KIC 11560447'de Soğuk Leke
Göç Hareketi ve Flare Aktivitesi

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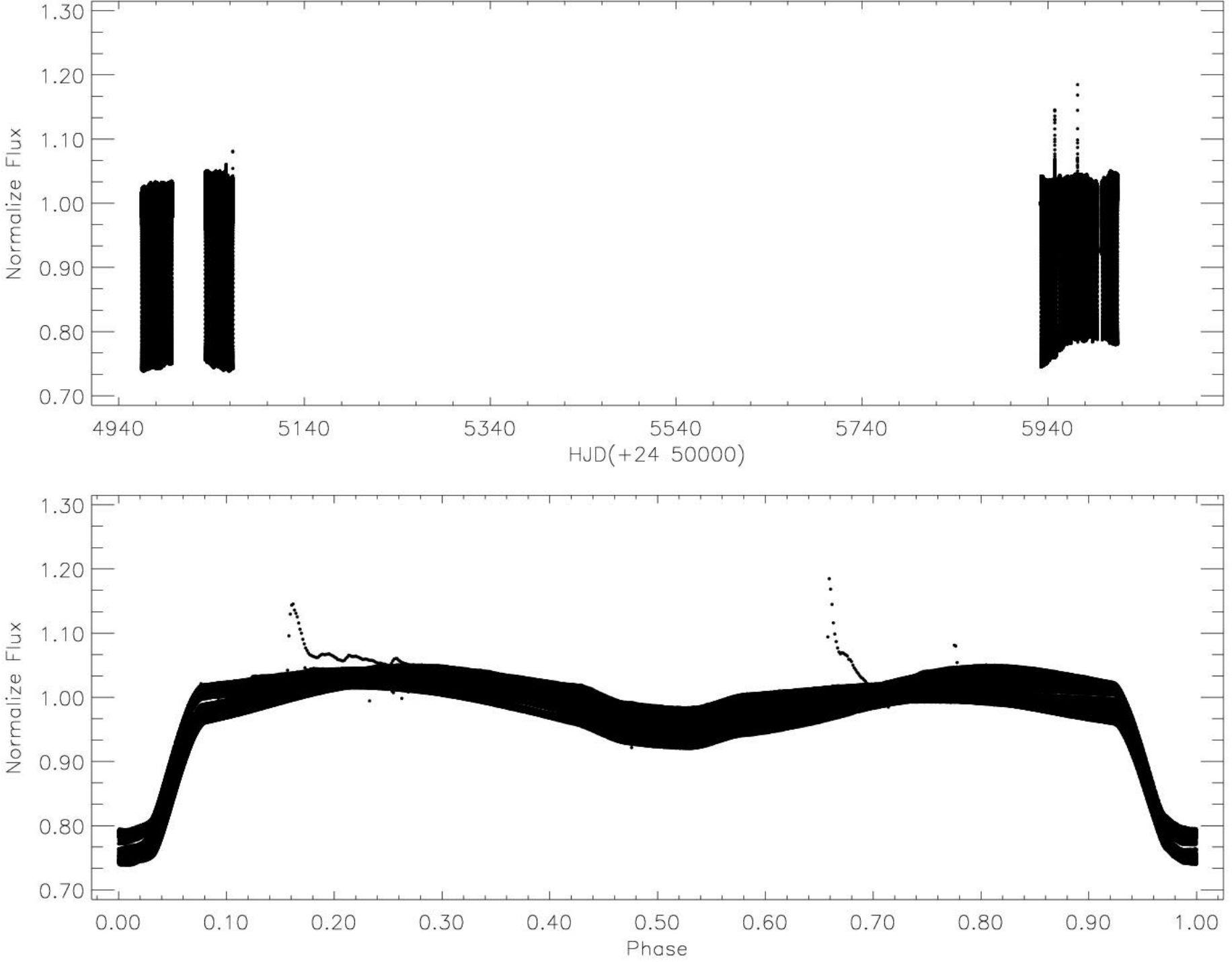
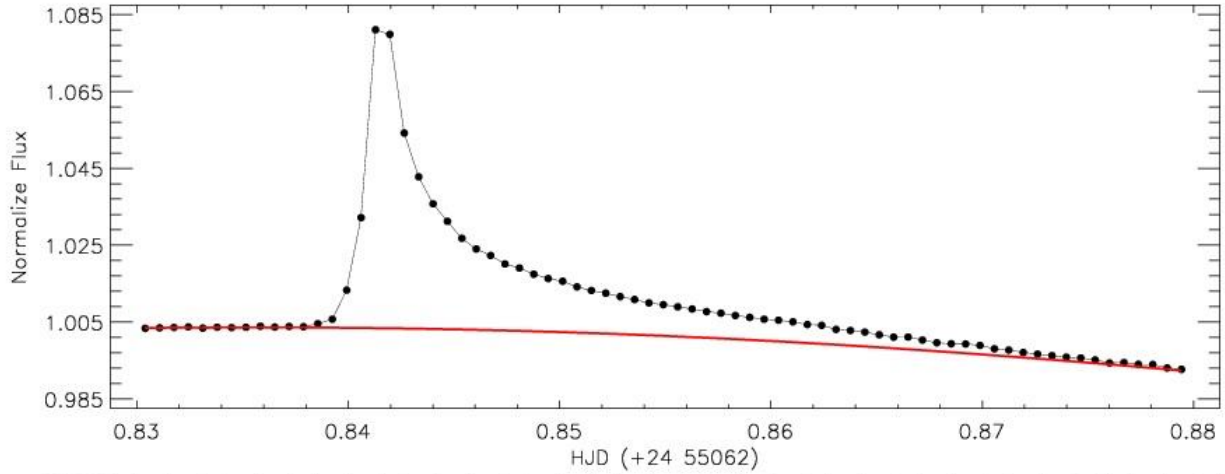
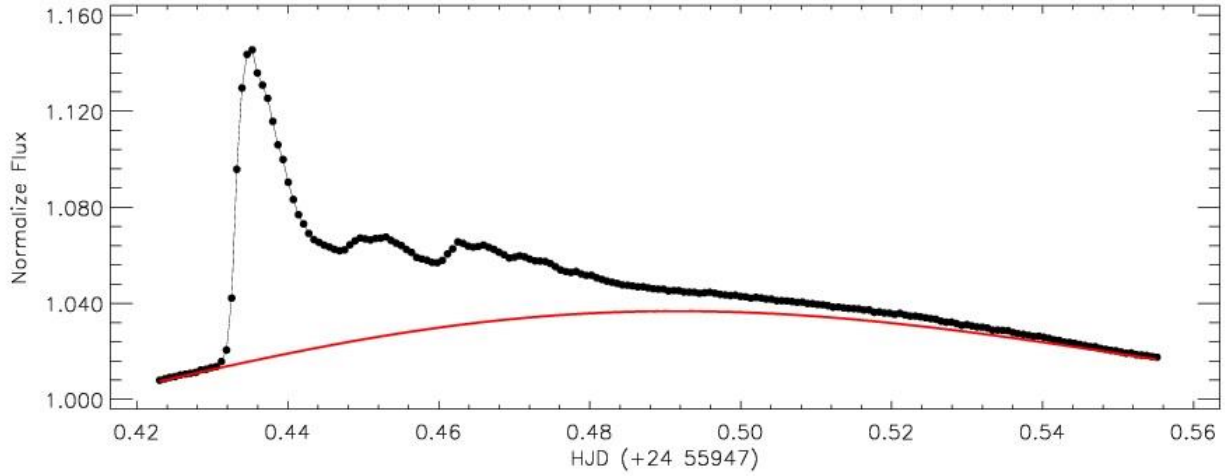
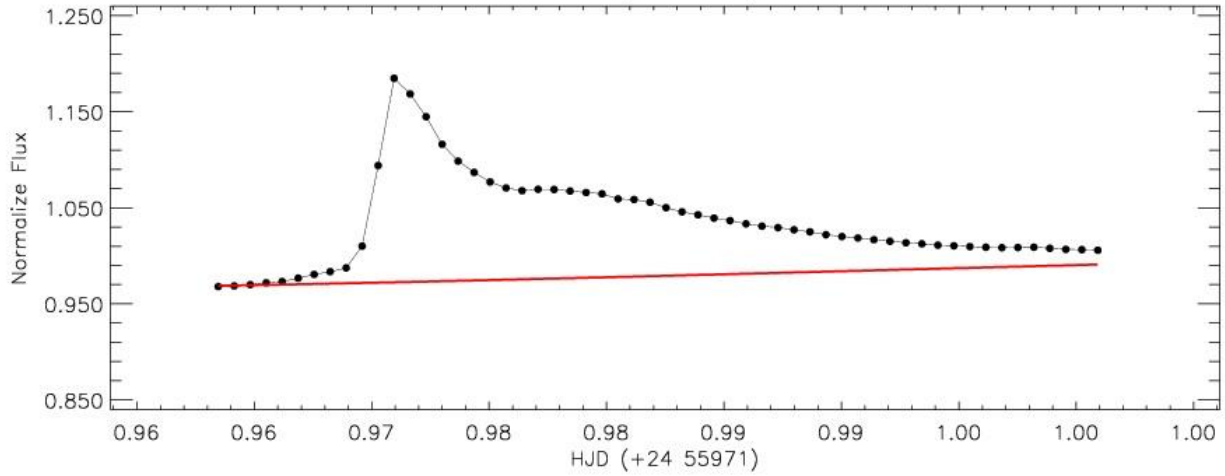
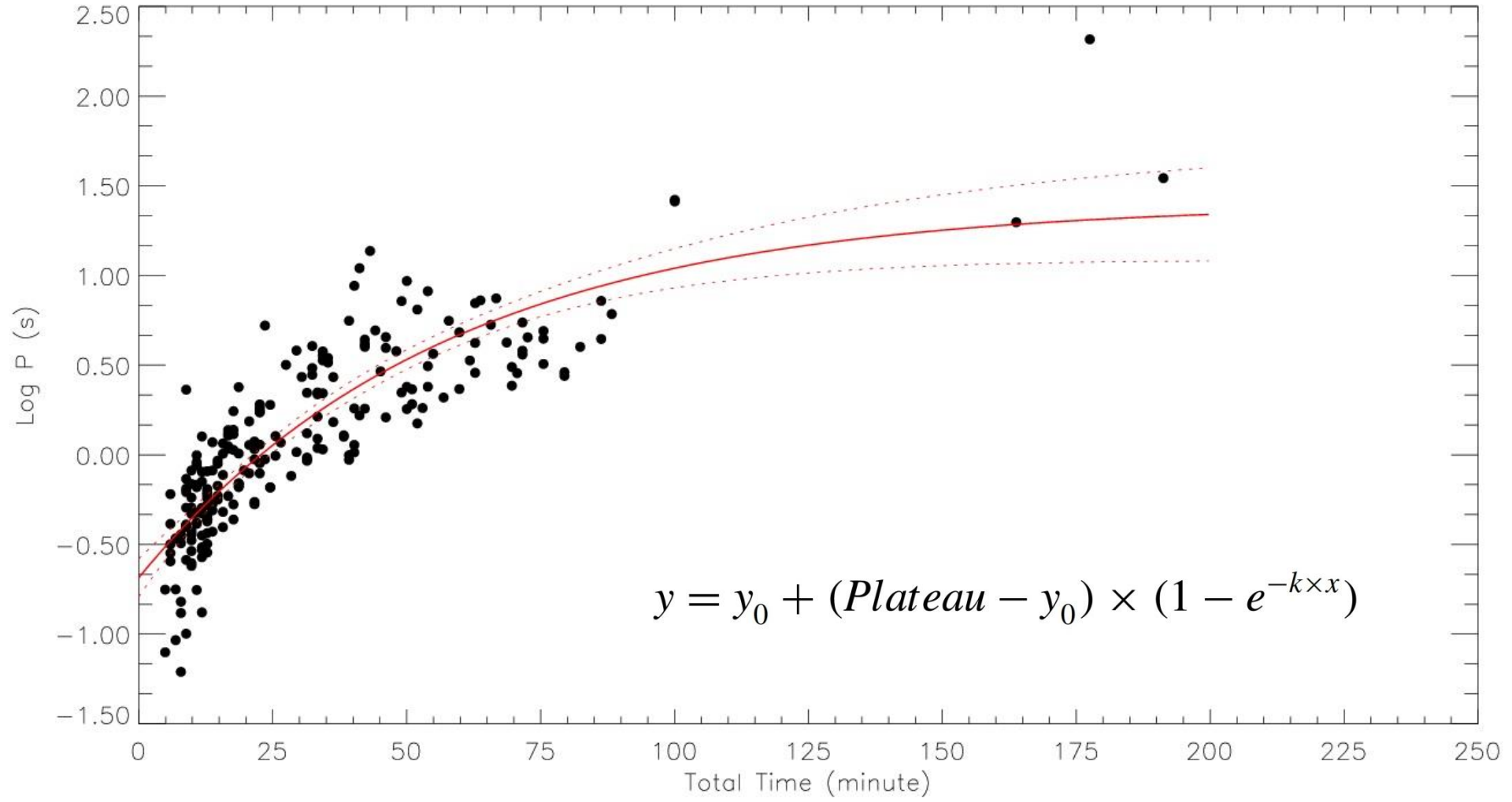

1.30
1.20
1.10
1.00
0.90
0.80
0.70
Normalize Flux
4940
5140
5340
5540
5740
5940
HJD(+24 50000)
1.30
1.20
1.10
1.00
0.90
0.80
0.70
Normalize Flux
0.00
0.10
0.20
0.30
0.40
0.50
0.60
0.70
0.80
0.90
1.00
Phase





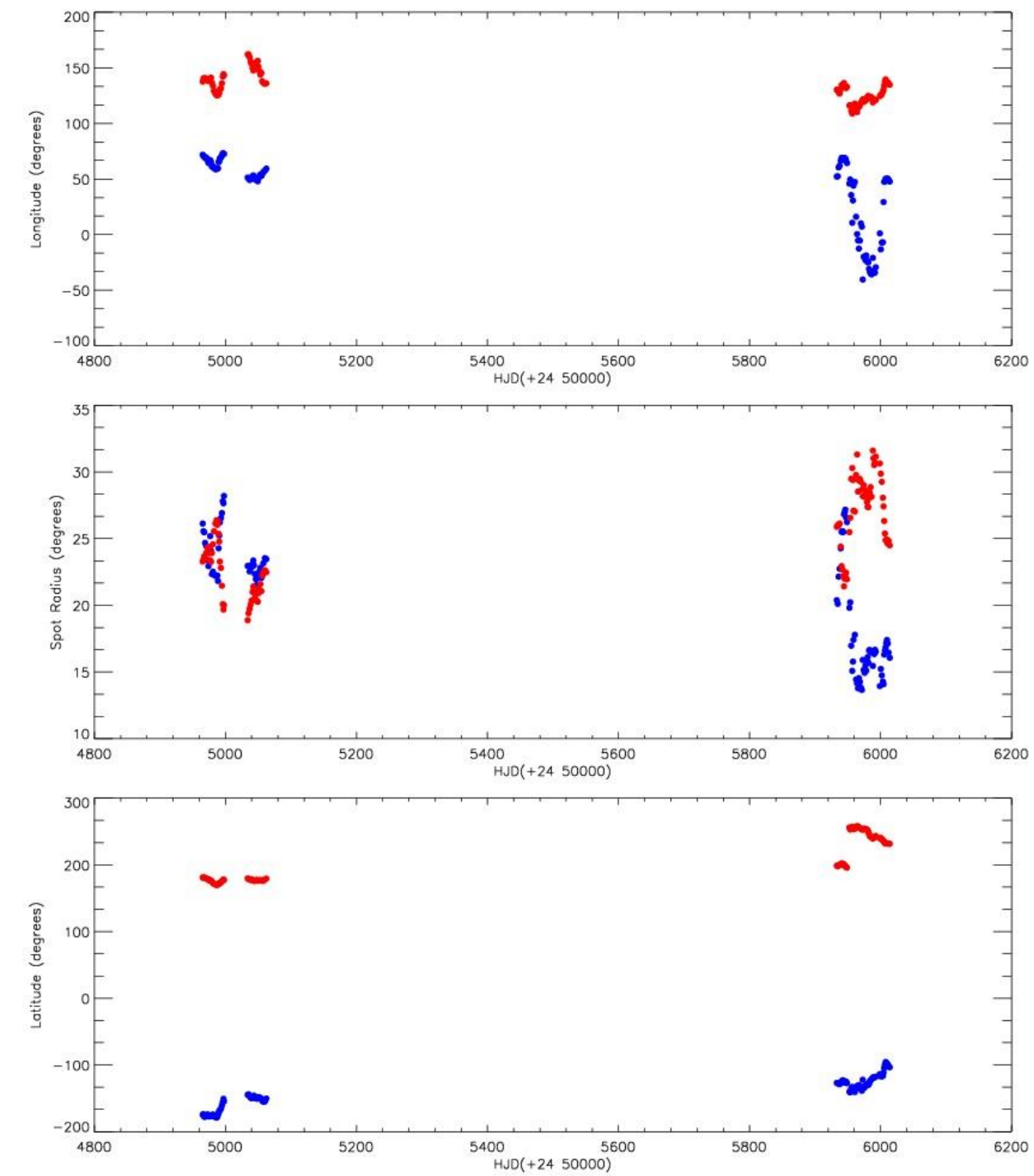


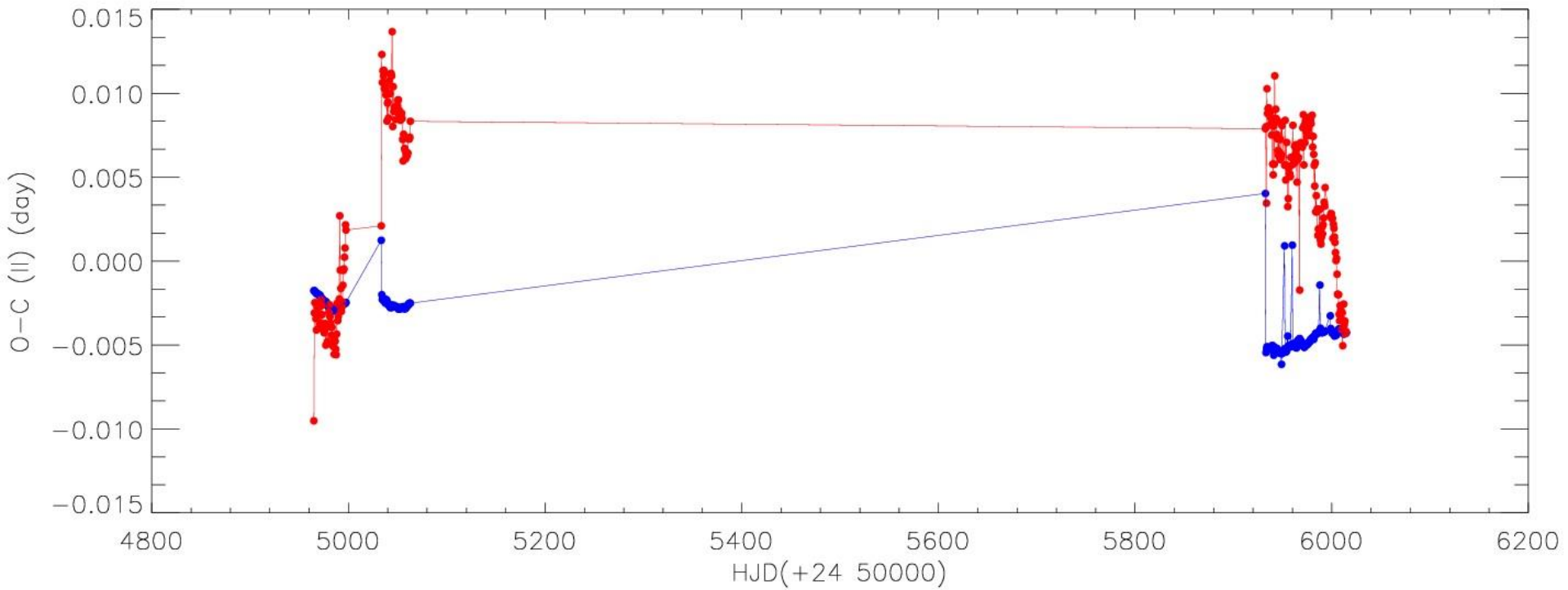
$$P = \int [(I_{flare} - I_0)/I_0]dt$$


2.50
2.00
1.50
1.00
0.50
0.00
−0.50
−1.00
−1.50
Log P (s)
0
25
50
75
100
125
150
175
200
225
250
Total Time (minute)
$y = y_0 + (Plateau - y_0) \times (1 - e^{-k \times x})$

Parameter	Values	95% Confidence Intervals
y_0	-0.6850±0.0539	-0.7905 to -0.5794
$Plateau$	1.4113±0.1712	1.0758 to 1.7470
K	0.00028953±0.00004696	0.00019748 to 0.00038158
$Tau\ 1/K$	3453.86	2620.68 to 5063.76
$Half-life$	2394.03	1816.52 to 3509.93
$Span$	2.09631±0.14752	1.80718 to 2.38544

Goodness of Fit	Method	Values
R^2		0.7372
$p-value$	(D'Agostino-Pearson)	0.0124
$p-value$	(Shapiro-Wilk)	0.0187
$p-value$	Kolmogorov-Smirnov)	0.1000


Longitude (degrees)
200
150
100
50
0
−50
−100
4800
5000
5200
5400
5600
5800
6000
6200
HJD(+24 50000)
Spot Radius (degrees)
35
30
25
20
15
10
4800
5000
5200
5400
5600
5800
6000
6200
HJD(+24 50000)
Latitude (degrees)
300
200
100
0
−100
−200
4800
5000
5200
5400
5600
5800
6000
6200
HJD(+24 50000)



$$JD\,(Hel.) \;=\; 24\,54953.7343(4) \;+\; 0^{d}.5276794(3) \;\times\; E.$$

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Cool Spot Migration and Flare Activity of KIC 11560447

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Abstract

In this study, **the One Phase Exponential Association model** and results about the flare activity and the spot migration on the surface of eclipsing binary system KIC 11560447 are presented. A sinusoidal variation due to the rotation modulation is defined. There are two cool spots separated by about 100° longitudinally. It is seen that the parameters of these spotted areas such as radii, latitudes and longitudes, were varying during observing seasons. Apart from the cool spots, flare activity is also detected on the target, and 226 flares were determined with their parameters. Modelling the distribution of flare equivalent durations versus the flare total times, the *Plateau* parameter was found to be 1.4114±0.1712 s, while the Half-time value was found to be 2394.03 s. **The frequency of flare N_1, which is the number of flares per an hour in the system, was computed as** 0.064454 h^{-1}**, while the N_2 that the flare-equivalent duration emitting per an hour was found to be** 0.000058**.**

Keywords: techniques: photometric – methods: statistical – binaries: eclipsing – stars: flare


Dinlediğiniz İçin
Teşekkür Ederim