) - where this was not available, the value is zero

Name: Supplementary Data 4

Description: The 900-sec binned Sloan-z' filtered GAO80 observations of TIC 120362137, which were used for the spectro-photodynamical analysis (see in the Methods section).

The data columns are:

Col. 1: BJD - 2400000[in days]

Col. 2: Normalized (or relative) flux

Col. 3: Observational uncertainties (in normalized flux)

Name: Supplementary Data 5

Description: The 900-sec-binned Sloan-r' filtered BAO80 observations together with the Cousins R observations of other observers of TIC 120362137, which were used for the spectro-photodynamical analysis (see in the Methods section).

The data columns are:

Col. 1: BJD - 2400000 [in days]

Col. 2: Normalized (or relative) flux

Col. 3: Observational uncertainties (in normalized flux) - where this was not available, the value is zero

Name: Supplementary Data 6

Description: Times of minima of TIC 120362137. Integer and half-integer cycle numbers refer to primary and secondary eclipses, respectively.

The data columns are:

Col. 1: BJD - 2400000 [in days]

Col. 2: Cycle number

Col. 3: standard deviation [in days]

Name: Supplementary Data 7

Description: TRES Spectrograph Radial Velocity Measurements of TIC 120362137.

Note: missing data is denoted with "..."

The data columns are:

Col. 1: BJD - 2400000 [in days]

Col. 2: RV_Aa [in km/s]

Col. 3: sigma_(RV_Aa) [in km/s]

Col. 4: RV_Ab [in km/s]

Col. 5: sigma_(RV_Ab) [in km/s]

Col. 6: RV_B [in km/s]

Col. 7: sigma_(RV_B) [in km/s]

Col. 8: RV_C [in km/s]

Col. 9: sigma_(RV_C) [in km/s]

Name: Supplementary Data 8

Description: Skalnate Pleso Observatory Velocity Measurements of TIC 120362137.

Note: missing data is denoted with "..."

The data columns are:

Col. 1: BJD - 2400000 [in days]

Col. 2: RV_Aa [in km/s]

Col. 3: sigma_(RV_Aa) [in km/s]

Col. 4: RV_Ab [in km/s]

Col. 5: sigma_(RV_Ab) [in km/s]

Col. 6: RV_B [in km/s]

Col. 7: sigma_(RV_B) [in km/s]

Col. 8: RV_C [in km/s]

Col. 9: sigma_(RV_C) [in km/s]

Name: Supplementary Data 9

Description: Konkoly and Rozhen Observatory Velocity Measurements of TIC 120362137.

Note: missing data is denoted with "..."

The data columns are:

Col. 1: BJD - 2400000 [in days]

Col. 2: RV_Aa [in km/s]

Col. 3: sigma_(RV_Aa) [in km/s]

Col. 4: RV_Ab [in km/s]

Col. 5: sigma_(RV_Ab) [in km/s]

Col. 6: RV_B [in km/s]

Col. 7: sigma_(RV_B) [in km/s]

Col. 8: RV_C [in km/s]

Col. 9: sigma_(RV_C) [in km/s]