

## **SPIRou Line-by-line Radial Velocity**

Object: TOI732, Template: TOI732, Zero-point corrected: True

Number of exposures: 44, Number of epochs: 5

Diagnostic Plots

2023-05-31

**Stellar Parameters**

Host name TIC 36724087  
RA 10:18:34.78  
Dec. -11:43:04.08  
Mass ( $M_{\odot}$ ) 0.36  
Radius ( $R_{\odot}$ ) 0.37  
Lum. ( $L_{\odot}$ ) 0.0155  
Teff (K) 3329  
Spect. type M3.5V  
Dist. (pc) 21.98  
V 13.14  
Gaia 11.85  
J 9.01  
H 8.44  
K 8.20

**Planet Parameters**

Name TOI 732.01  
Mass ( $M_{\oplus}$ ) 1.56  
Radius ( $R_{\oplus}$ ) 1.14  
Density ( $\text{g/cm}^3$ ) 5.8  
Period (days) 0.76839  
Transit depth (ppt) 0.90  
Transit dur. (hr) 1.02  
Orb. sep. (au) 0.012  
Teq (K) 831  
Insolation ( $S_{\oplus}$ ) 112.64  
RV K (m/s) 2.14  
Atmo. sig. (ppm) 22  
TSM 18.5  
ESM 10.2

[Link to ExoFOP](#)

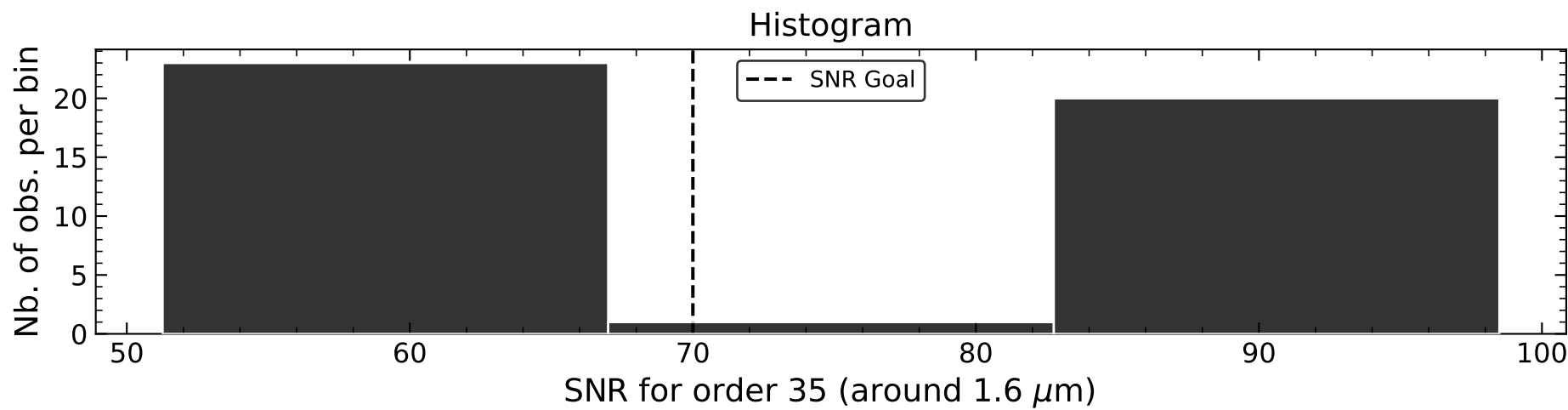
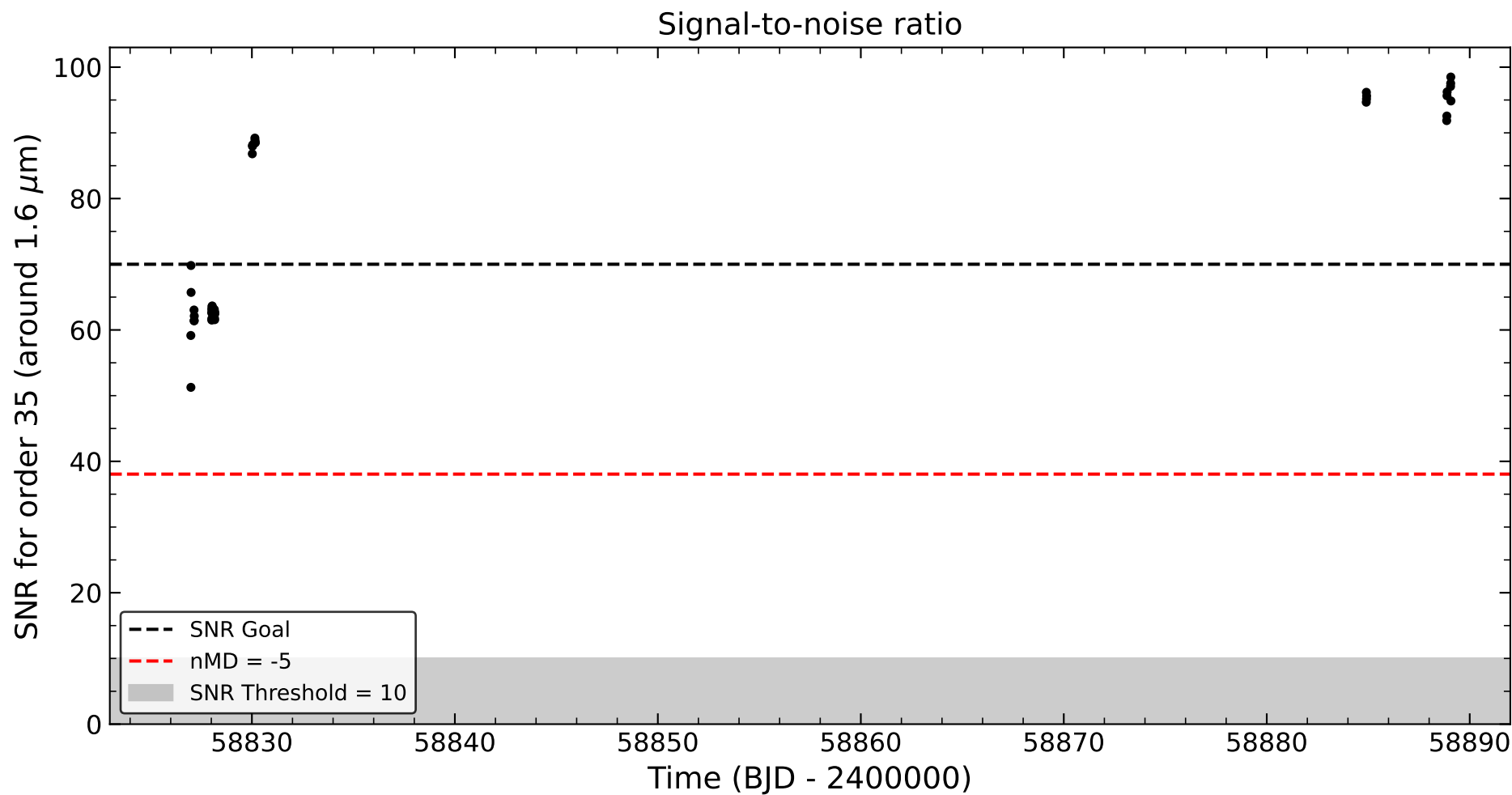
**Stellar Parameters**

Host name TIC 36724087  
RA 10:18:34.78  
Dec. -11:43:04.08  
Mass ( $M_{\odot}$ ) 0.36  
Radius ( $R_{\odot}$ ) 0.37  
Lum. ( $L_{\odot}$ ) 0.0155  
Teff (K) 3329  
Spect. type M3.5V  
Dist. (pc) 21.98  
V 13.14  
Gaia 11.85  
J 9.01  
H 8.44  
K 8.20

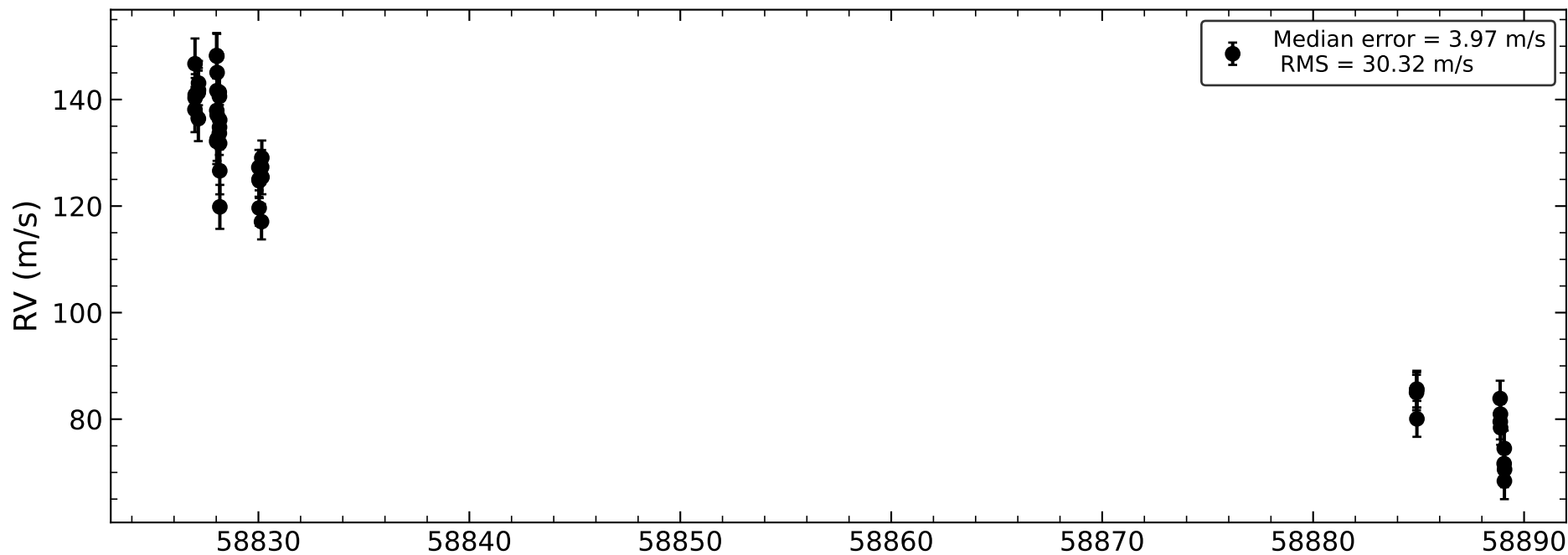
**Planet Parameters**

Name TOI 732.02  
Mass ( $M_{\oplus}$ ) 4.97  
Radius ( $R_{\oplus}$ ) 2.07  
Density ( $\text{g/cm}^3$ ) 3.1  
Period (days) 12.25218  
Transit depth (ppt) 2.99  
Transit dur. (hr) 1.38  
Orb. sep. (au) 0.074  
Teq (K) 330  
Insolation ( $S_{\oplus}$ ) 2.81  
RV K (m/s) 2.71  
Atmo. sig. (ppm) 181  
TSM 92.2  
ESM 1.6

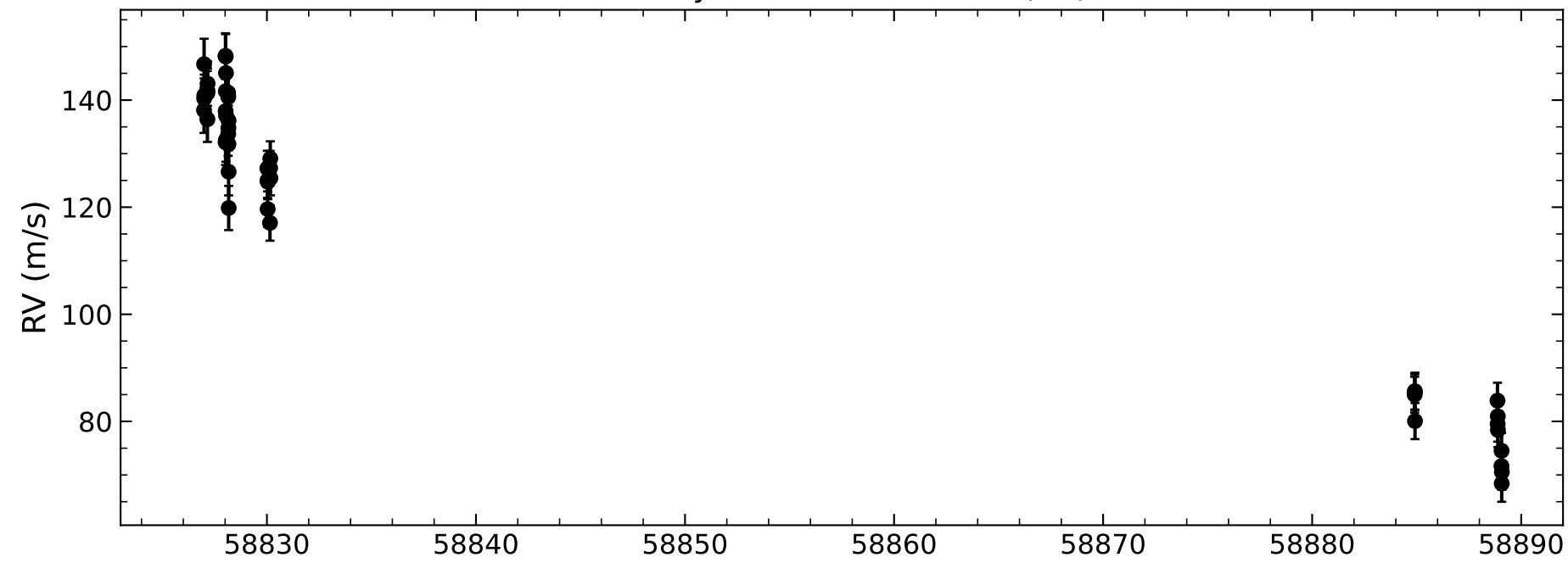
[Link to ExoFOP](#)



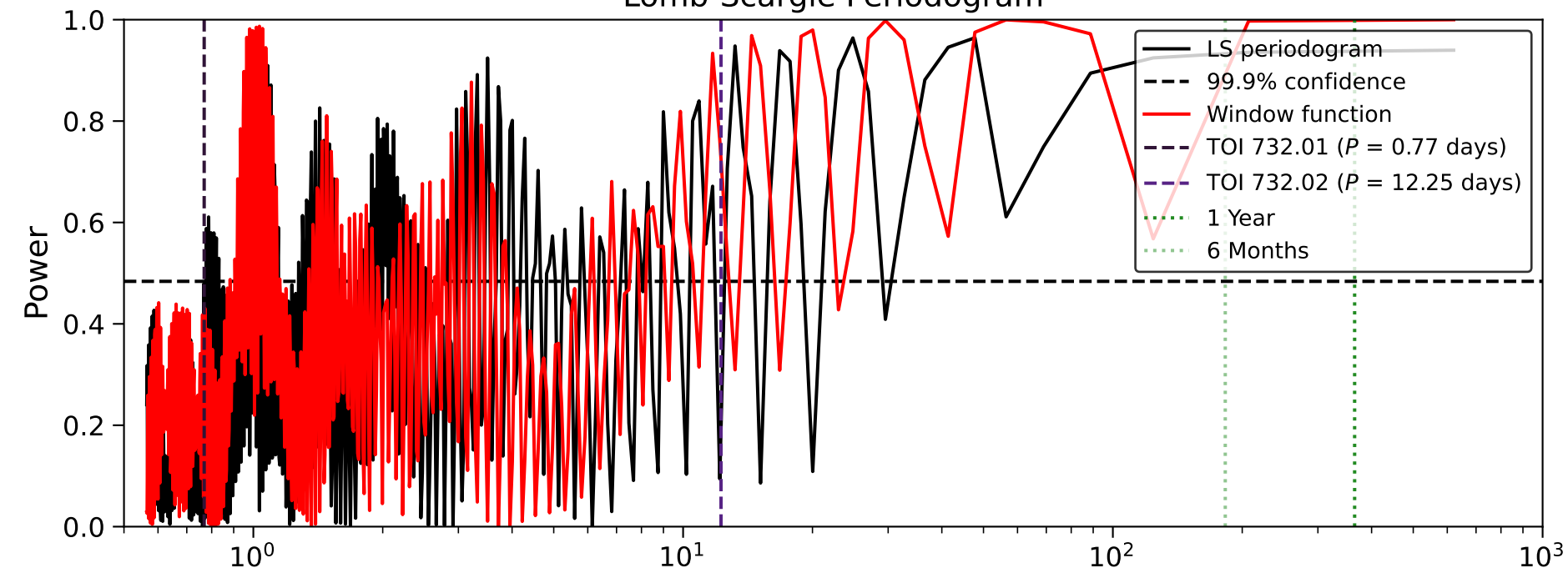
RV Curve



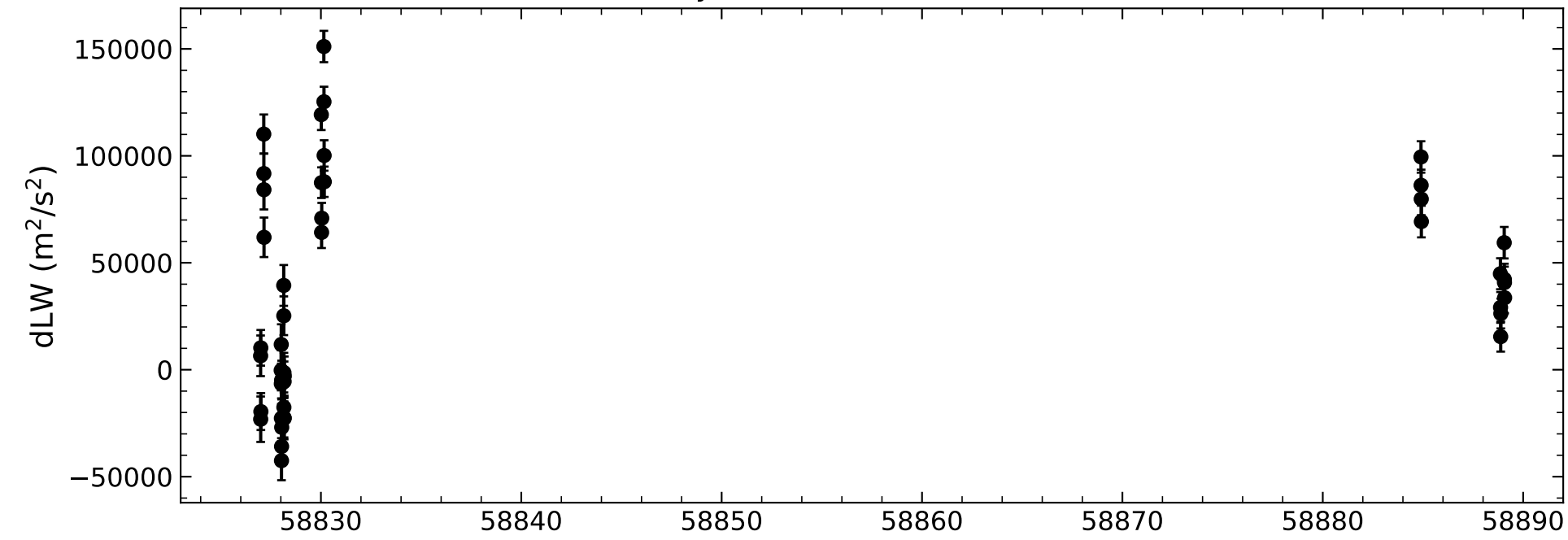
Line-by-line 1st Derivative (RV)



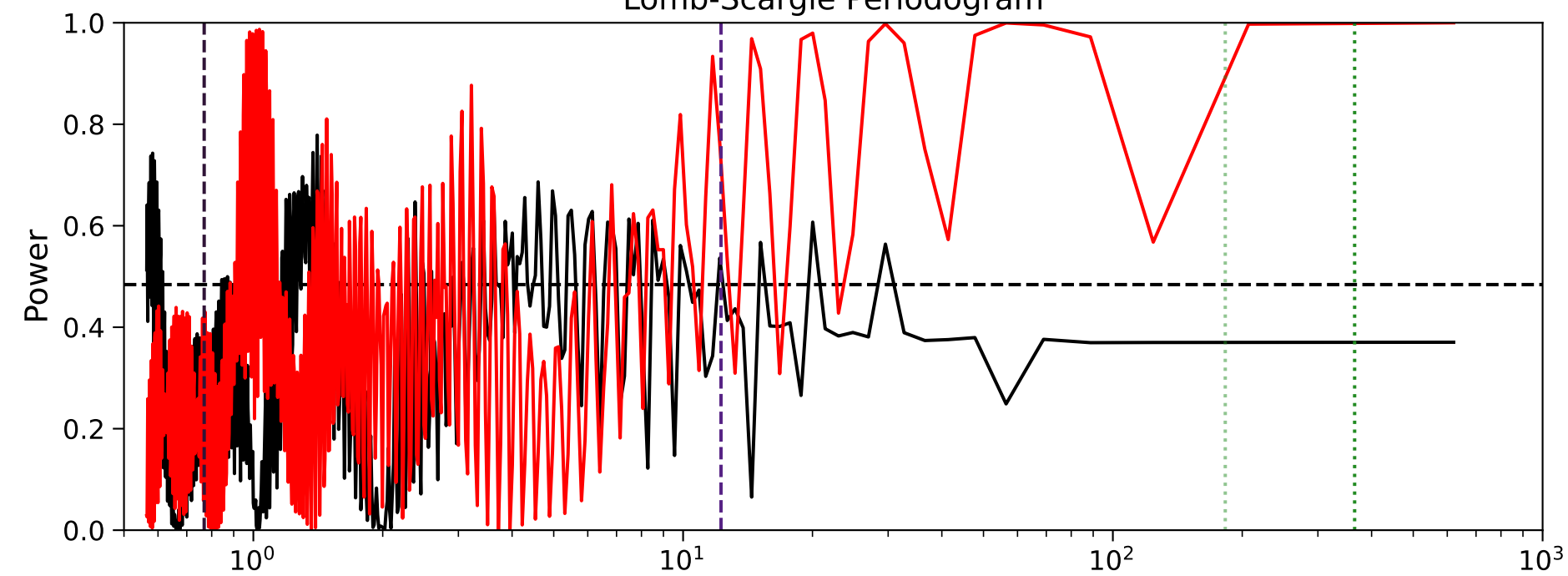
Lomb-Scargle Periodogram



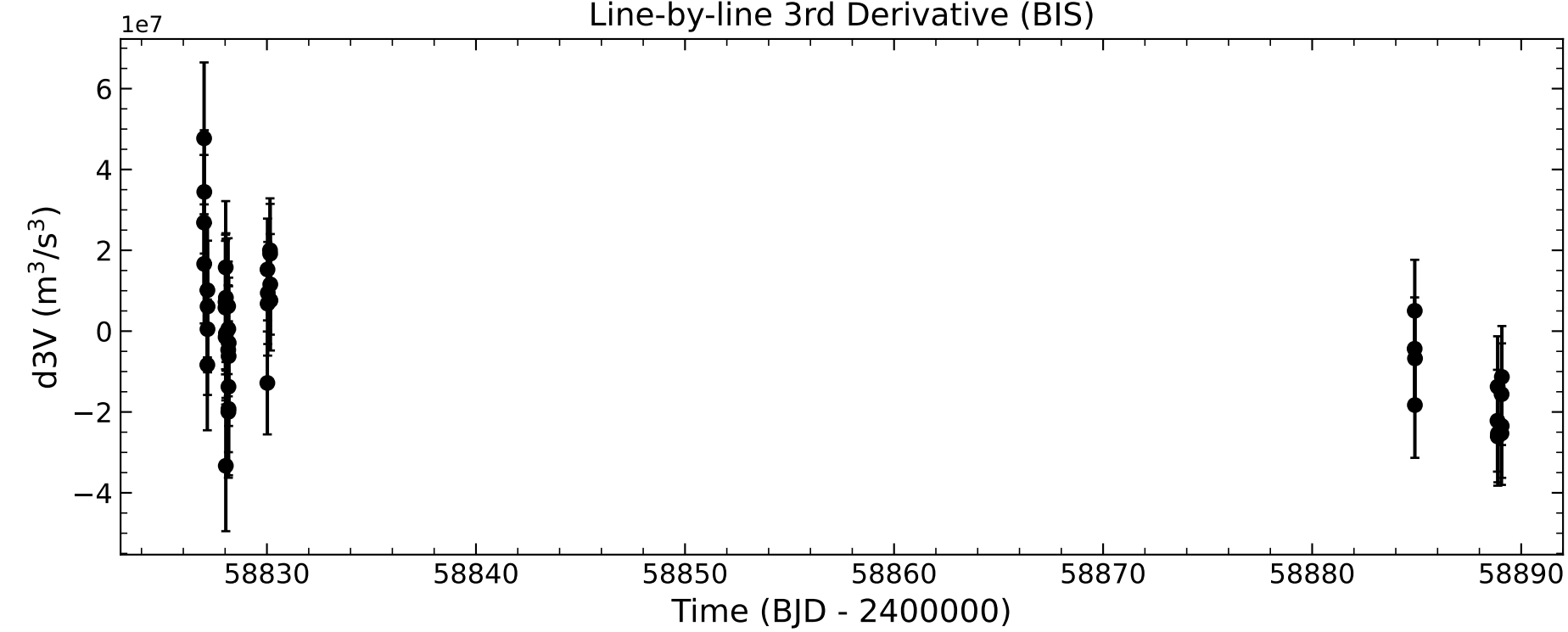
Line-by-line 2nd Derivative (FWHM)



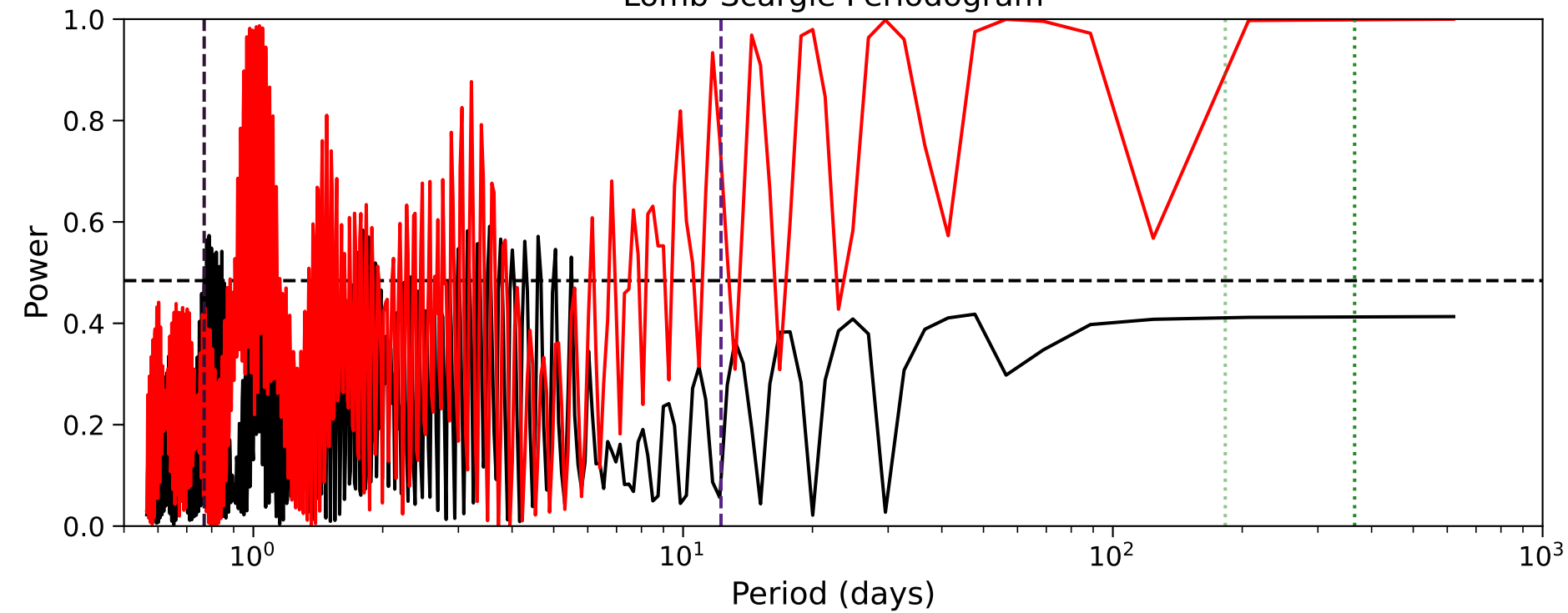
Lomb-Scargle Periodogram

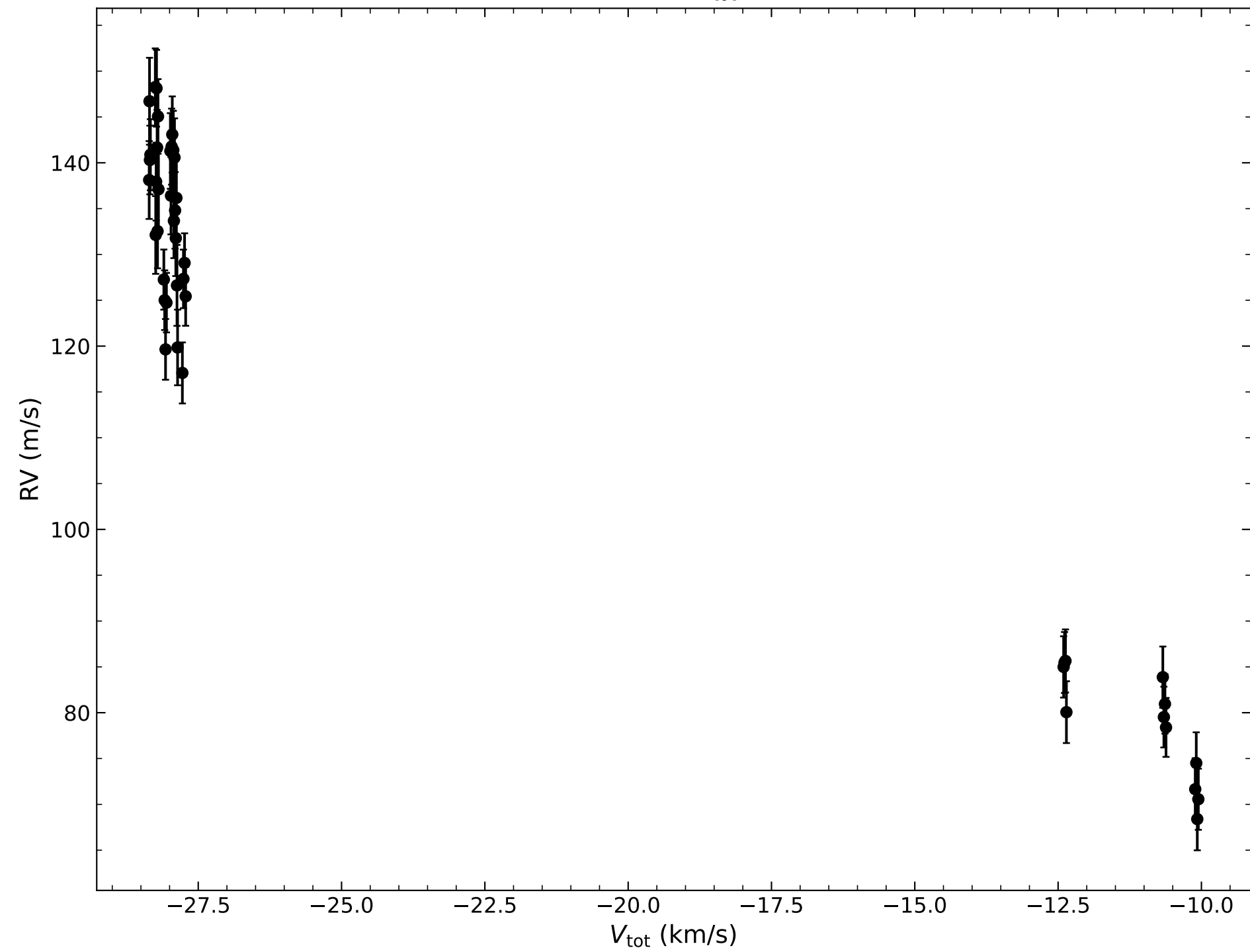


Line-by-line 3rd Derivative (BIS)

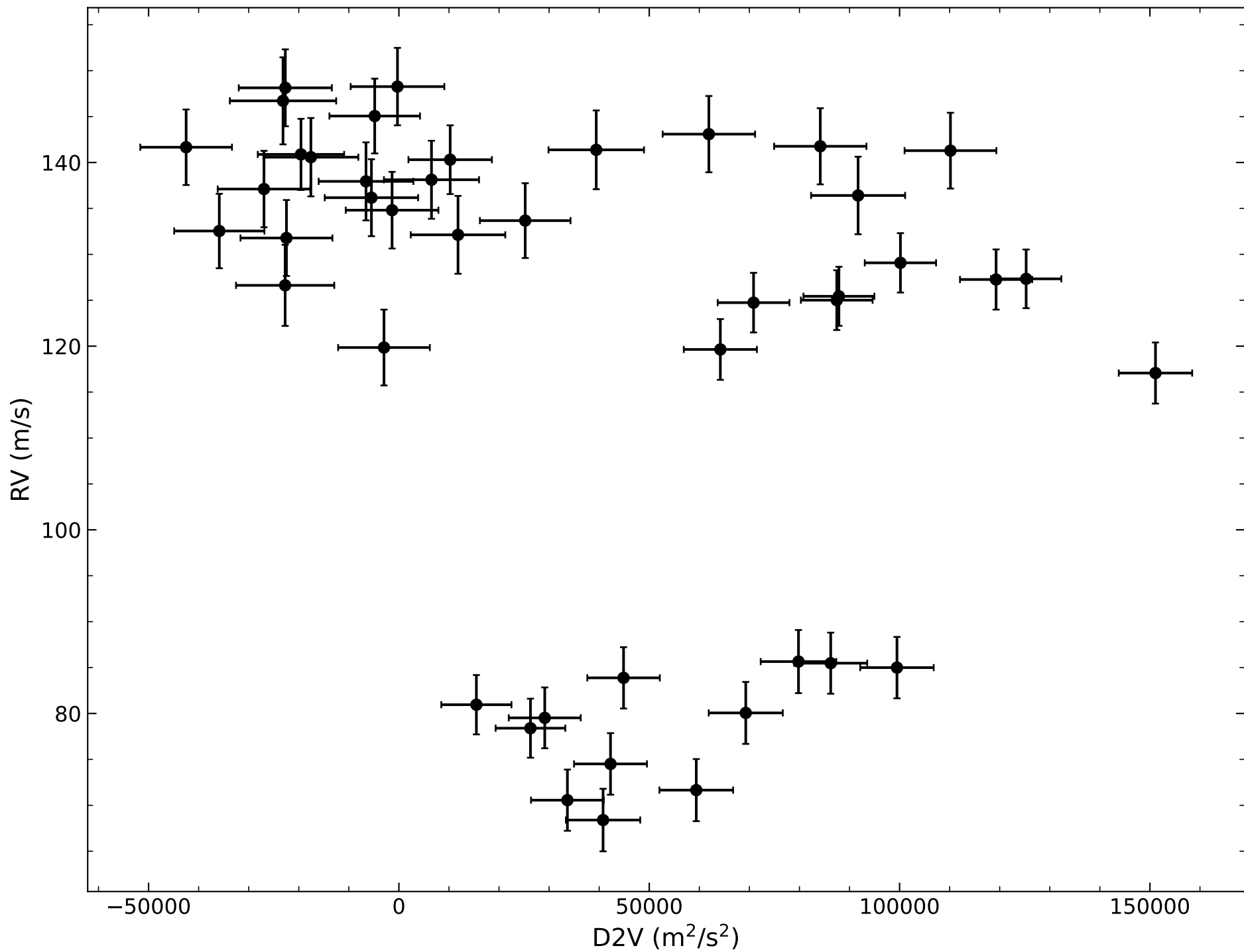


Lomb-Scargle Periodogram



RV vs.  $V_{\text{tot}}$ 

RV vs. D2V





RV vs. D3V

