

# KIC 005351540

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005351540-01	OBS	No	1.111562	131.765106	3.8	12.138	9.2	2.7	1.50	6751	0.30	7821.45

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005351540-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_FEW_MEAS

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

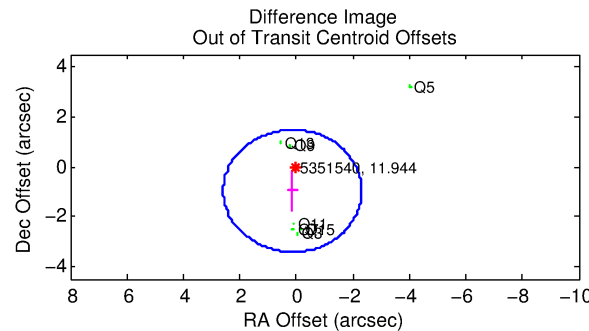
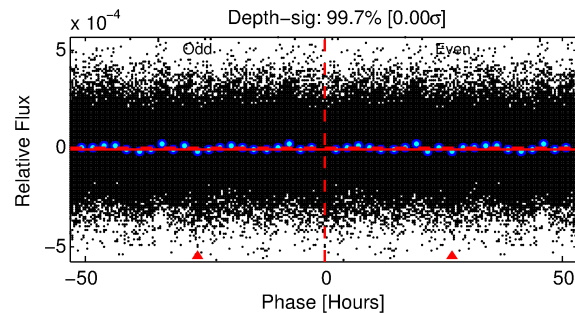
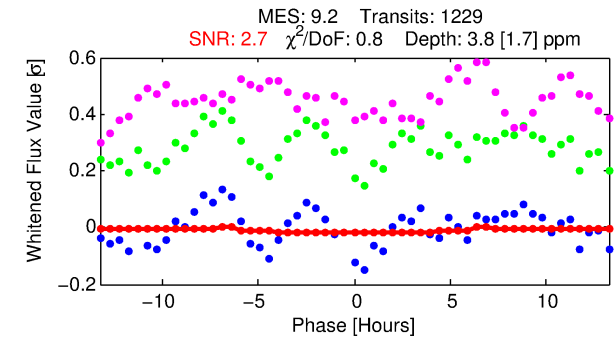
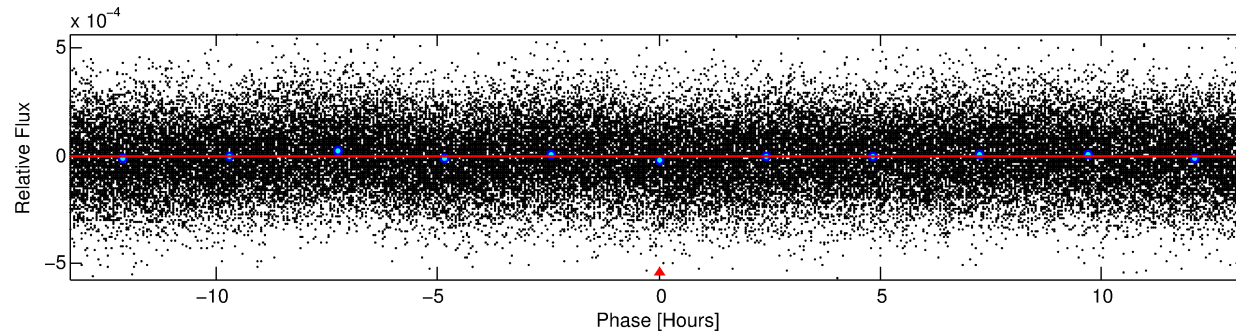
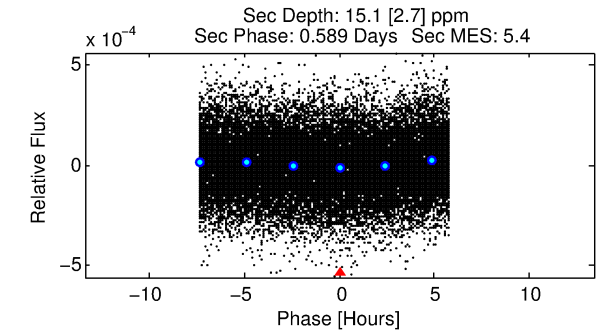
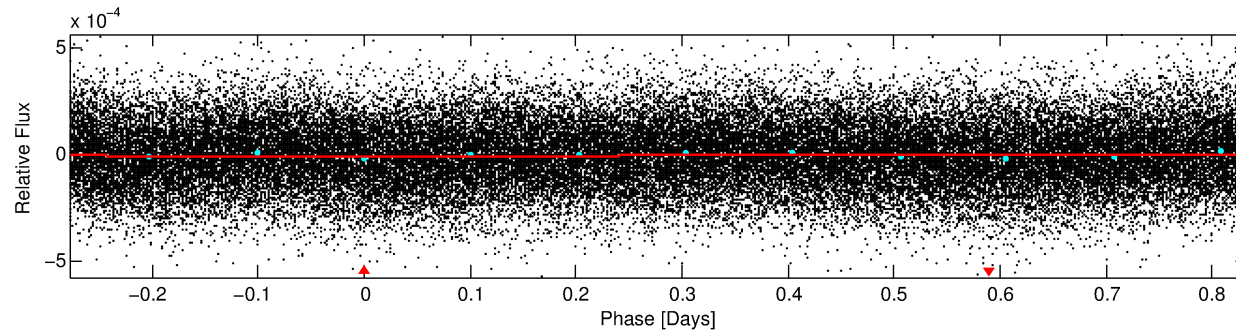
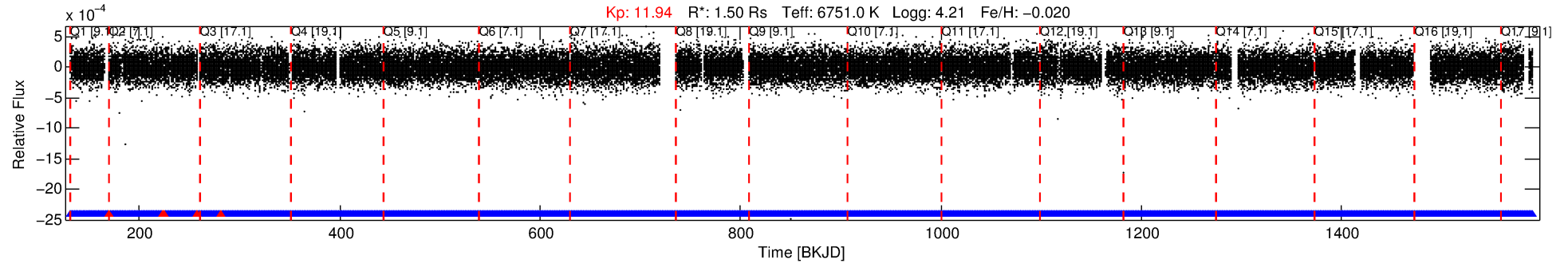
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005351540-01

No Significant Match Found

# DV One-Page Summary

KIC: 5351540 Candidate: 1 of 1 Period: 1.112 d



## DV Fit Results:

Period = 1.11156 [0.00010] d  
Epoch = 131.7651 [0.0282] BKJD  
 $R_p/R^* = 0.0018$  [0.0052]  
 $a/R^* = 1.01$  [0.30]  
 $b = 0.49$  [25.52]  
 $S_{\text{eff}} = 7821.45$  [3121.86]  
 $T_{\text{eq}} = 2398$  [239] K  
 $R_p = 0.30$  [0.86]  $R_e$   
 $a = 0.0232$  [0.0060] AU  
 $A_g = 49.38$  [281.67] [0.17σ]  
 $T_{\text{eff}} = 9828$  [13994] K [0.53σ]

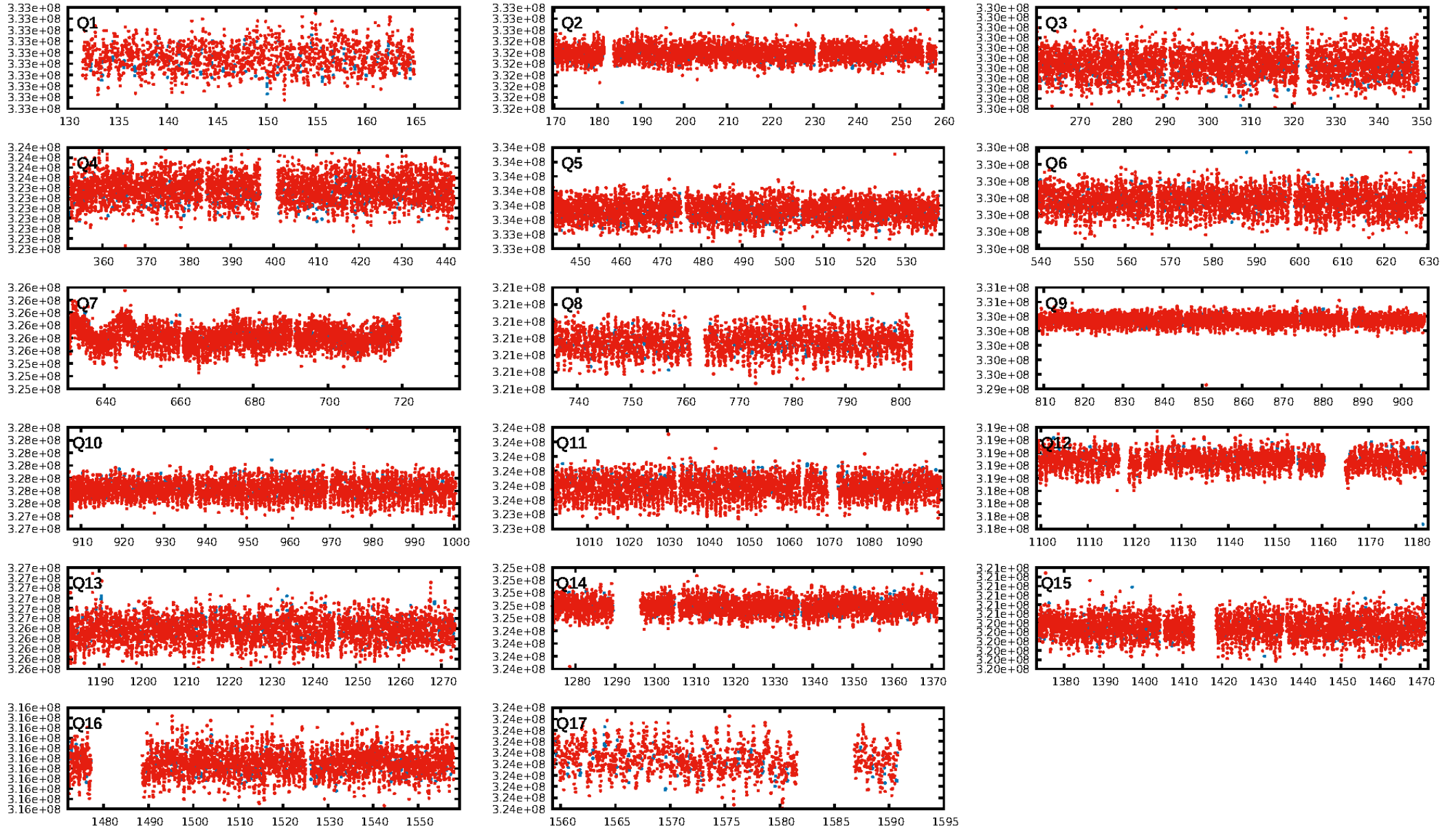
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1167/1172]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.983 arcsec [1.21σ]  
KicOffset-rm: 1.029 arcsec [1.19σ]  
OotOffset-st: 0/4/0/3 [7]  
KicOffset-st: 0/4/0/3 [7]  
DiffImageQuality-fgm: 0.43 [3/7]  
DiffImageOverlap-fno: 1.00 [17/17]

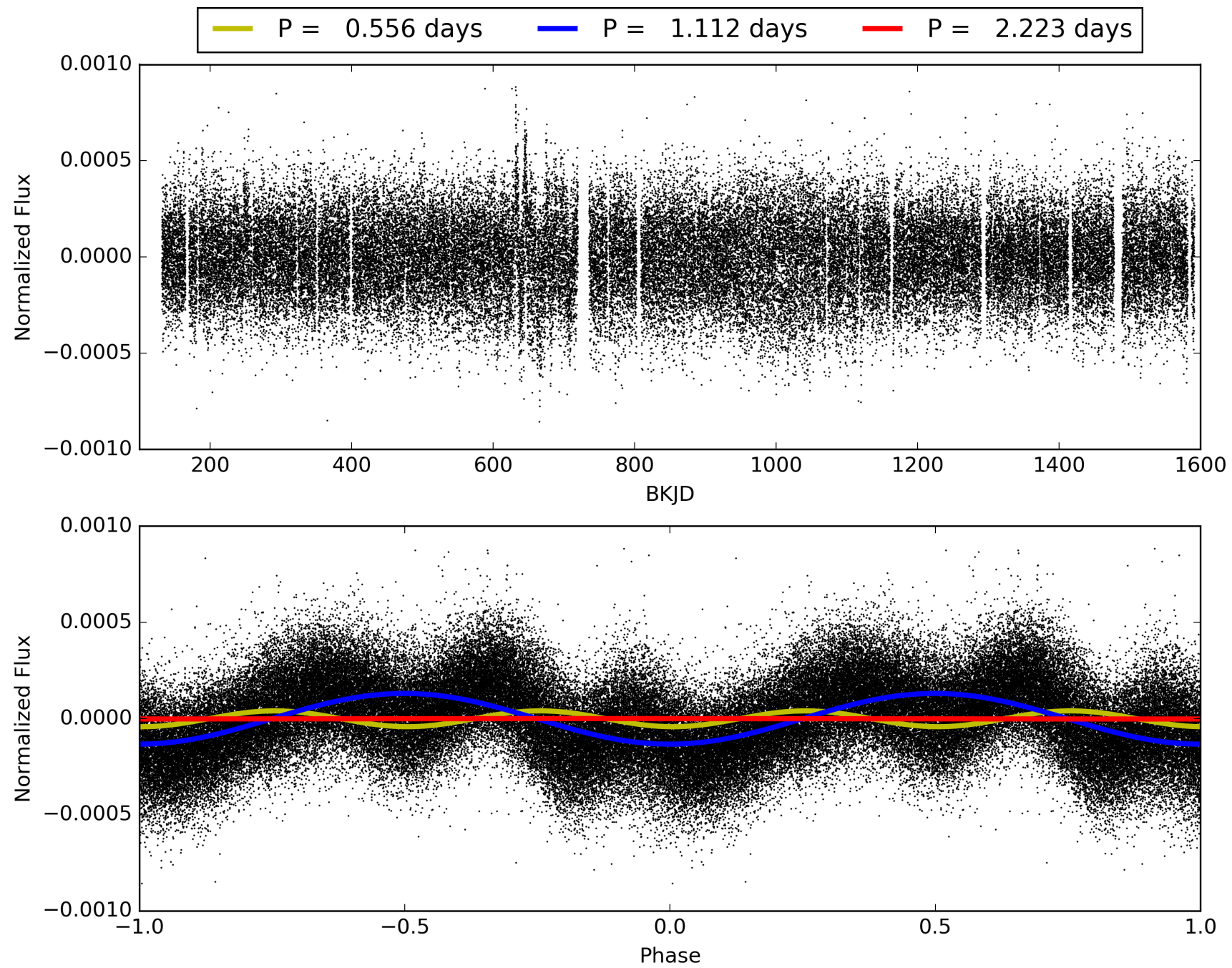
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 17:12:29 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005351540-01, PDC Light Curves

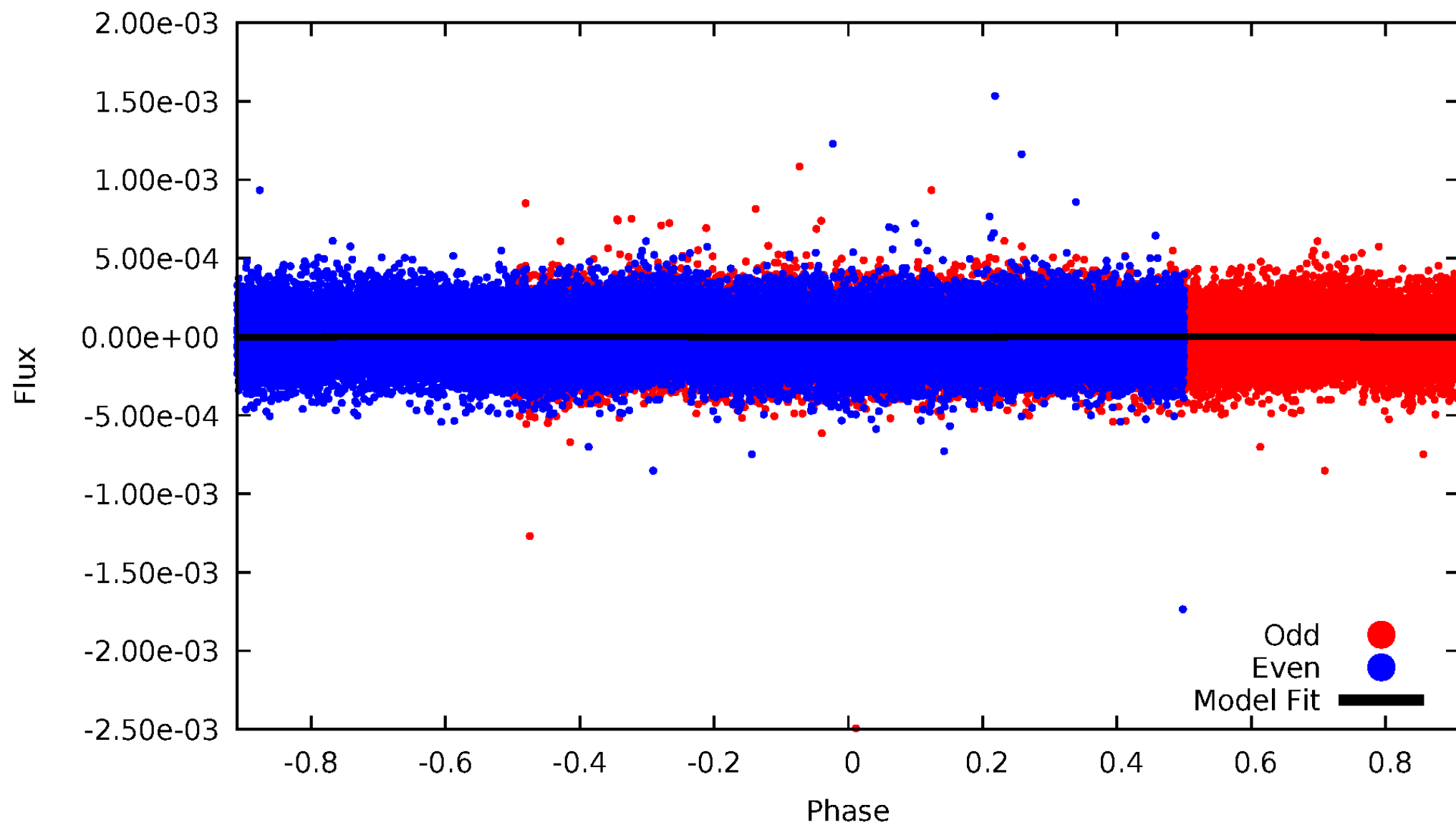


TCE 005351540-01



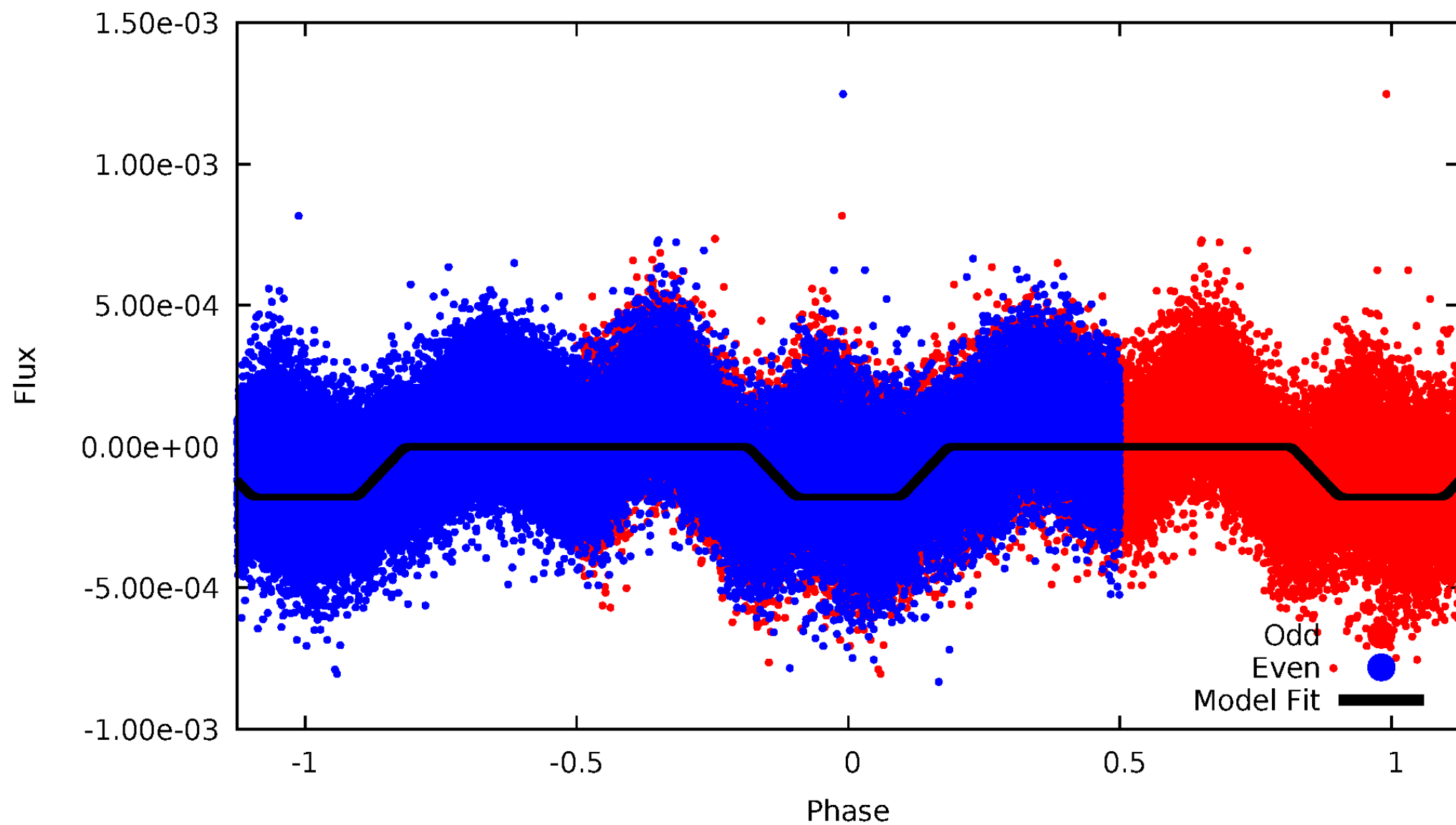
# DV Odd/Even

TCE 005351540-01



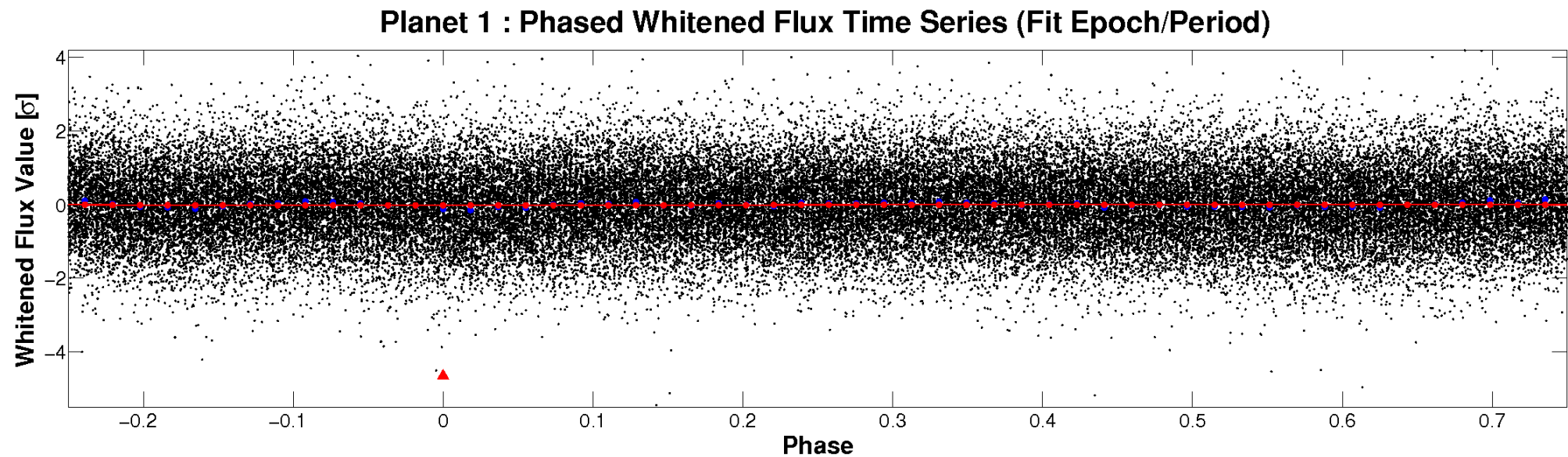
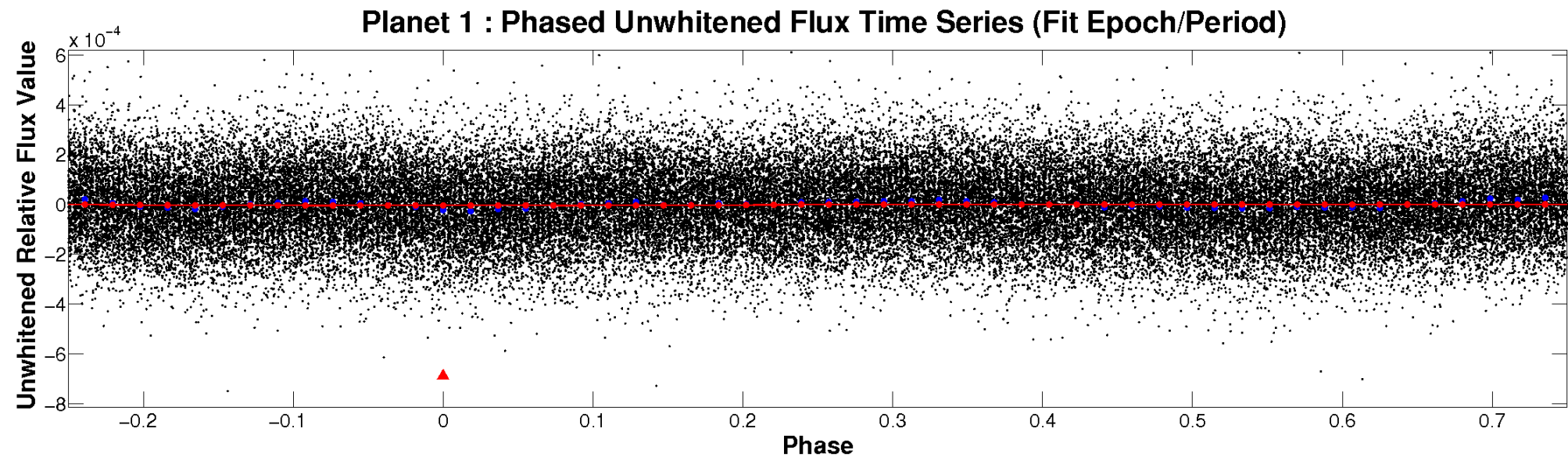
# ALT Odd/Even

TCE 005351540-01



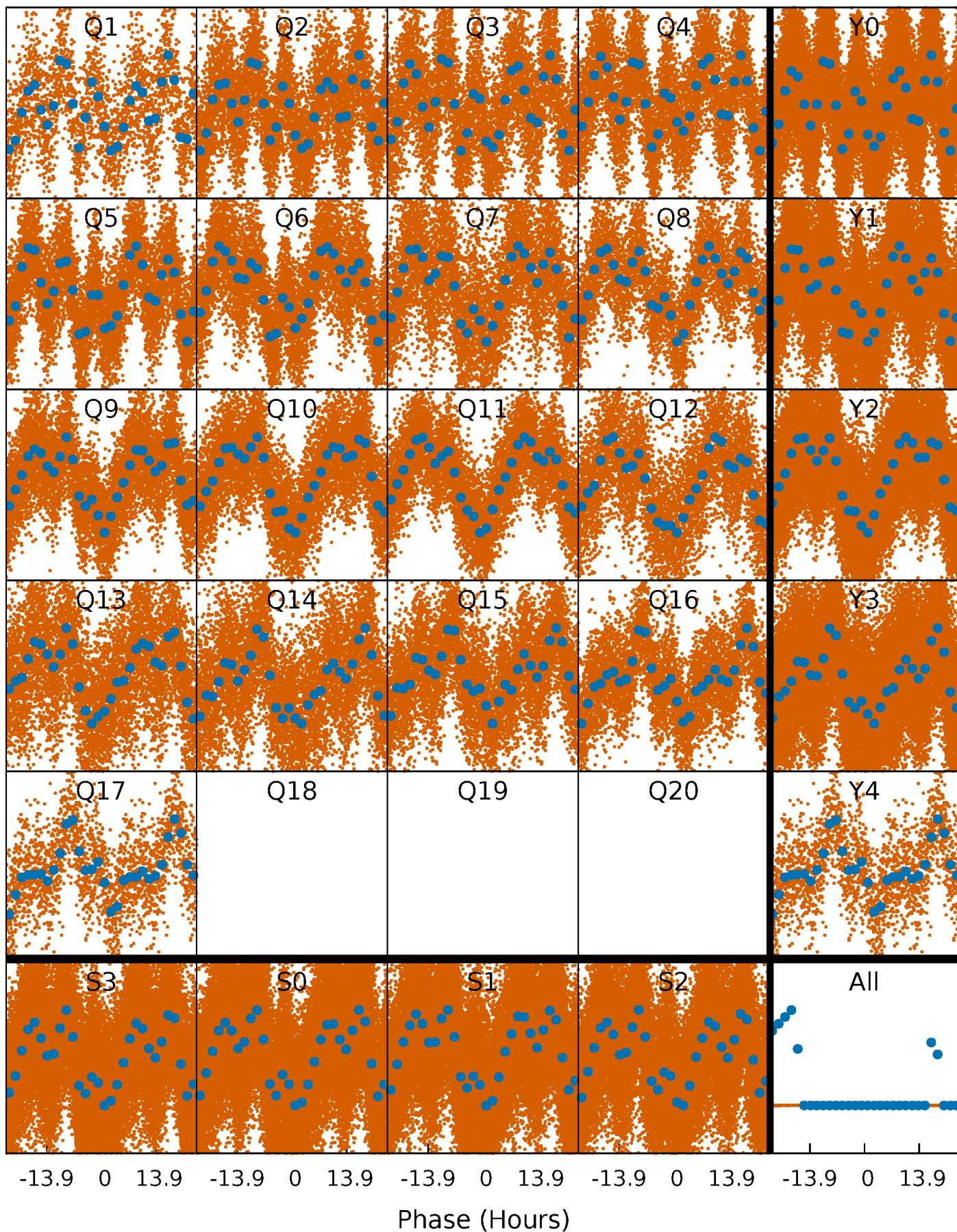


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

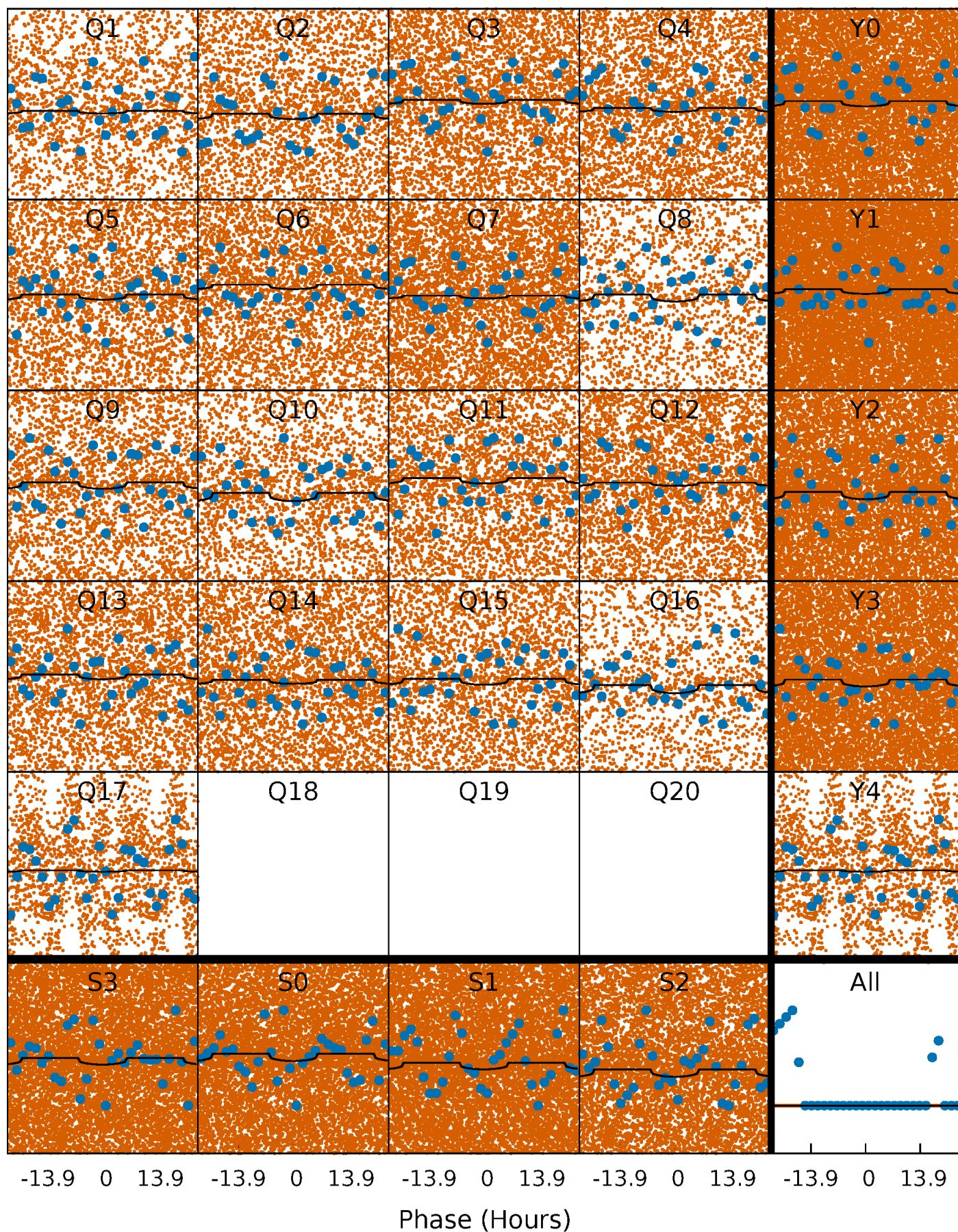
TCE 005351540-01 P= 1.111562 Days  $T_0=131.765106$  (BKJD)





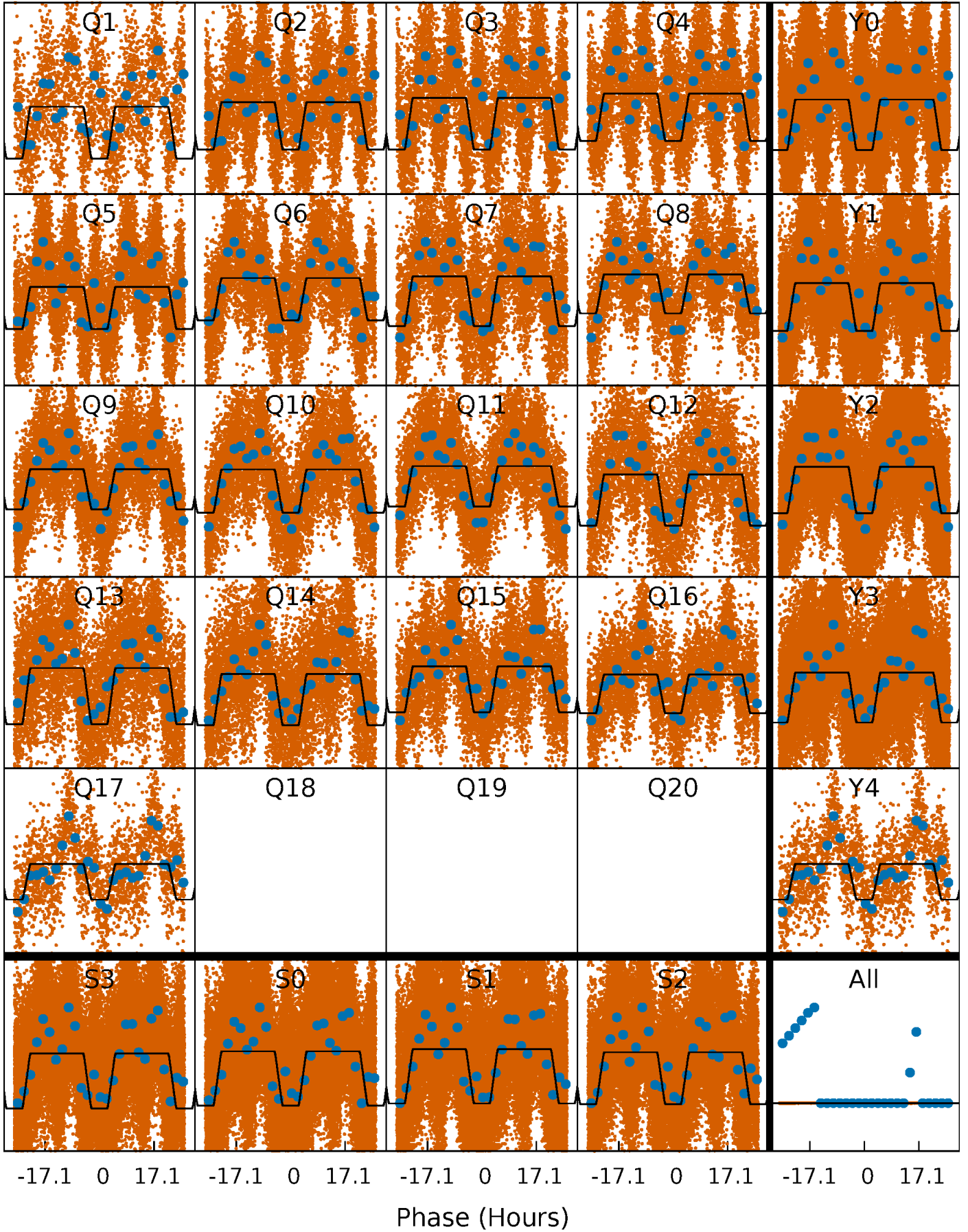
# DV Quarter-Phased Transit Curves

TCE 005351540-01 P= 1.111562 Days  $T_0=131.765106$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

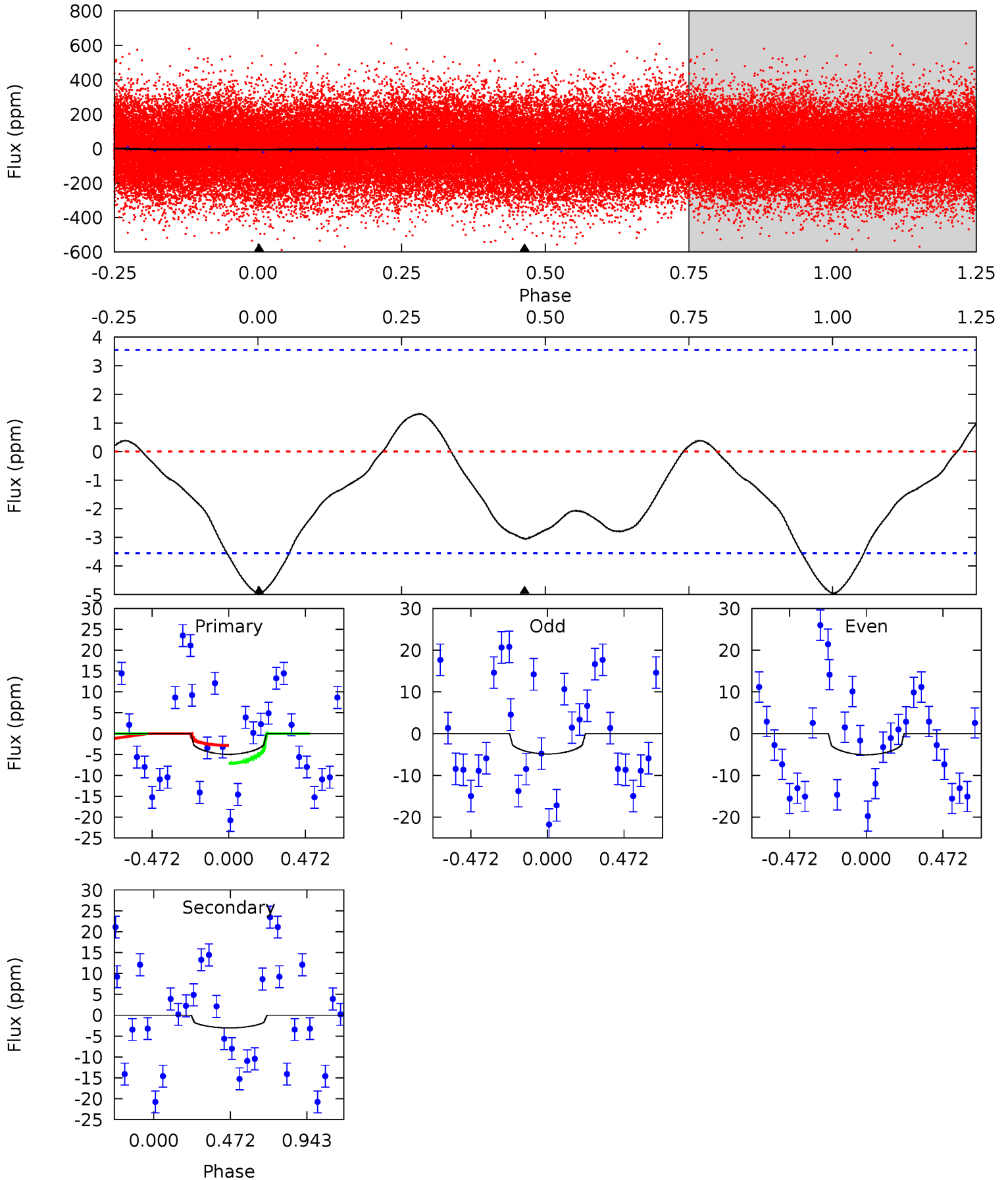
TCE 005351540-01 P= 1.111644 Days  $T_0=131.721147$  (BKJD)



# DV Model-Shift Uniqueness Test

005351540-01, P = 1.111562 Days, E = 130.653544 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.89	3.62	0	0	4.23	0.72	0.82	5.89	5.89	3.62	3.62	0.11	1.38	0.21	2.58

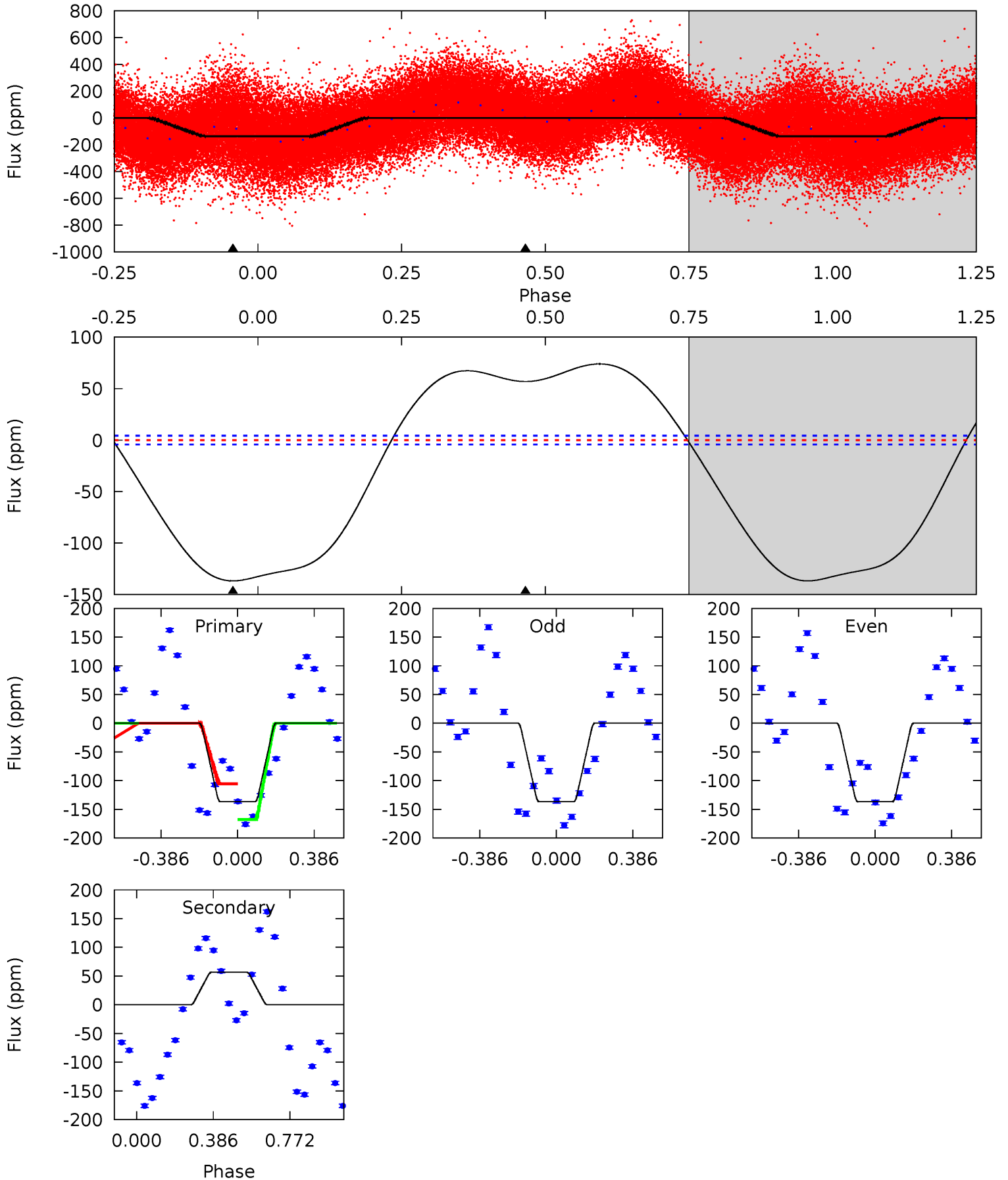




# Alt Model-Shift Uniqueness Test

005351540-01, P = 1.111644 Days, E = 130.609503 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
135.6	-56.4	0	0	4.27	0.87	29.9	135.6	135.6	-56.4	-56.4	0.03	1.02	0.35	28.7



### Stellar Parameters For KIC 005351540

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6751^{+189}_{-283}$	$4.213^{+0.128}_{-0.192}$	$-0.020^{+0.250}_{-0.350}$	$1.504^{+0.475}_{-0.277}$	$1.349^{+0.196}_{-0.218}$	$0.559^{+0.344}_{-0.284}$
	+3%/-4%	+3%/-5%	+1250%/-1750%	+32%/-18%	+15%/-16%	+61%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 005351540-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-3 \pm 1$	$0.67^{+0.72}_{-0.45}$	$3364^{+251}_{-221}$	$4416^{+3410}_{-1432}$	$1.904^{+16.638}_{-1.448}$
Alt.	$57 \pm 1$	$2.19^{+0.91}_{-0.82}$	$3368^{+258}_{-217}$	$-5250^{+656}_{-1202}$	$-3.479^{+1.748}_{-5.349}$

$T_{max}$  = Theoretical Maximum Planetary Temperature  
 $T_{obs}$  = Observed Planetary Temperature (Assuming A=0.3)  
 $A_{obs}$  = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$



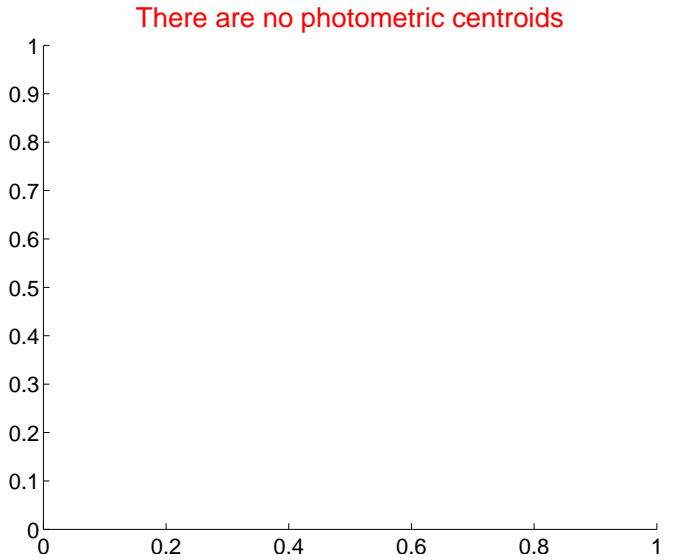
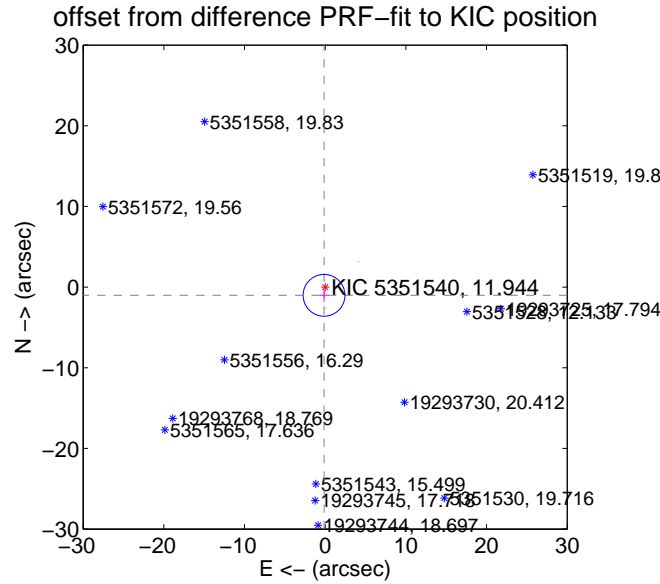
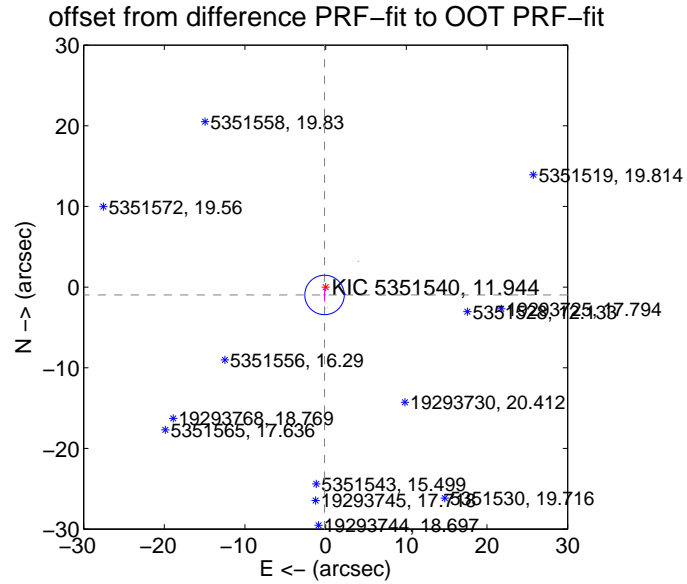
## DV Centroid Data

Supplemental centroid analysis for 005351540-01. **Kepler magnitude: 11.94.** Transit SNR 2.72

**There are 3 quarters with good PRF difference image offsets**

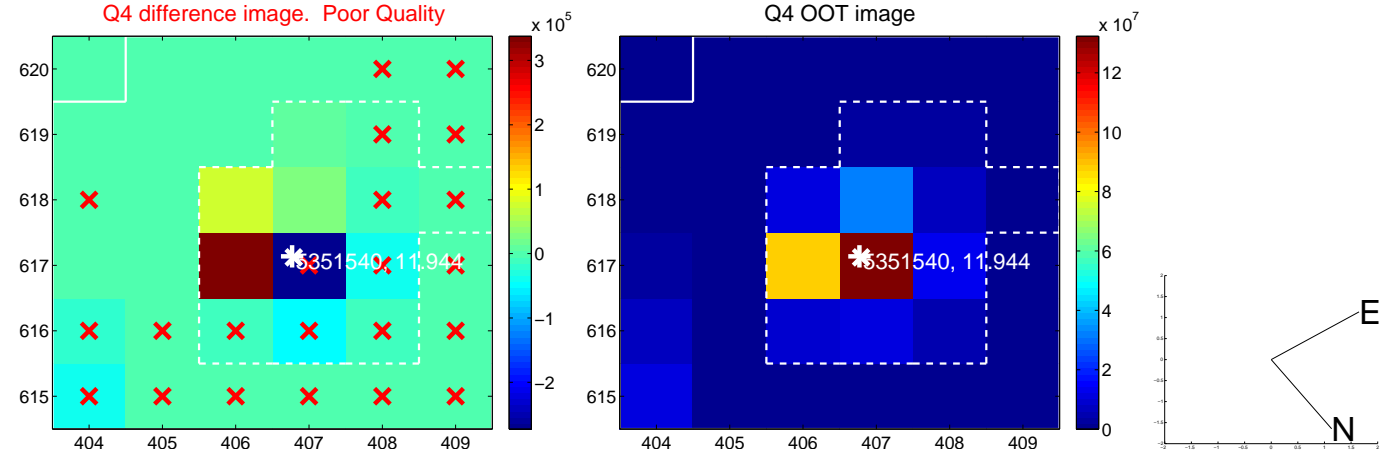
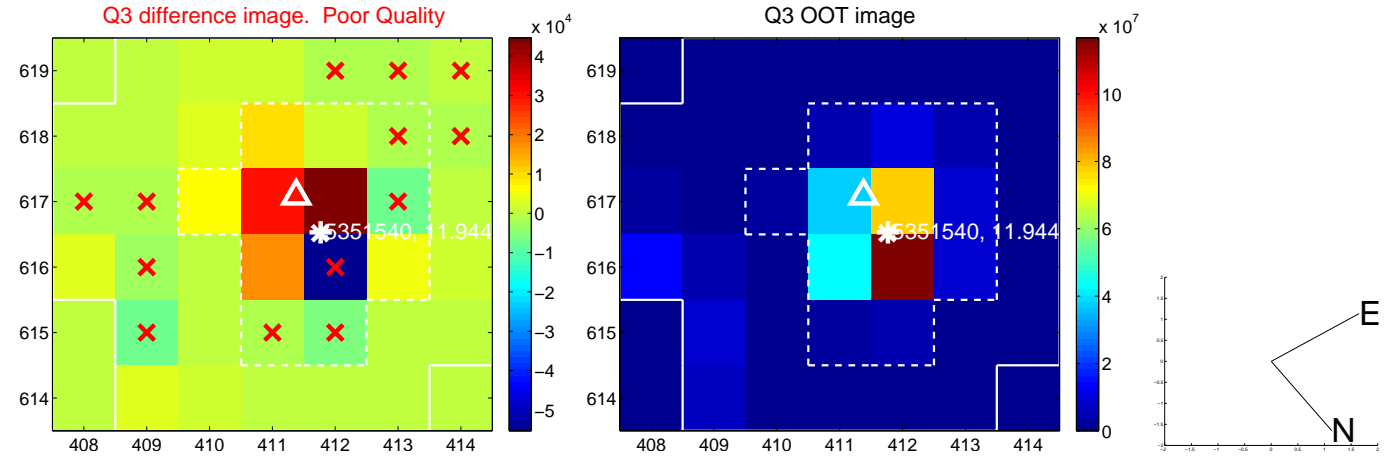
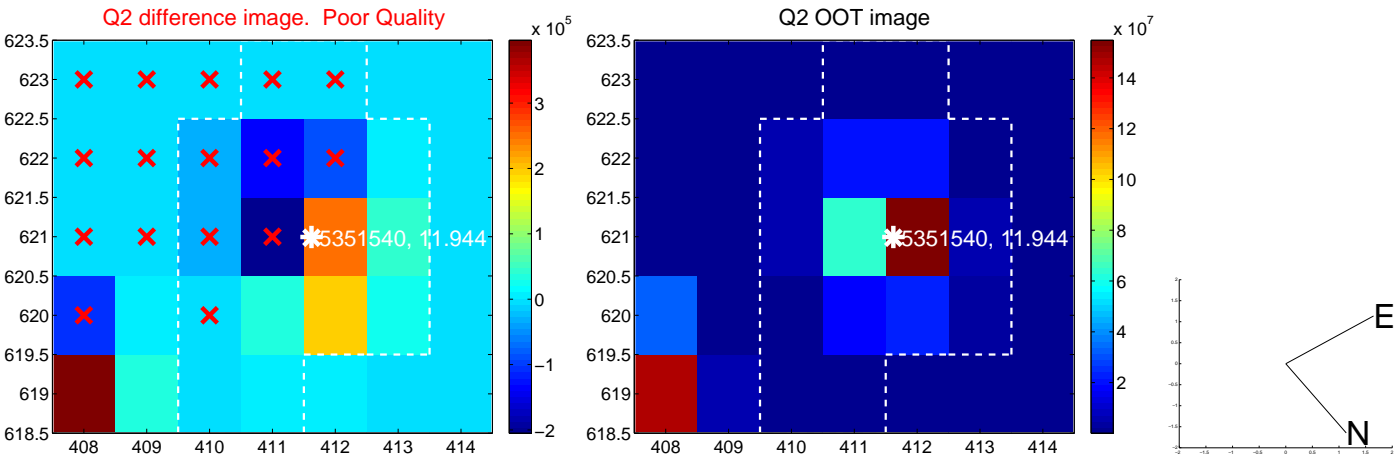
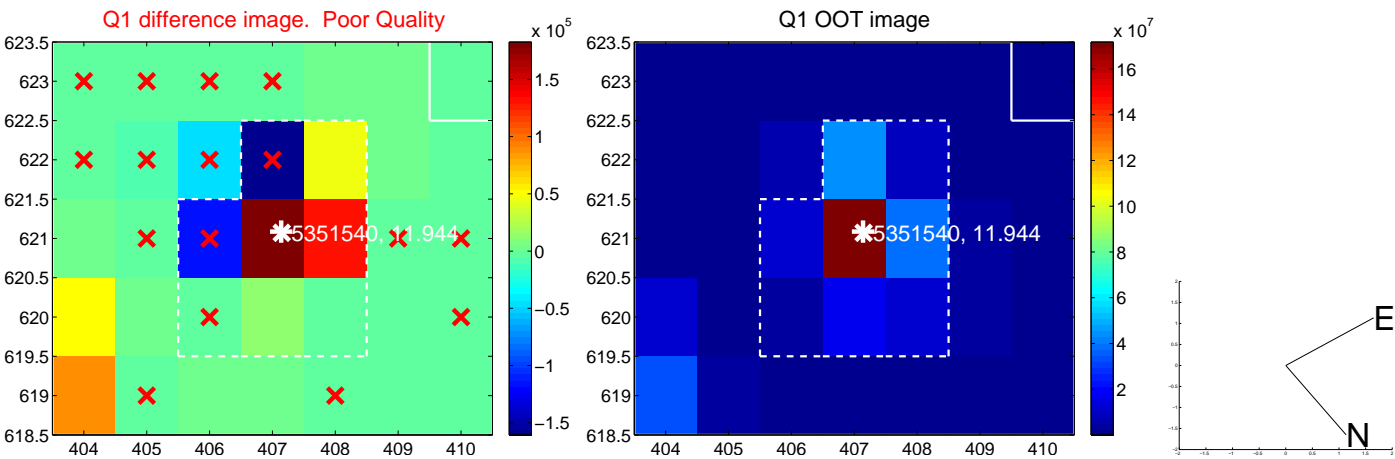
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.983 \pm 0.815$	1.21	$0.138 \pm 0.157$	$-0.973 \pm 0.823$
PRF-fit source offset from KIC position	$1.029 \pm 0.863$	1.19	$0.141 \pm 0.567$	$-1.019 \pm 0.813$
photometric centroid source offset	—	—	—	—

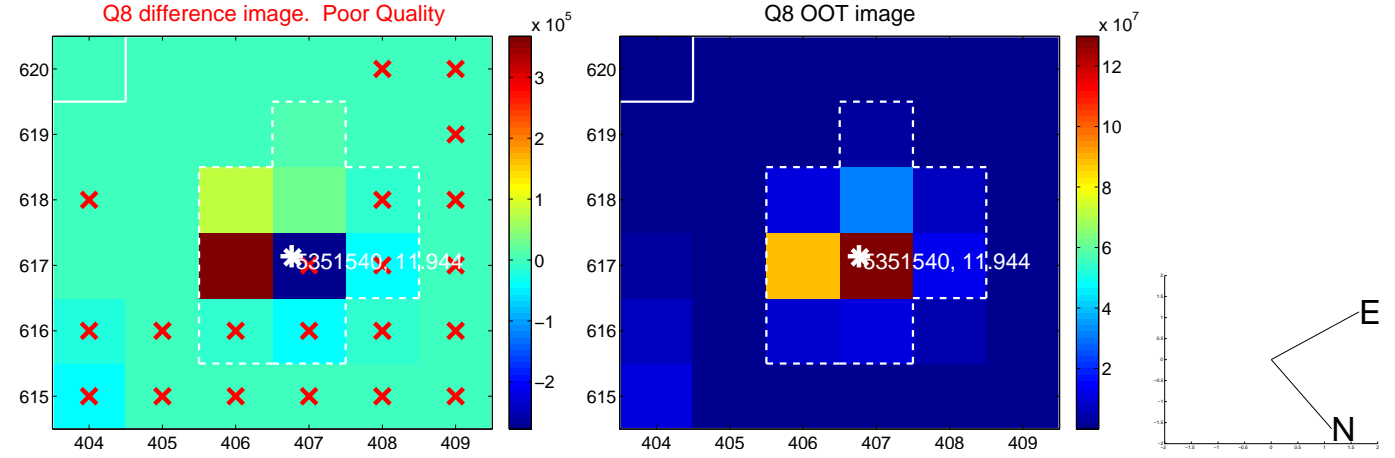
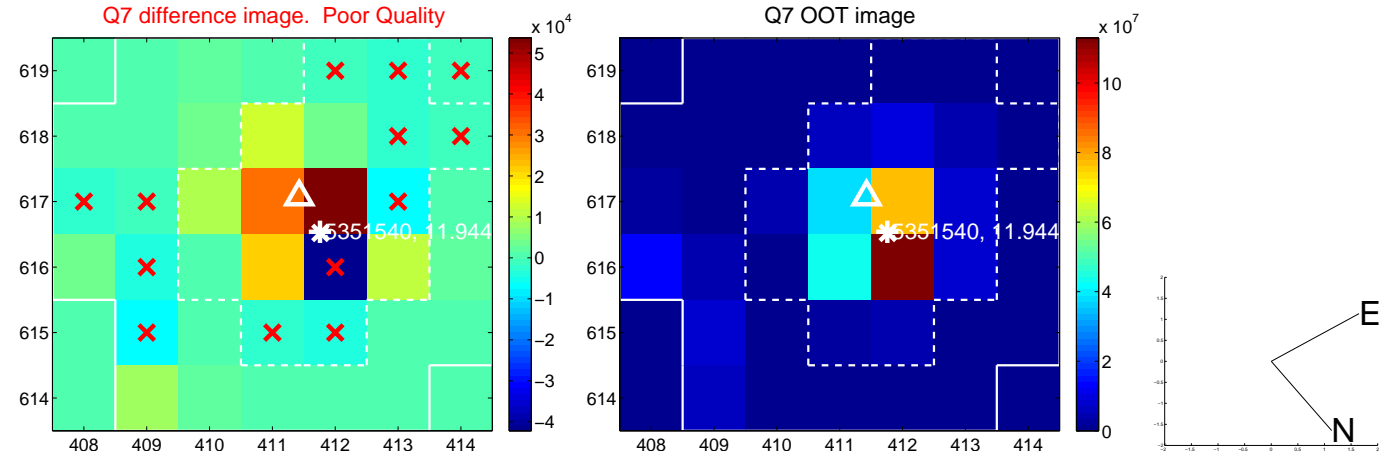
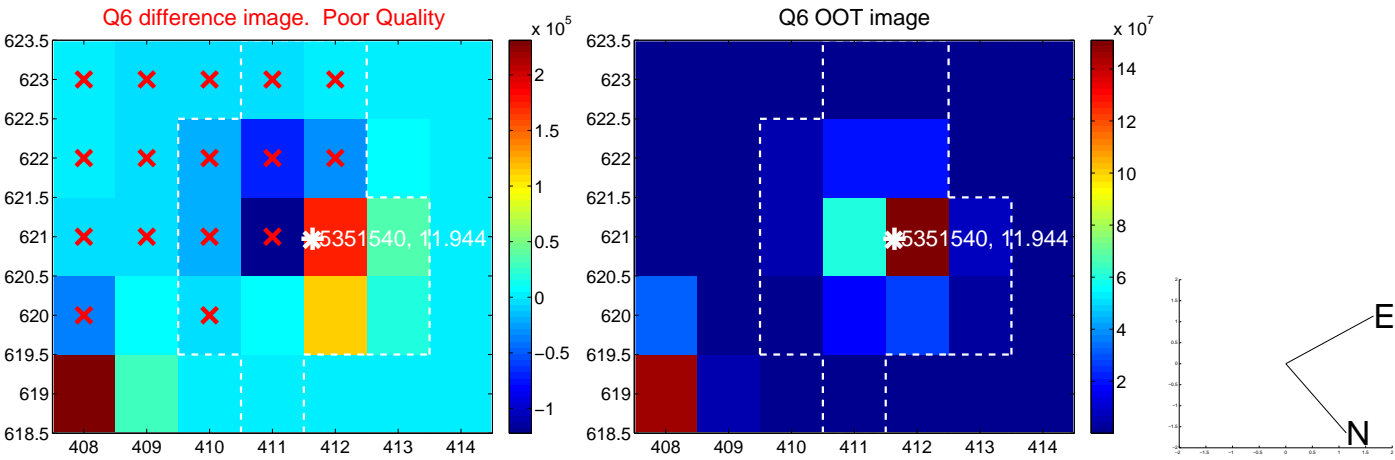
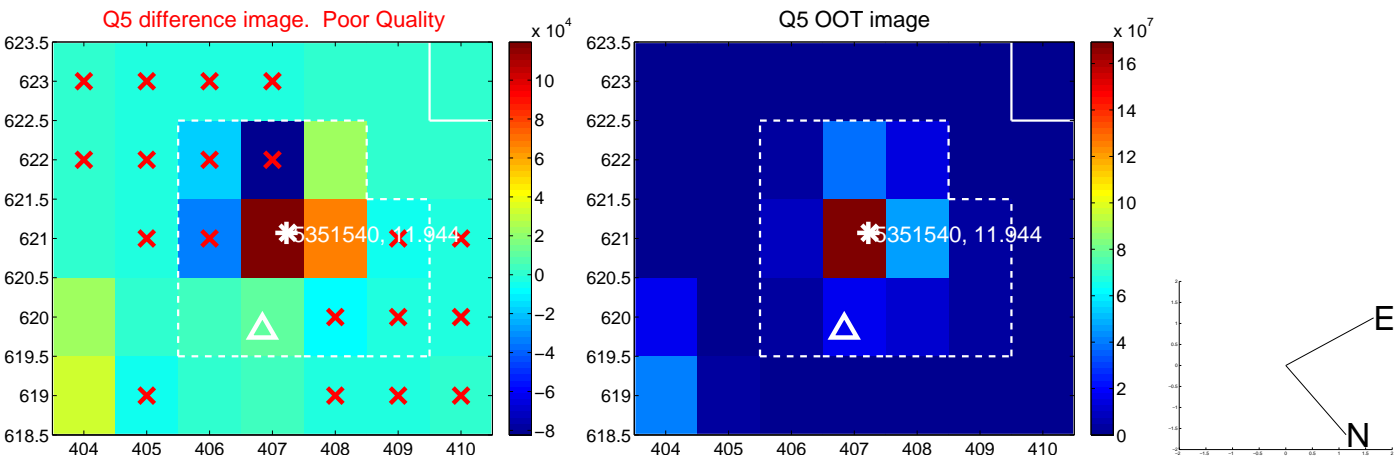


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

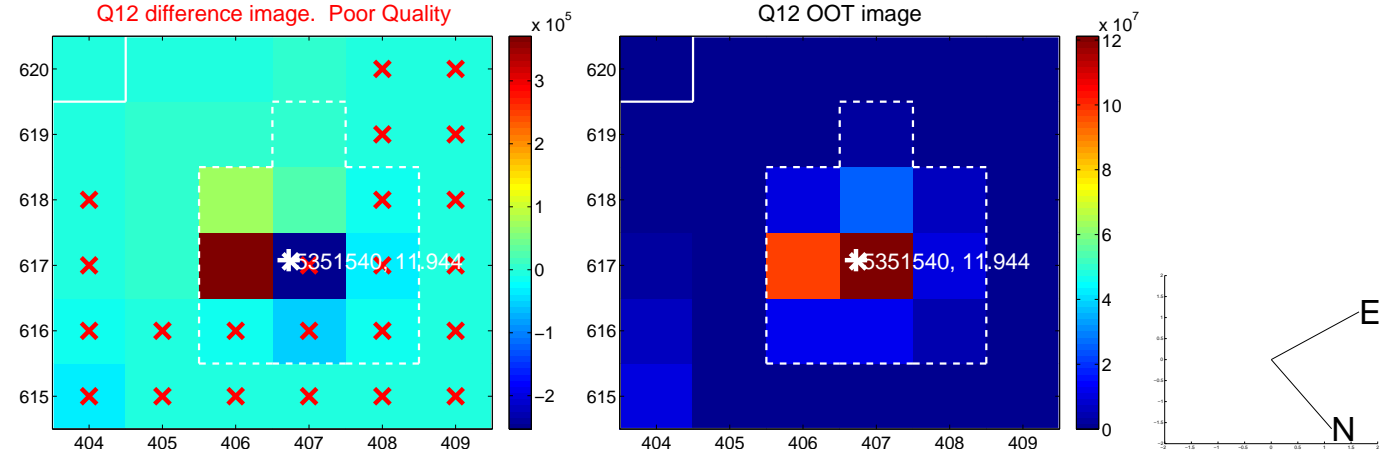
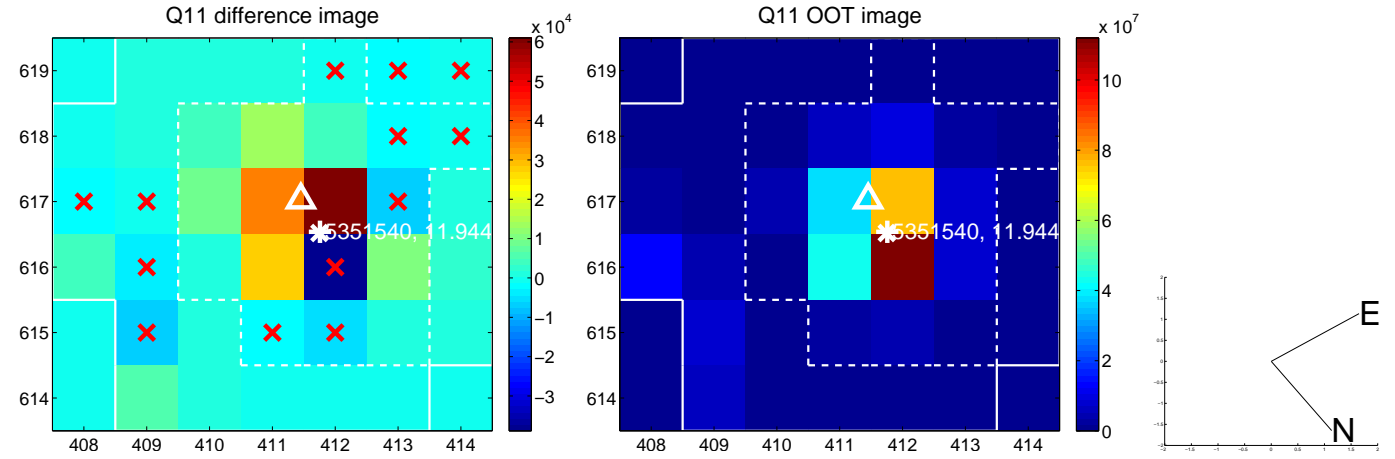
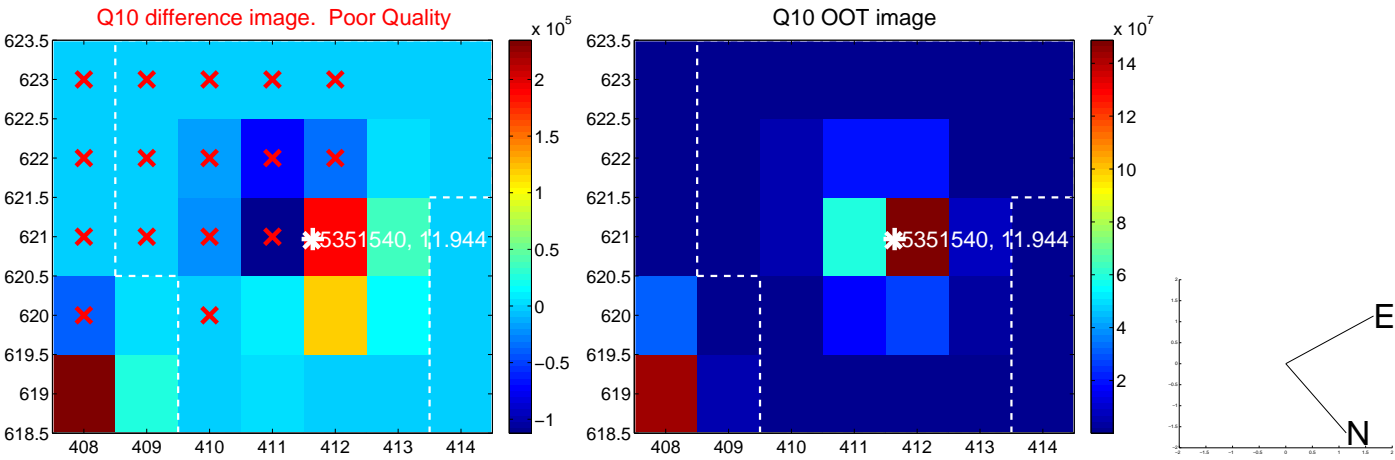
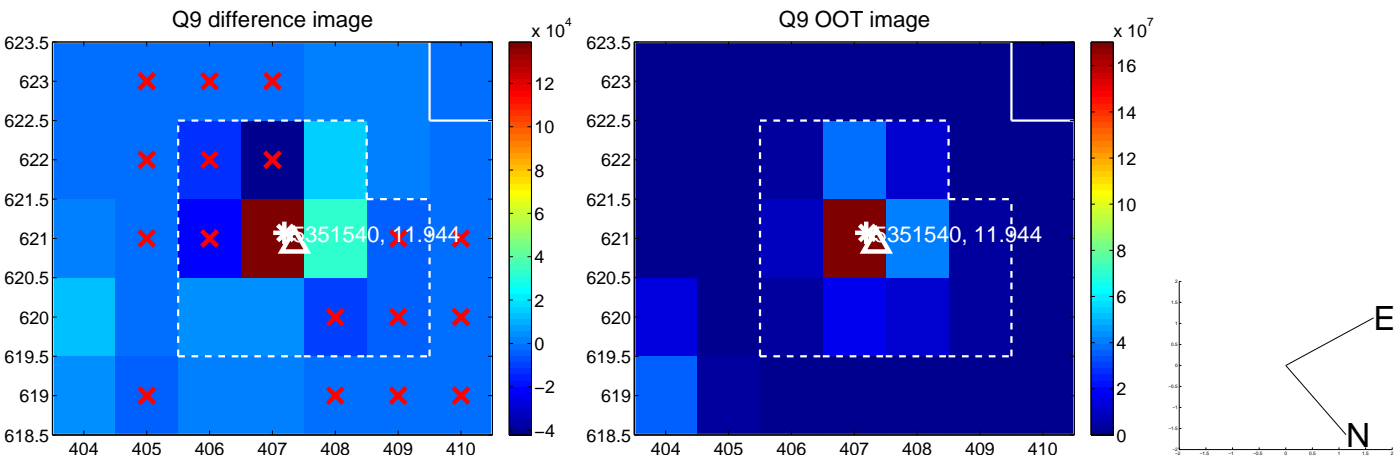
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



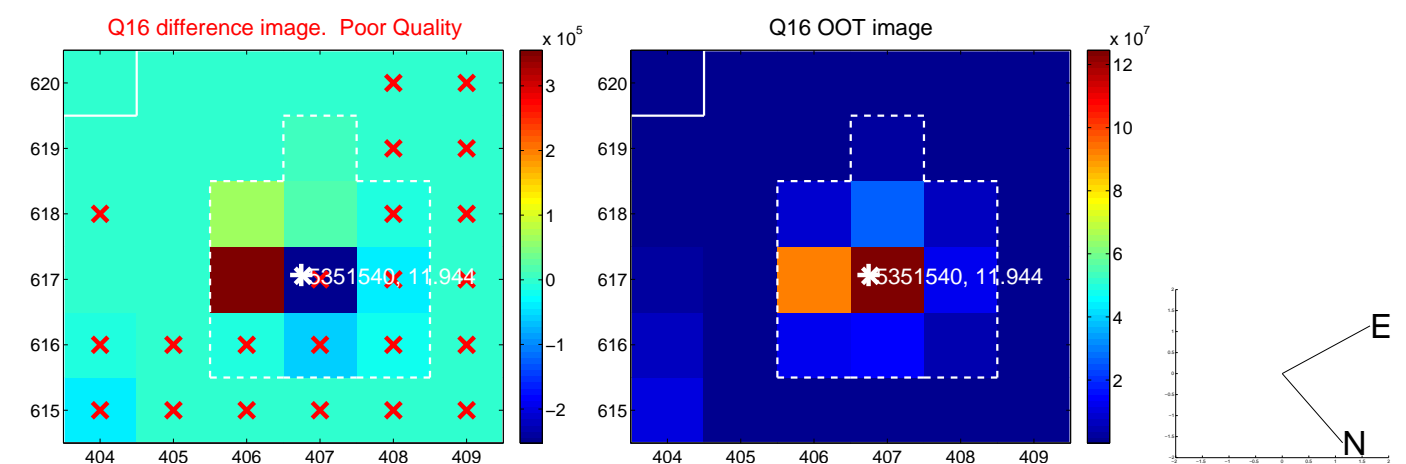
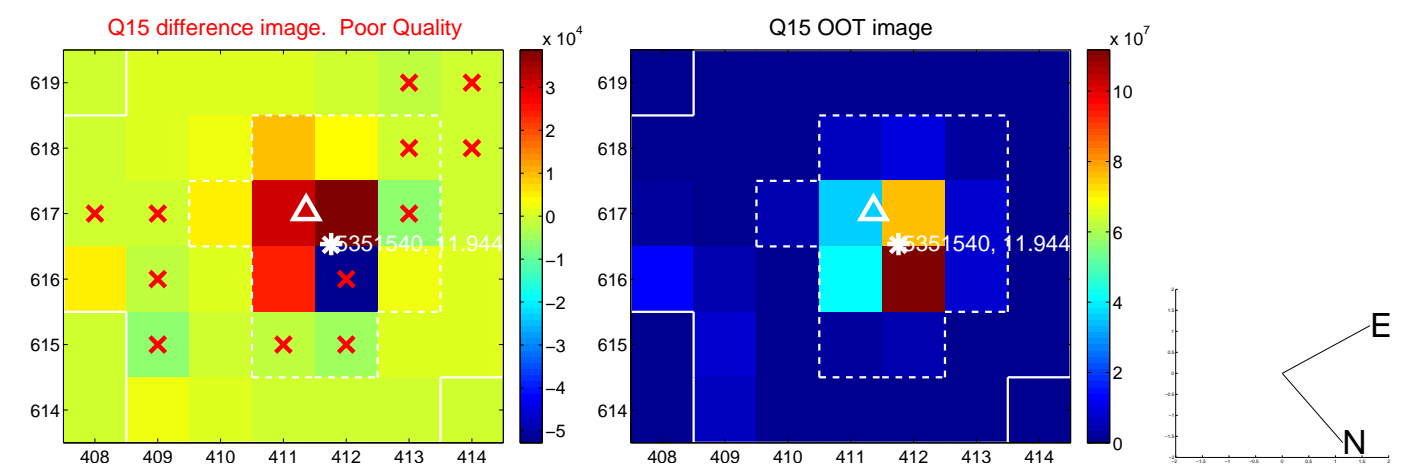
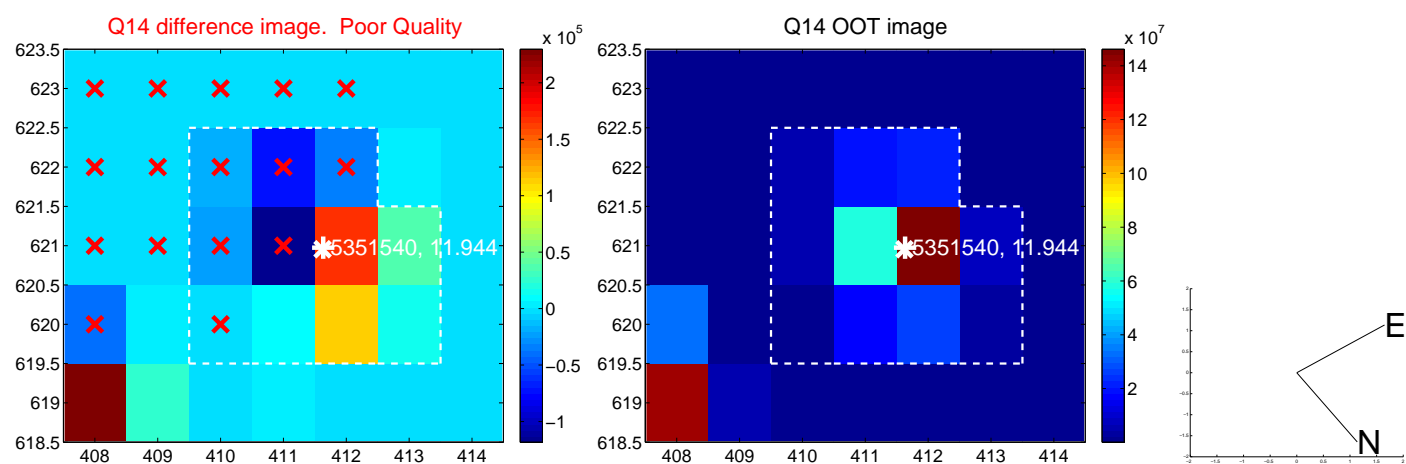
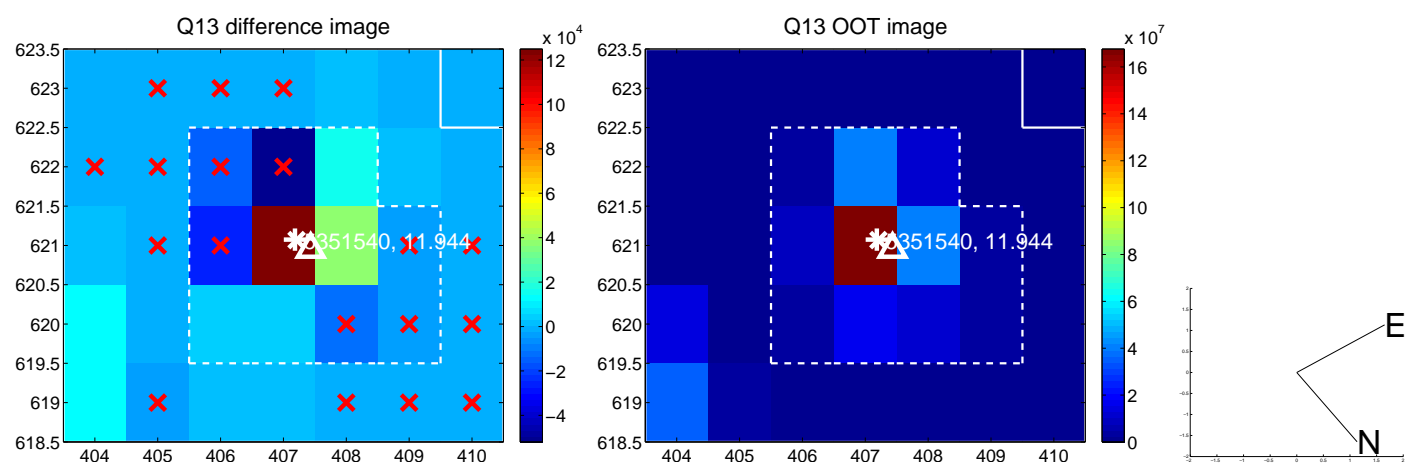
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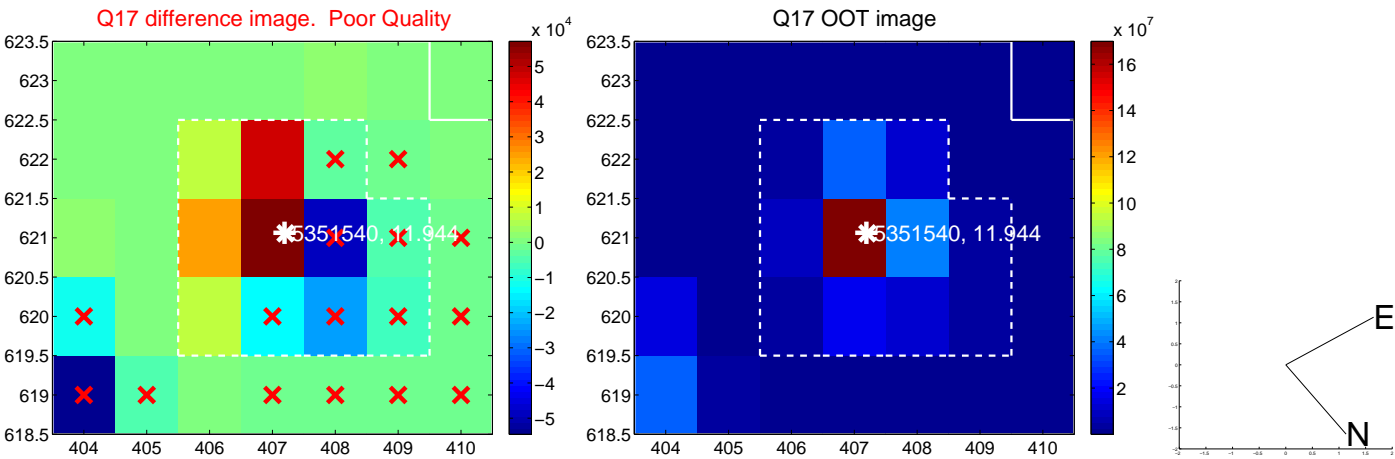


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination

