

# KIC 005737869

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005737869-01	OBS	6624.01	26.240337	151.521353	172.4	3.233	7.3	7.6	0.88	5649	1.31	27.43

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005737869-01	OBS	FP	0.11	0	0	1	0	CENT_RESOLVED_OFFSET

**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.

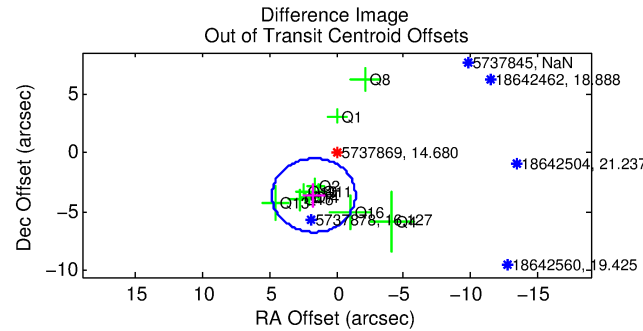
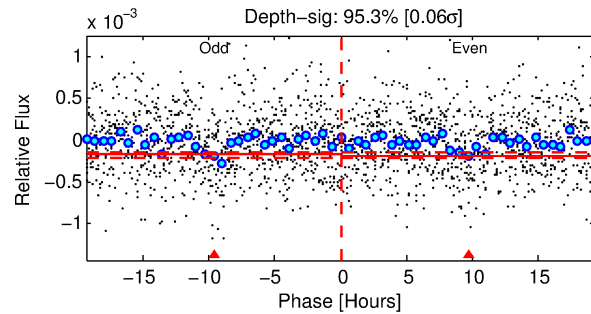
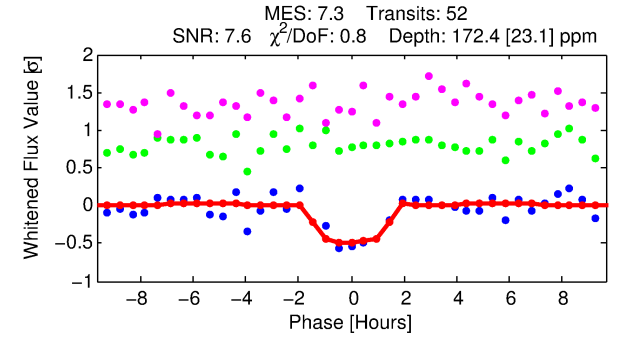
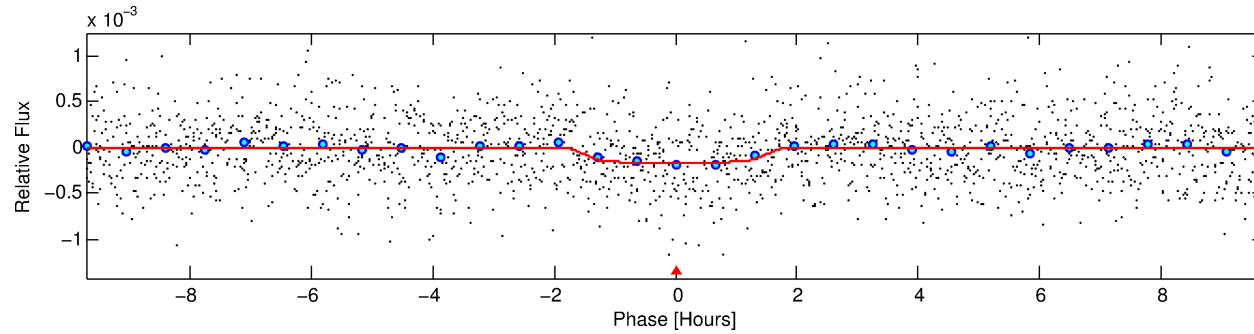
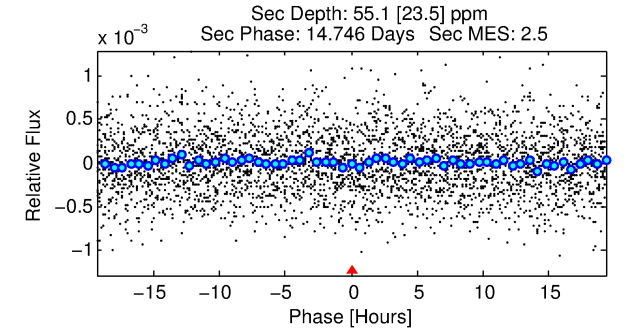
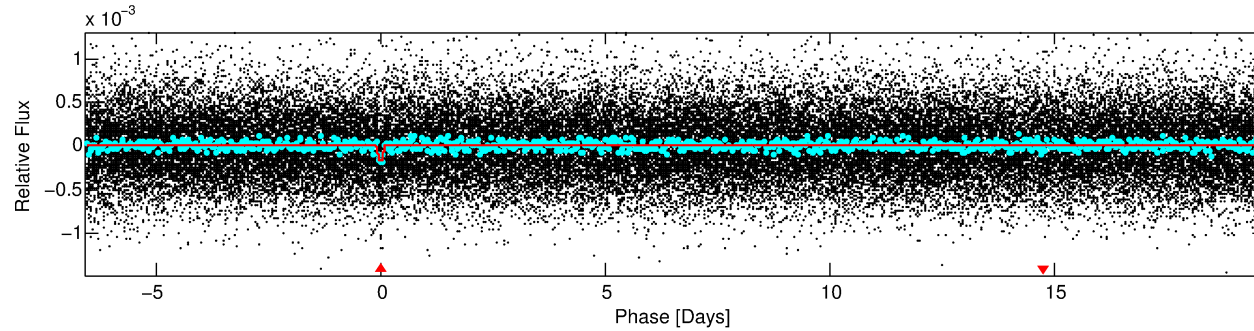
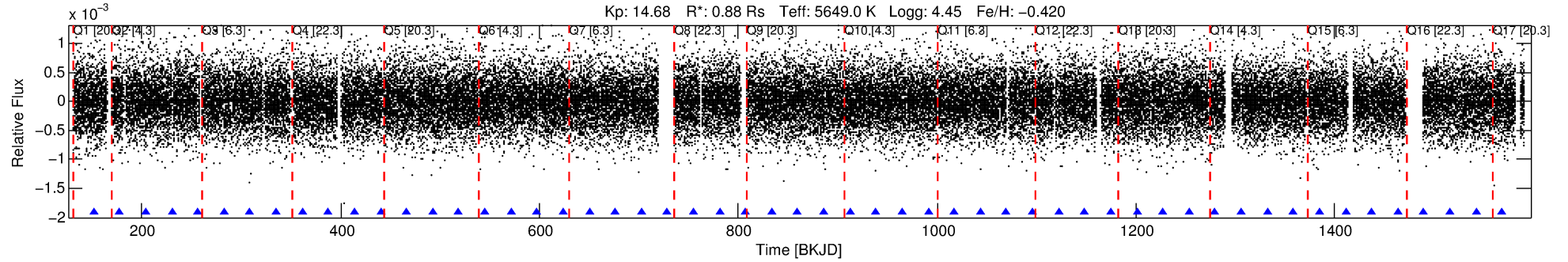
## Ephemeris Match Information For 005737869-01

No Significant Match Found

# DV One-Page Summary

KIC: 5737869 Candidate: 1 of 1 Period: 26.240 d

KOI: K06624.01 Corr: 0.996



## DV Fit Results:

Period = 26.24034 [0.00032] d  
Epoch = 151.5214 [0.0101] BKJD  
Rp/R\* = 0.0137 [0.0142]  
a/R\* = 34.16 [167.27]  
b = 0.85 [1.61]  
Seff = 27.43 [8.78]  
Teq = 584 [47] K  
Rp = 1.31 [1.39] Re  
a = 0.1596 [0.0319] AU  
Ag = 448.89 [957.47] [0.47σ]  
Teffp = 4153 [2196] K [1.62σ]

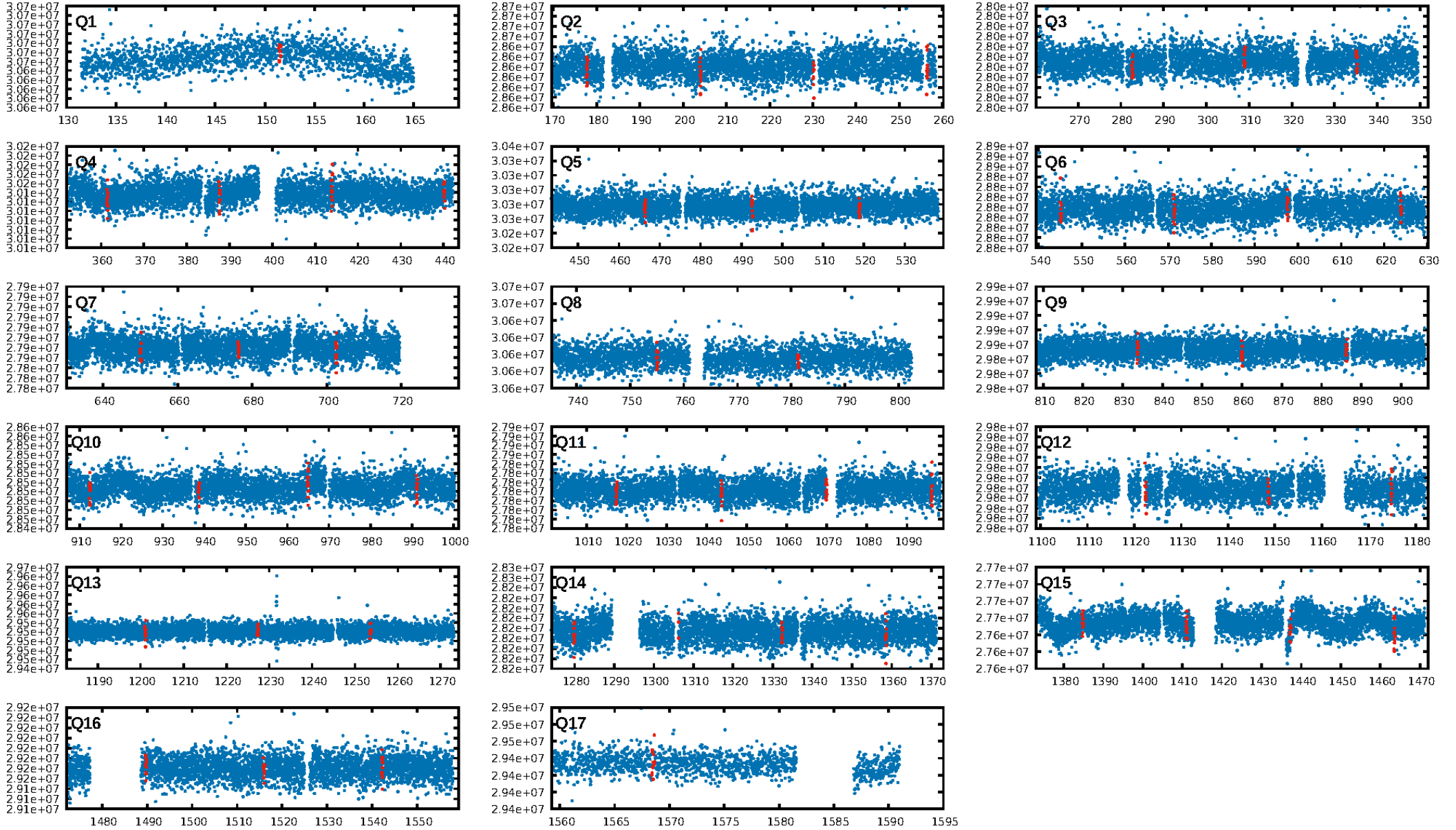
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 100.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 3.20e-13  
RollingBand-fgt: 1.00 [50/50]  
GhostDiagnostic-chr: 0.5606  
Centroid-sig: 0.0%  
Centroid-so: 6.357 arcsec [4.18σ]  
OotOffset-rm: 3.977 arcsec [3.83σ]  
KicOffset-rm: 4.097 arcsec [4.31σ]  
OotOffset-st: 3/3/3/2 [11]  
KicOffset-st: 3/3/3/2 [11]  
DiffImageQuality-fgm: 0.36 [4/11]  
DiffImageOverlap-fno: 1.00 [17/17]

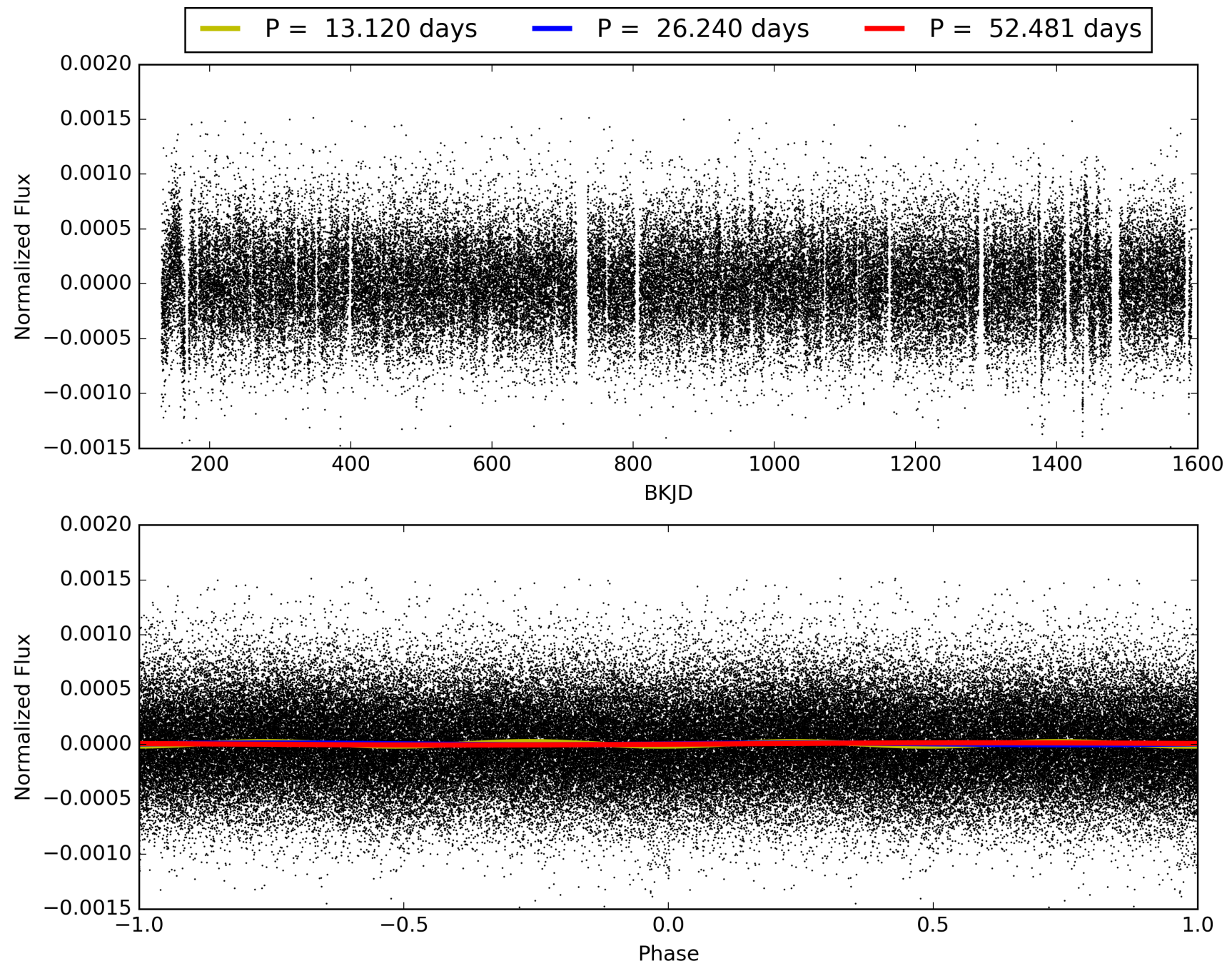
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:41:22 Z

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

# TCE 005737869-01, PDC Light Curves

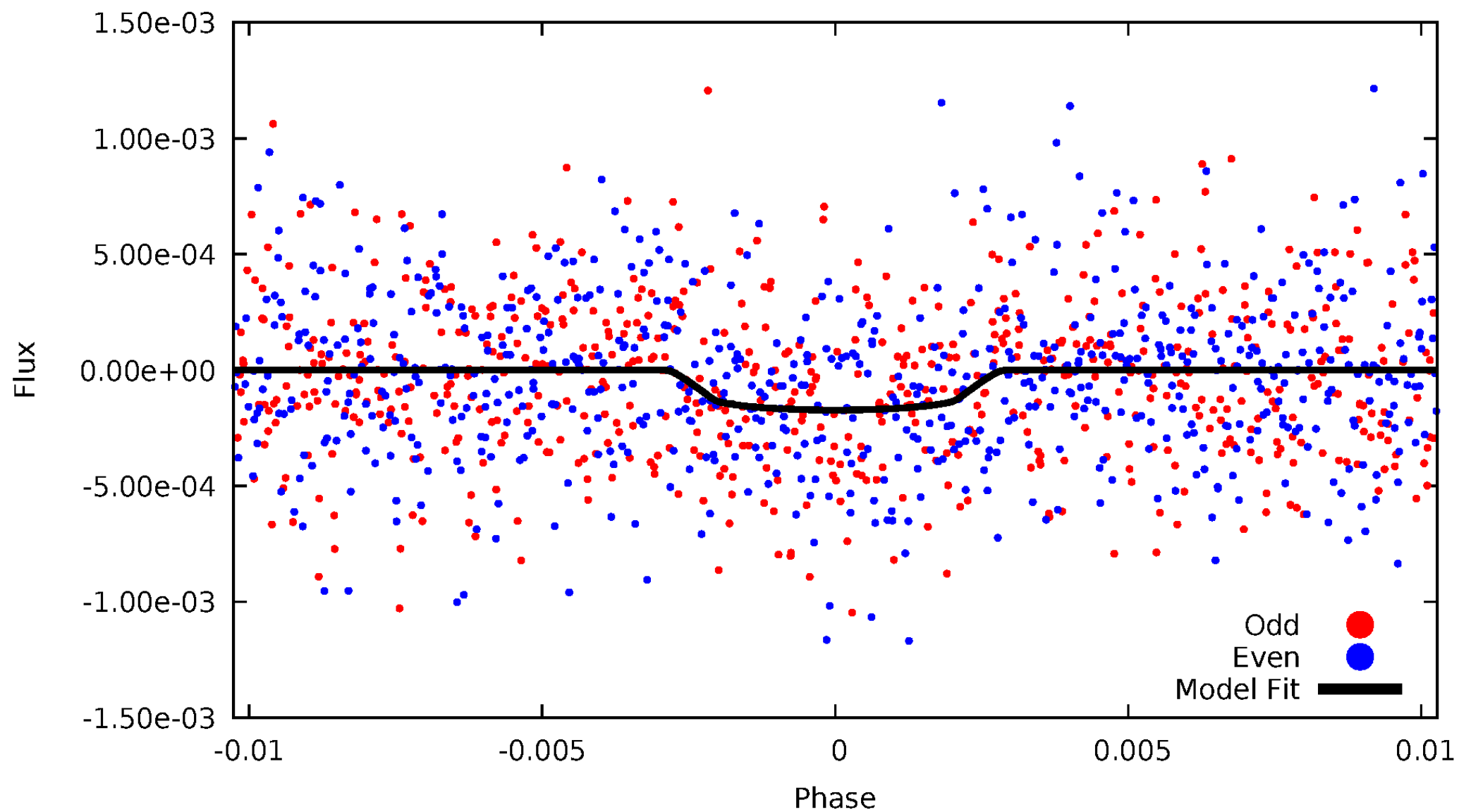


TCE 005737869-01



# DV Odd/Even

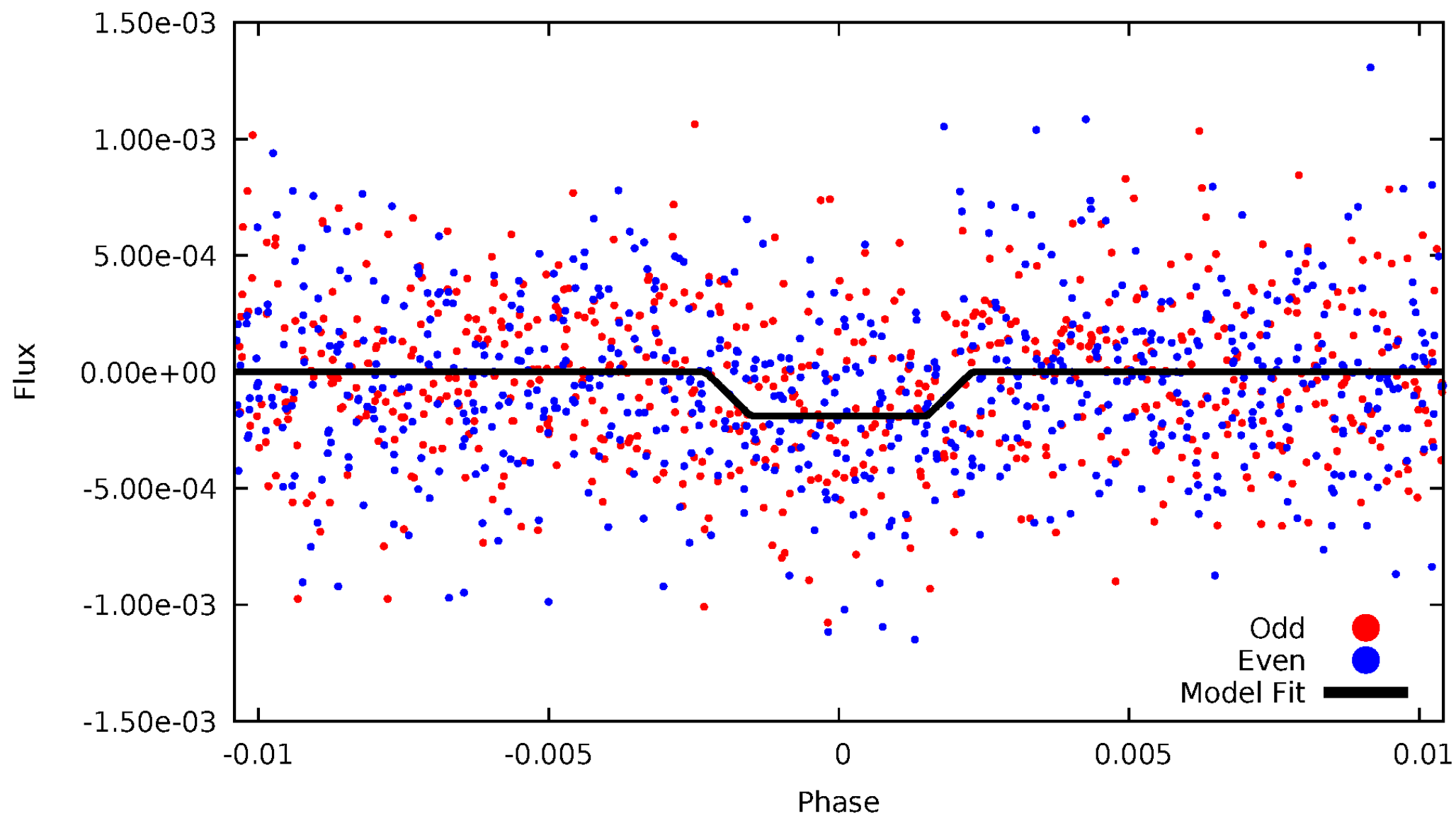
TCE 005737869-01





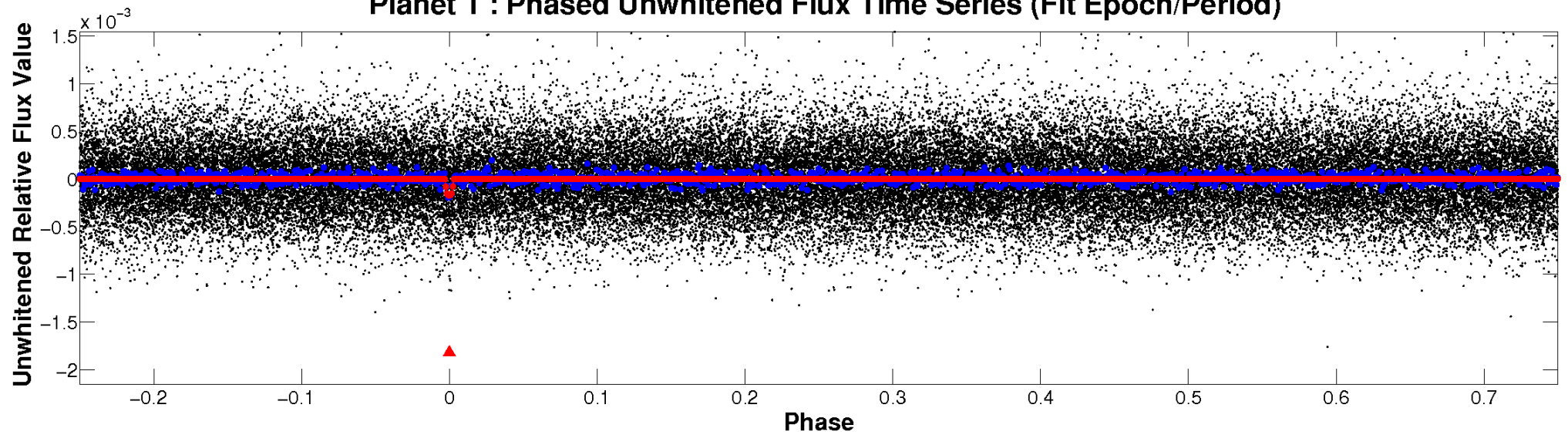
# ALT Odd/Even

TCE 005737869-01

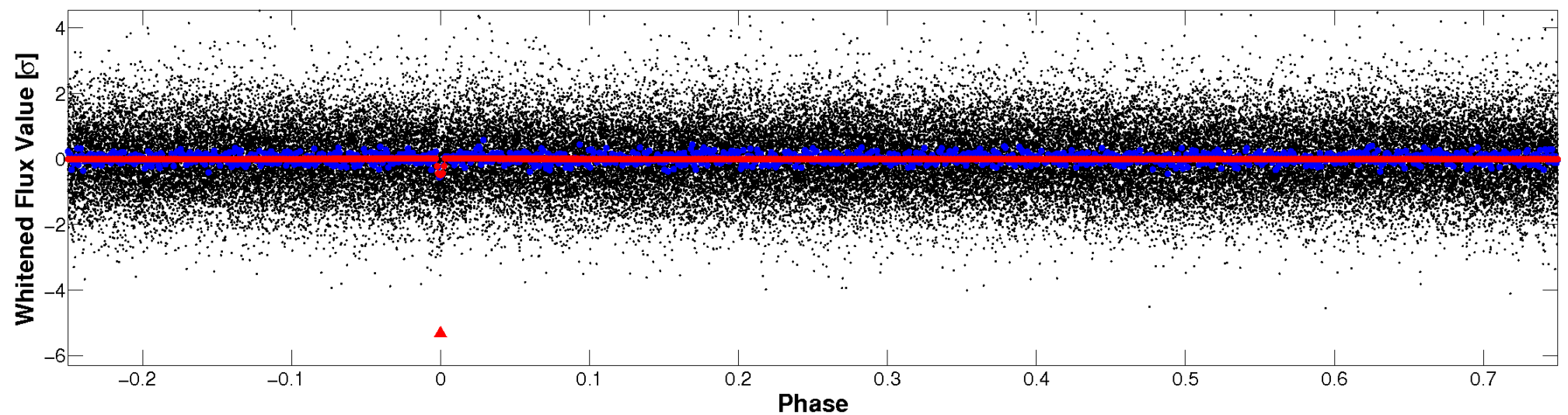


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**

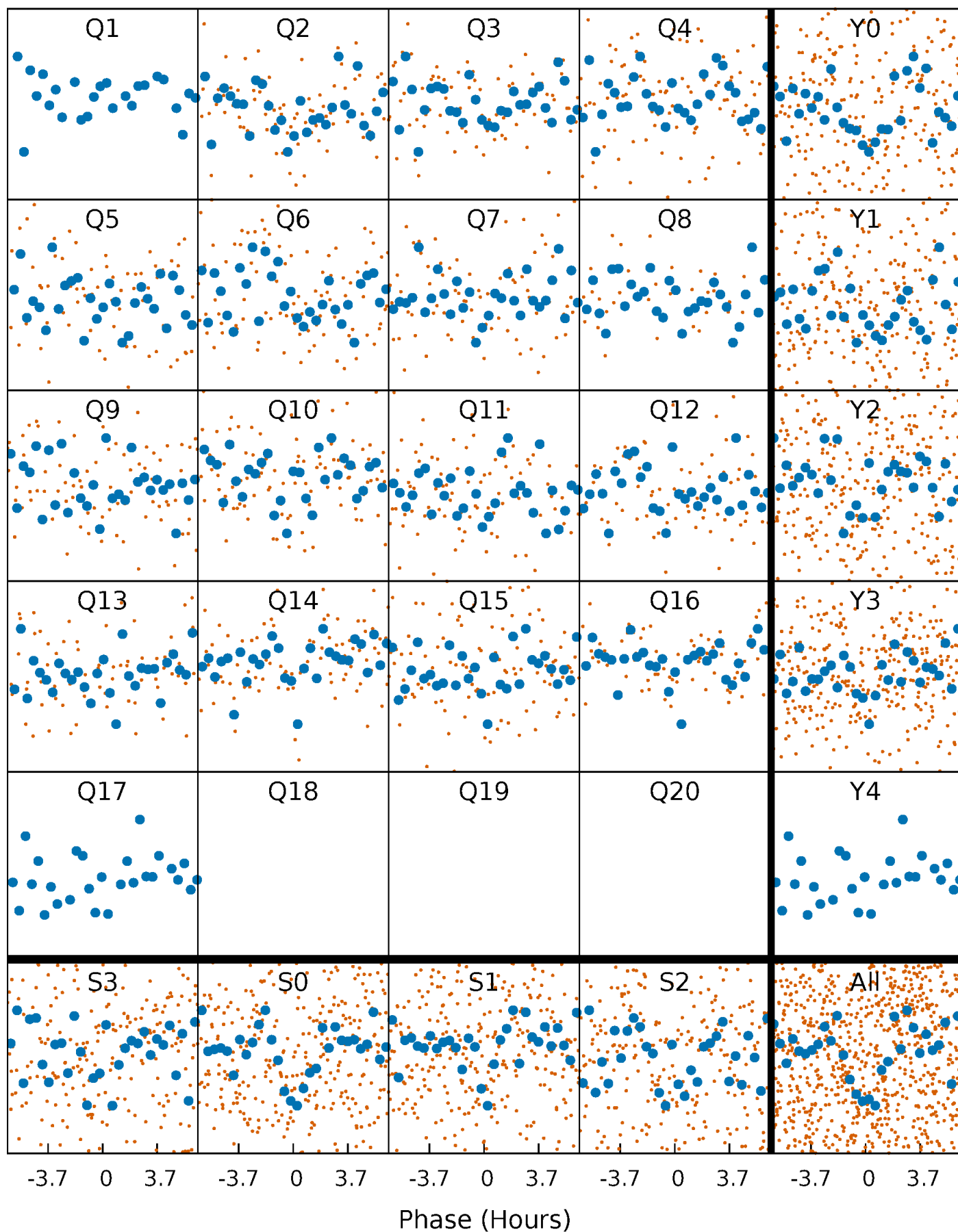


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

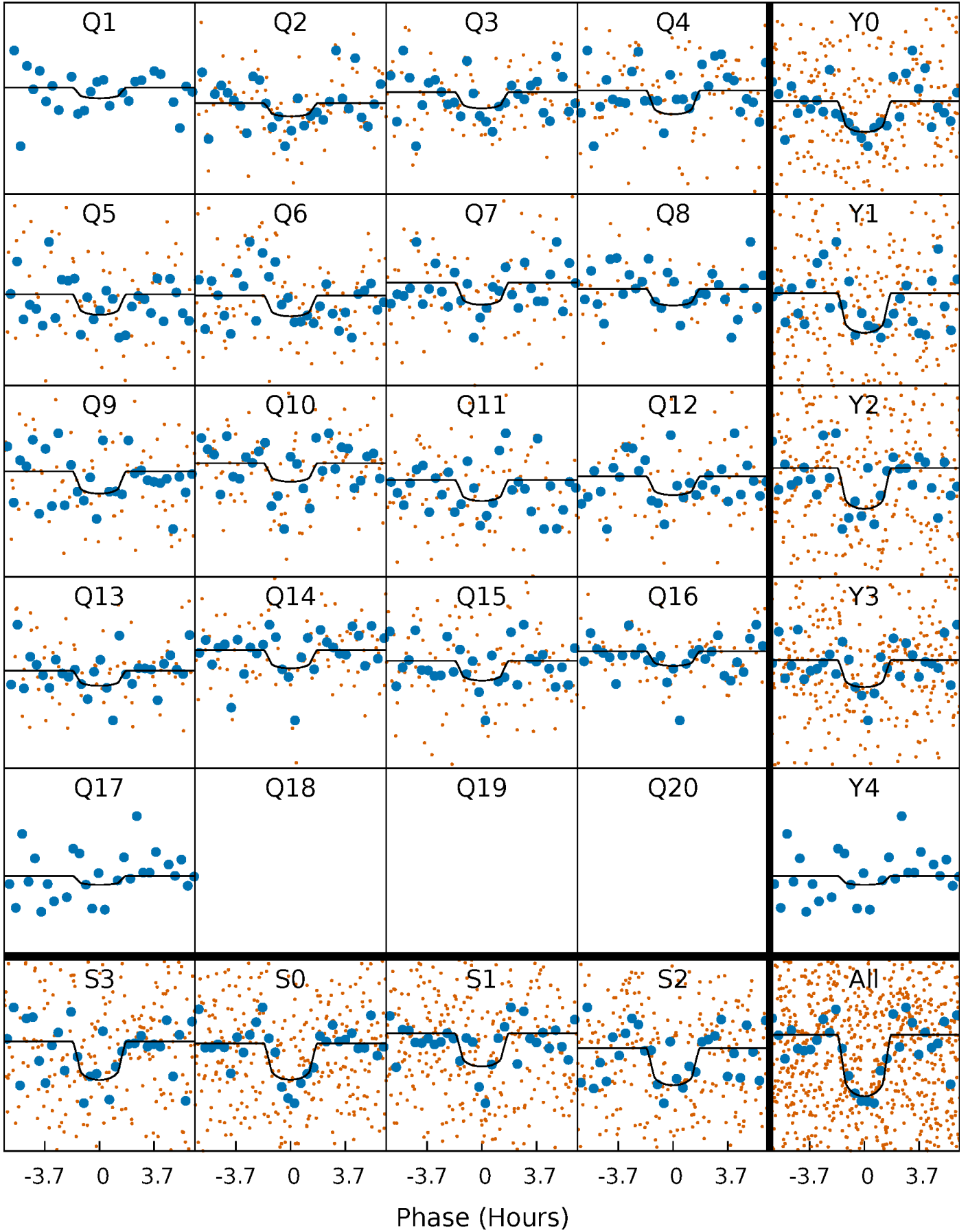
TCE 005737869-01 P= 26.240337 Days  $T_0=151.521353$  (BKJD)





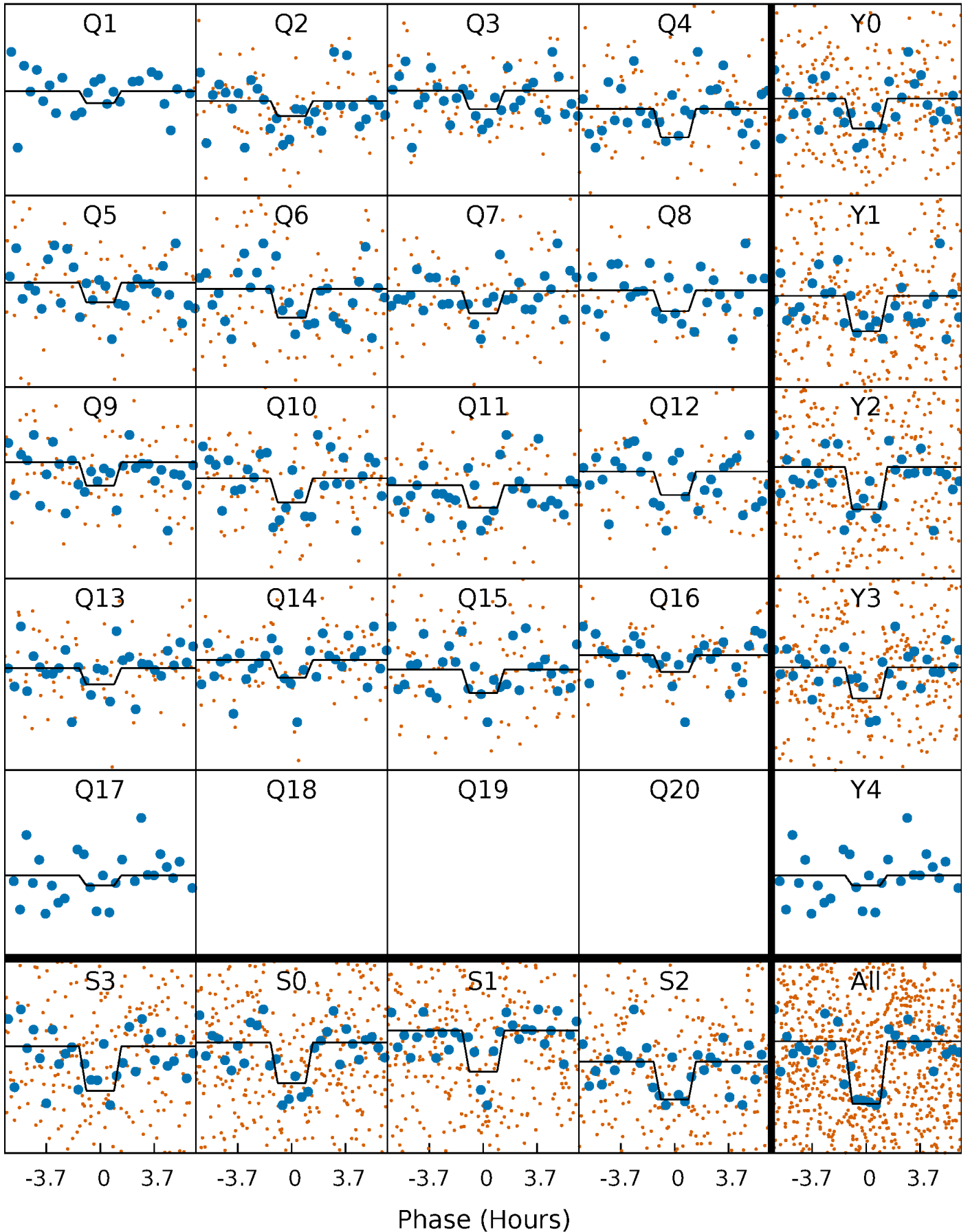
# DV Quarter-Phased Transit Curves

TCE 005737869-01 P= 26.240337 Days  $T_0=151.521353$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

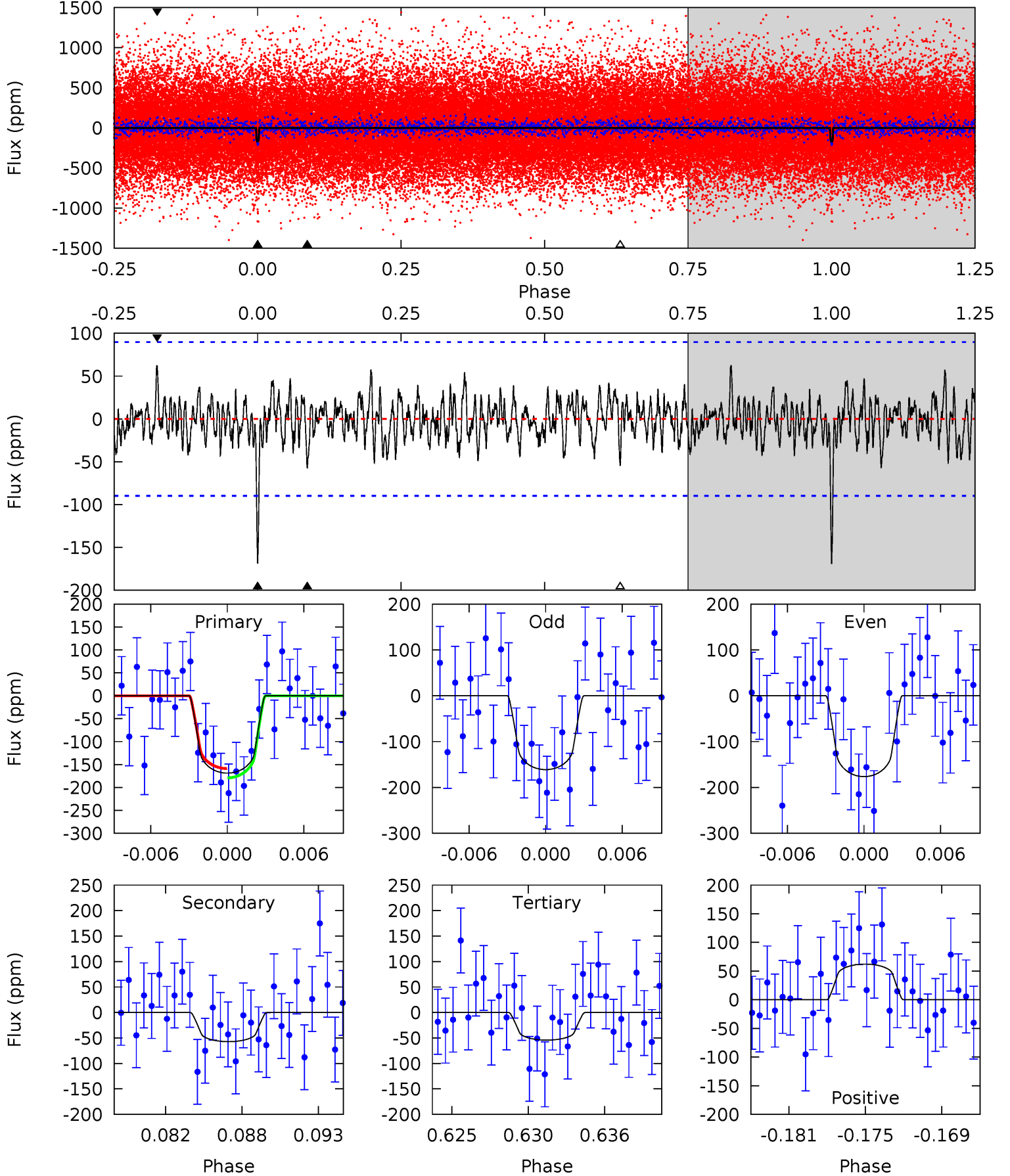
TCE 005737869-01 P= 26.239964 Days  $T_0=151.534939$  (BKJD)



# DV Model-Shift Uniqueness Test

005737869-01,  $P = 26.240337$  Days,  $E = 125.281016$  Days

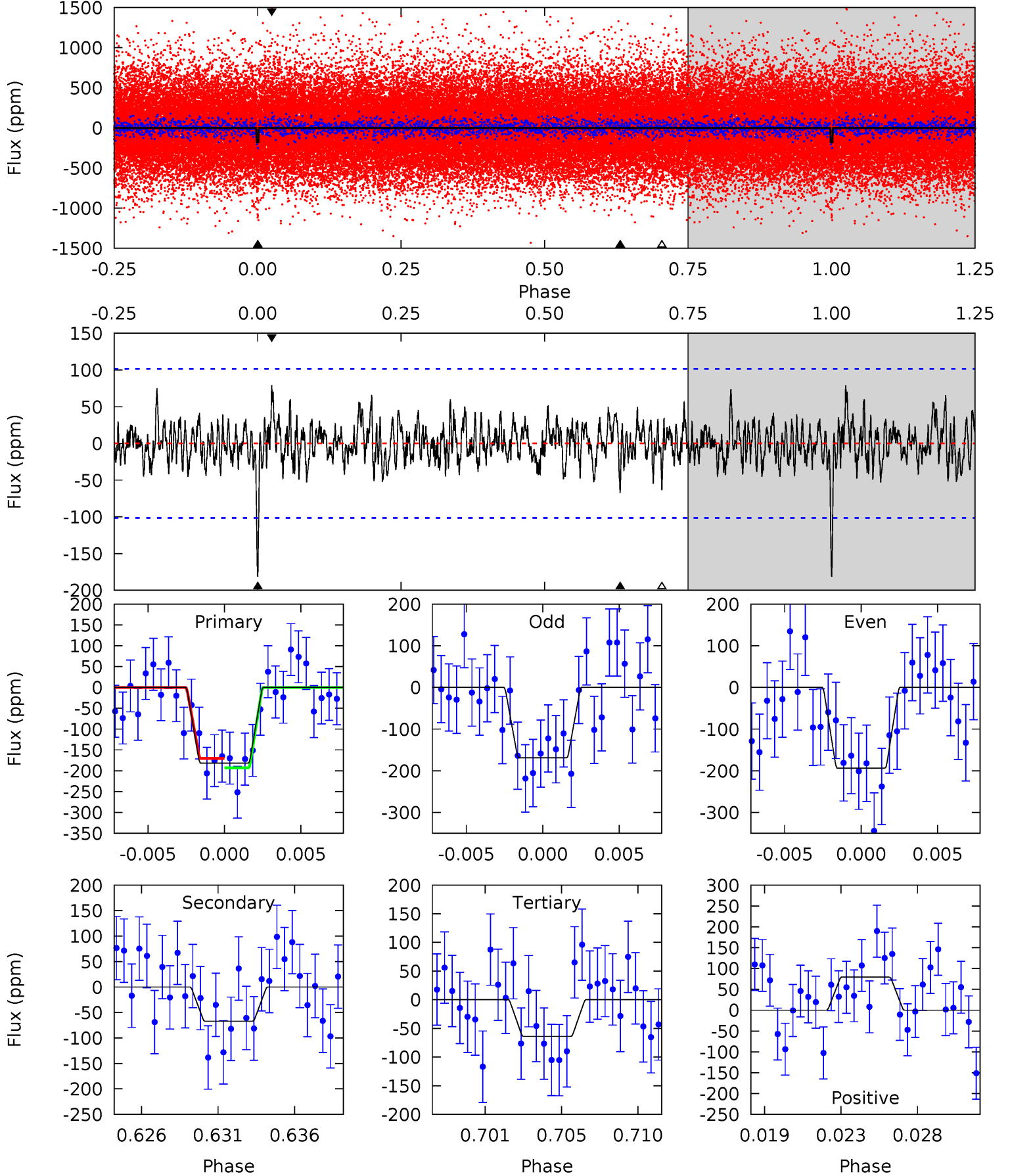
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.65	3.27	3.10	3.56	5.13	2.76	1.10	6.55	6.09	0.17	-0.29	0.44	1.11	0.27	0.58



# Alt Model-Shift Uniqueness Test

005737869-01, P = 26.239964 Days, E = 125.294975 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
9.24	3.42	3.25	4.03	5.17	2.83	1.10	5.99	5.20	0.17	-0.62	0.62	1.08	0.30	0.58



### Stellar Parameters For KIC 005737869

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5649^{+169}_{-169}$	$4.450^{+0.120}_{-0.165}$	$-0.420^{+0.300}_{-0.300}$	$0.875^{+0.203}_{-0.136}$	$0.787^{+0.115}_{-0.053}$	$1.657^{+0.865}_{-0.731}$
	+3%/-3%	+3%/-4%	+71%/-71%	+23%/-16%	+15%/-7%	+52%/-44%
Source	PHO1	KIC0	KIC0	DSEP		

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

### Secondary Eclipse Parameters for KIC 005737869-01 / KOI 6624.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-57 \pm 17$	$1.60^{+1.29}_{-1.01}$	$819^{+51}_{-48}$	$4084^{+2256}_{-745}$	$310^{+2103}_{-221}$
Alt.	$-67 \pm 20$	$1.59^{+1.29}_{-0.95}$	$822^{+51}_{-43}$	$4215^{+2163}_{-766}$	$366^{+1879}_{-255}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$



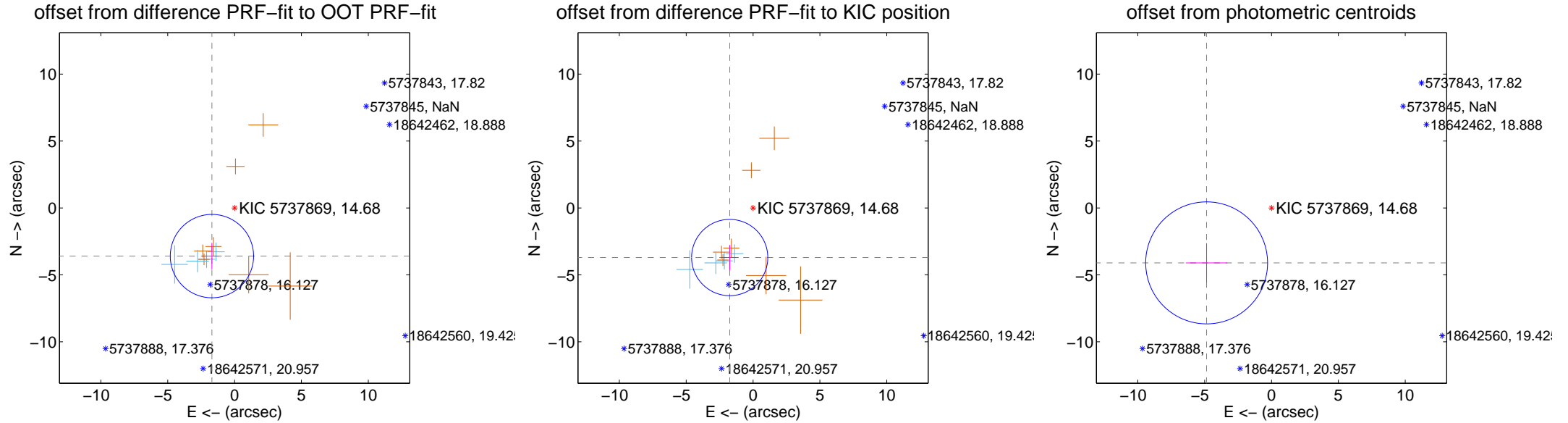
## DV Centroid Data

Supplemental centroid analysis for 005737869-01. Kepler magnitude: 14.68. Transit SNR 7.58

There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

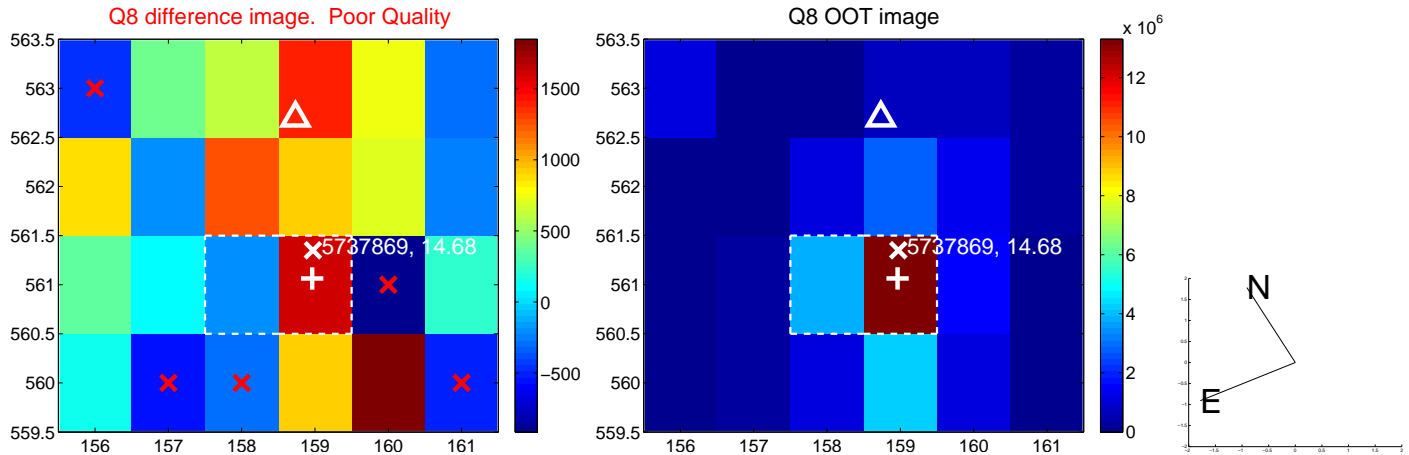
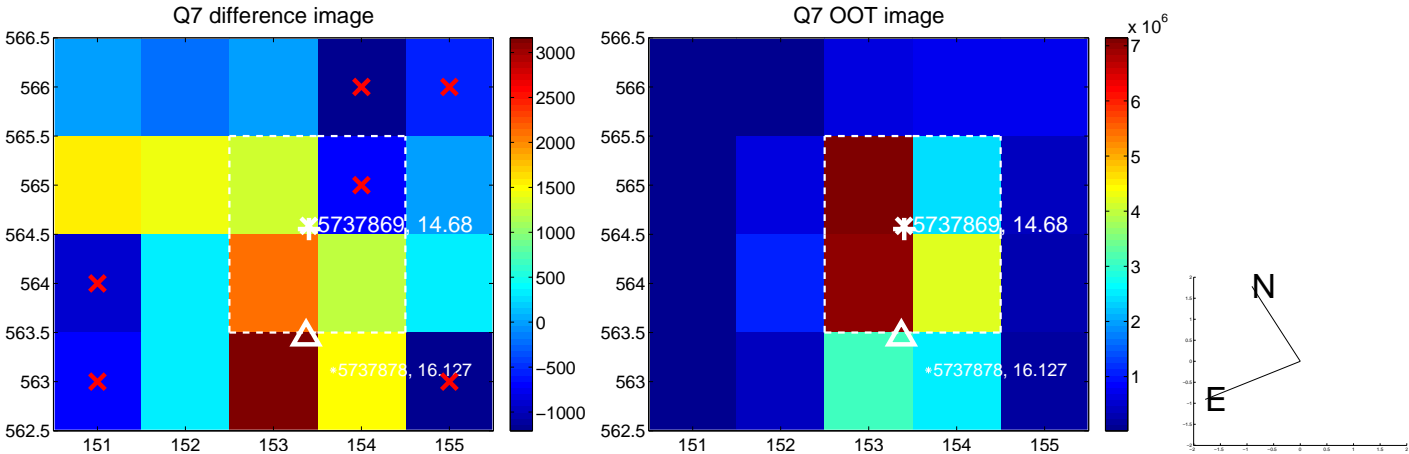
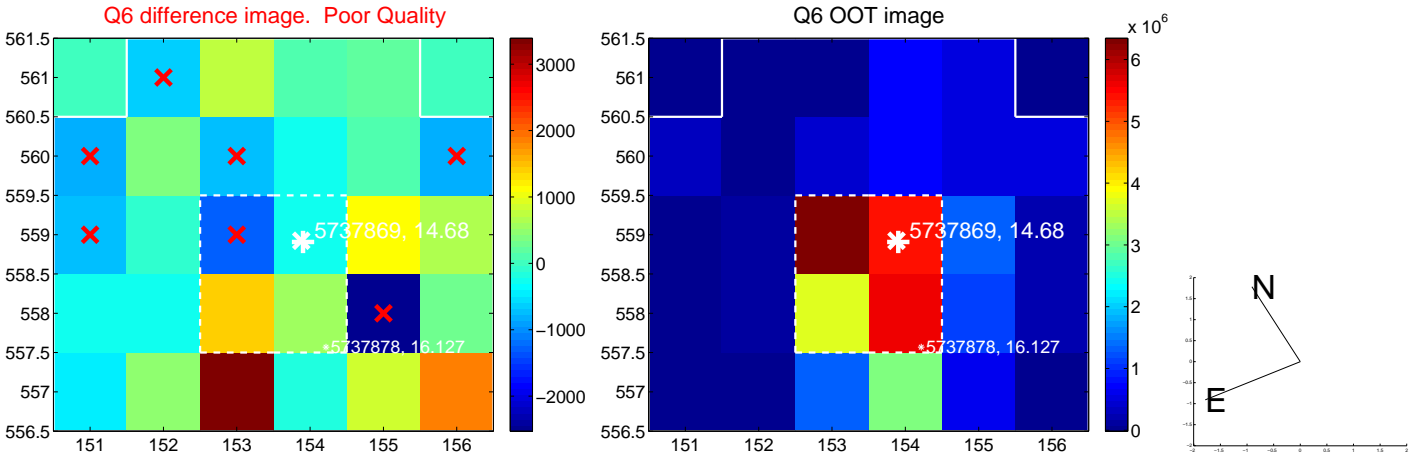
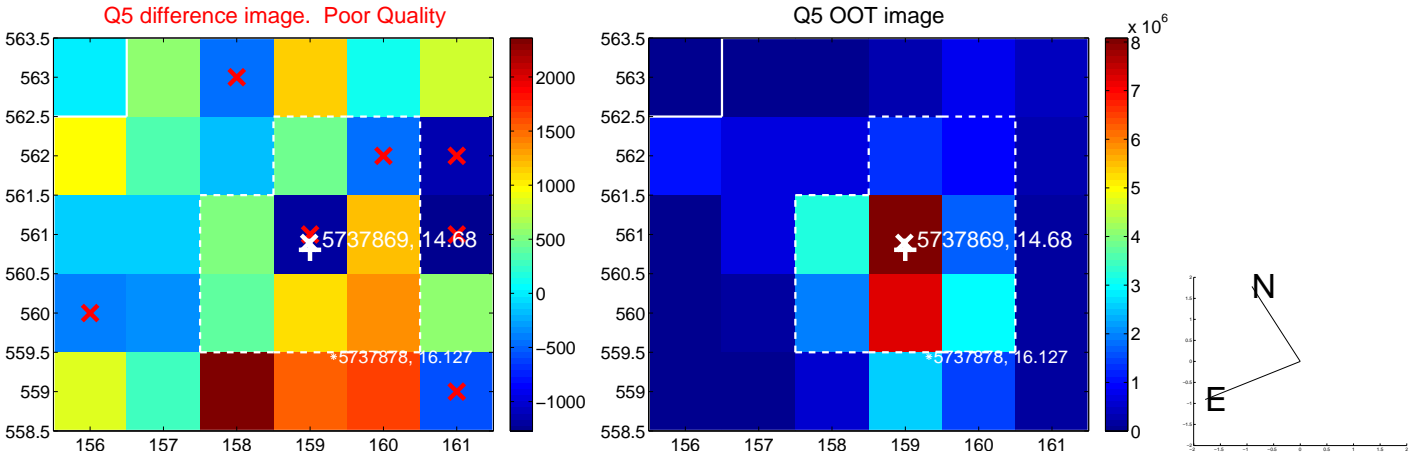
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.977 \pm 1.038$	<b>3.83</b>	$1.694 \pm 0.726$	$-3.598 \pm 0.994$
PRF-fit source offset from KIC position	$4.097 \pm 0.950$	<b>4.31</b>	$1.747 \pm 0.674$	$-3.705 \pm 0.937$
photometric centroid source offset	$6.36 \pm 1.52$	<b>4.18</b>	$4.85 \pm 1.55$	$-4.10 \pm 1.47$



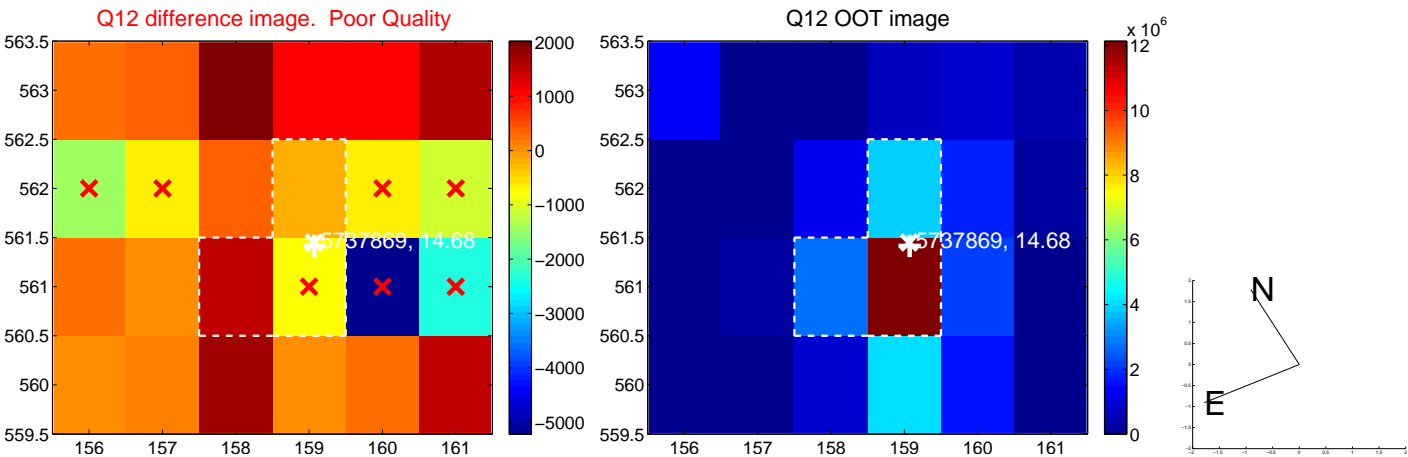
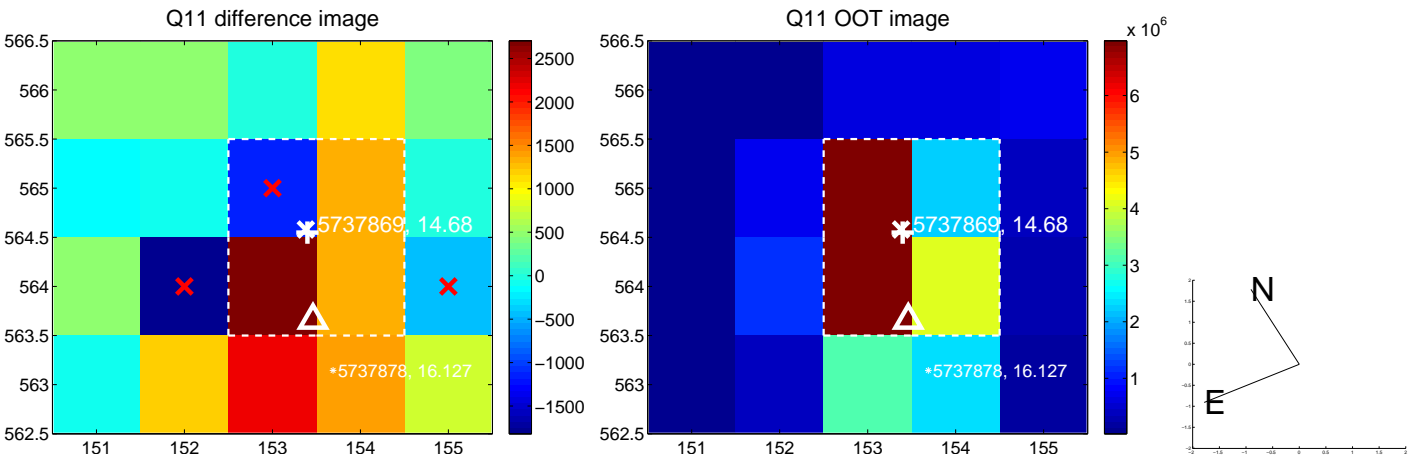
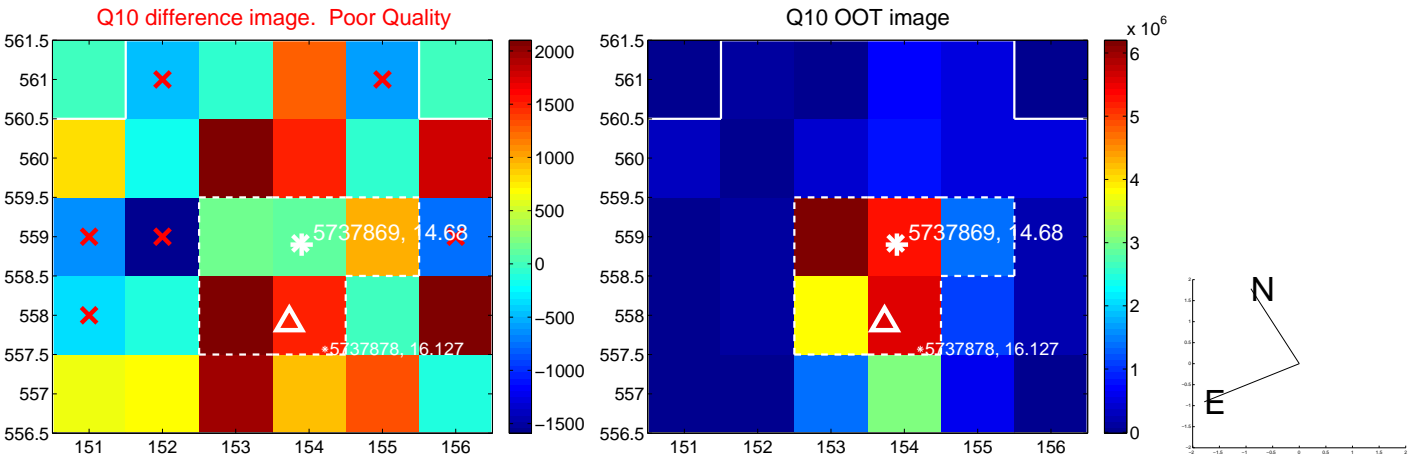
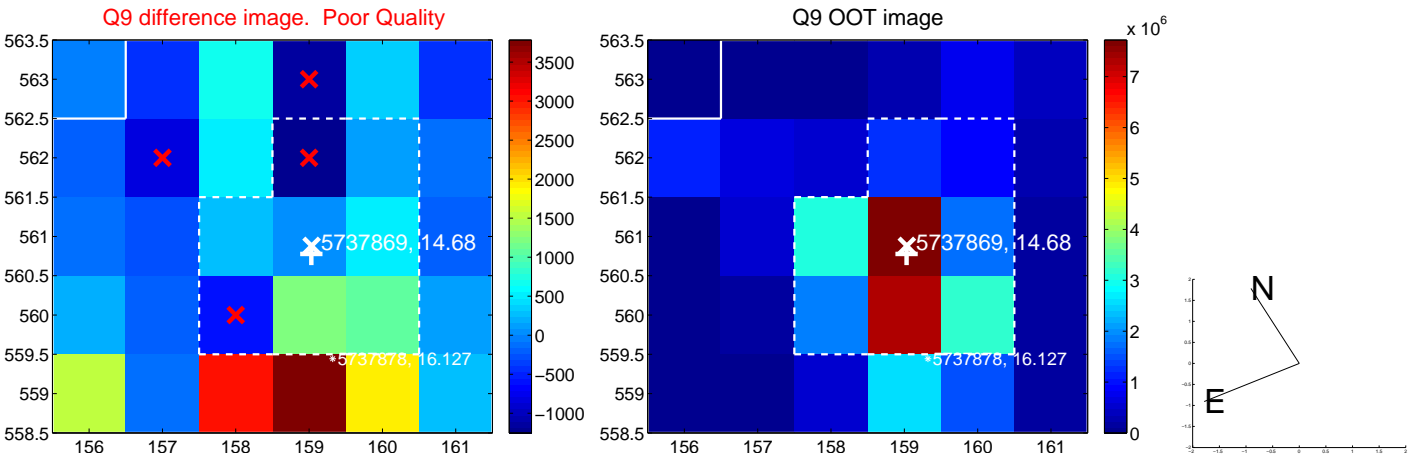
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: 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.



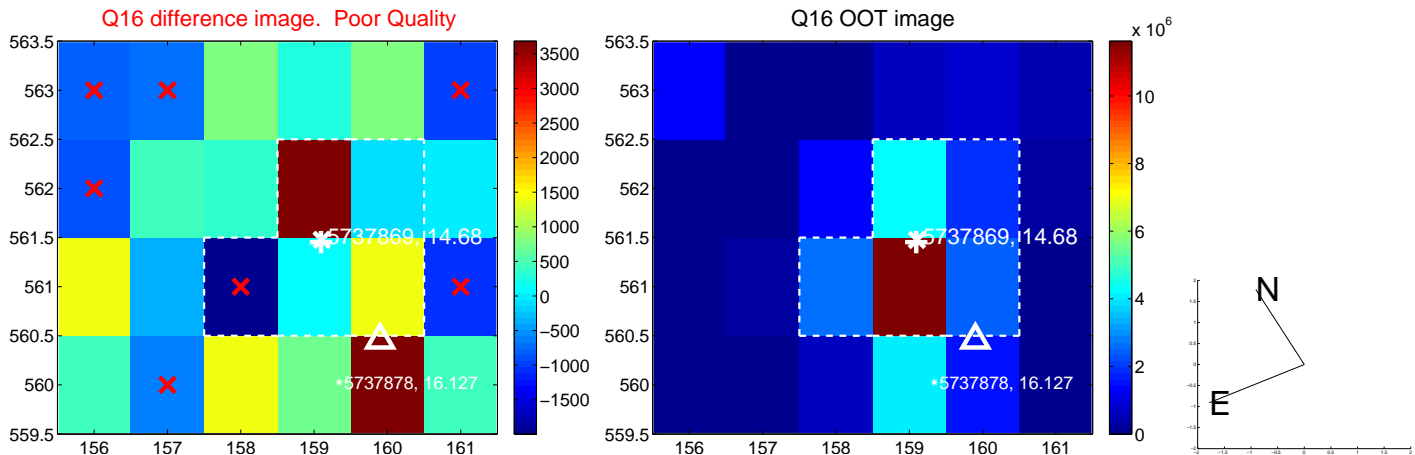
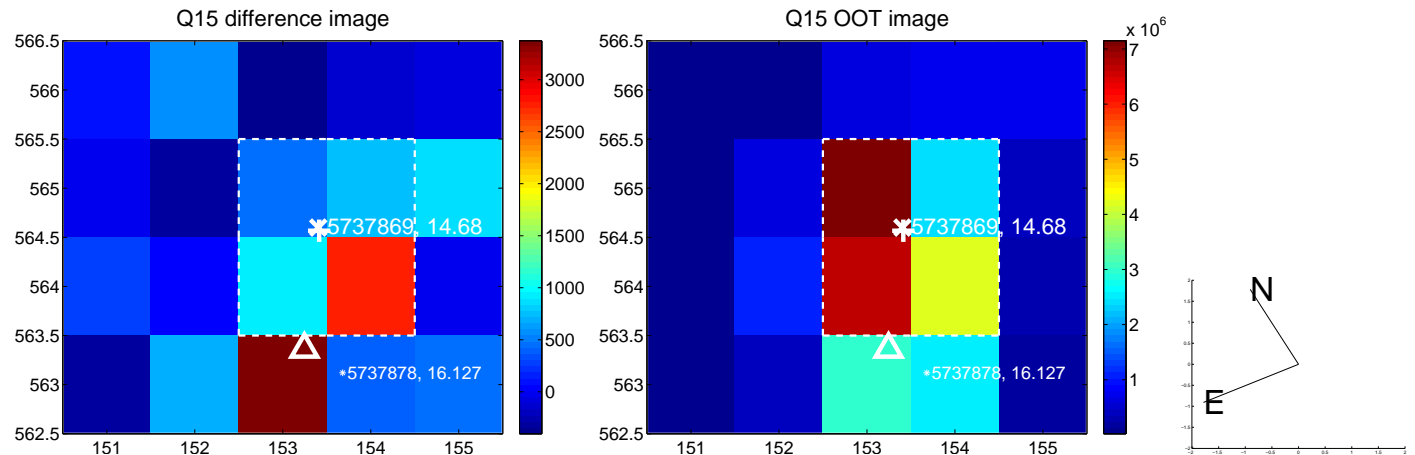
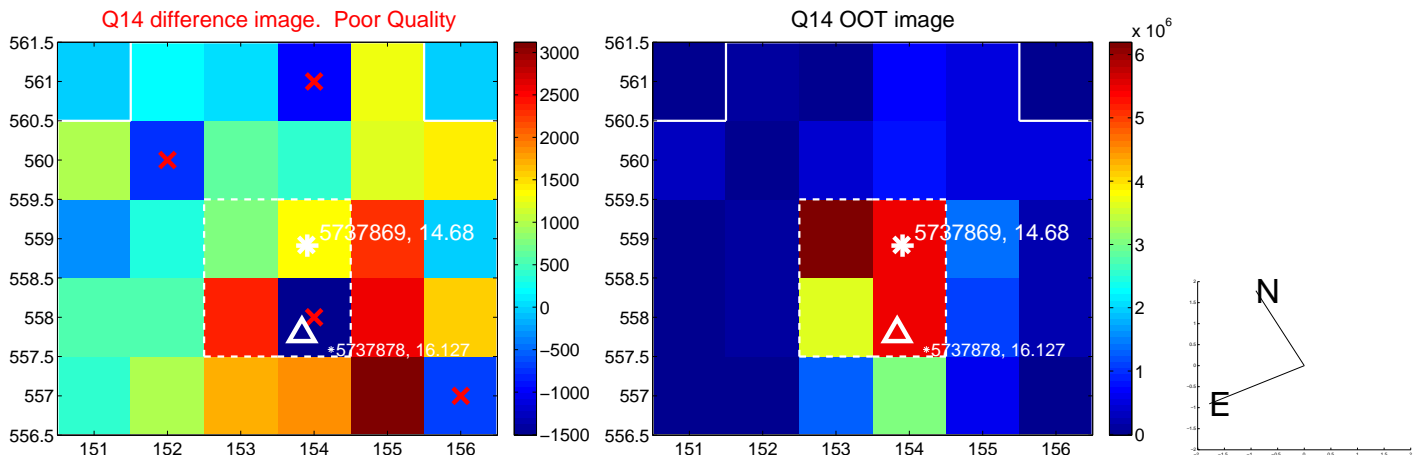
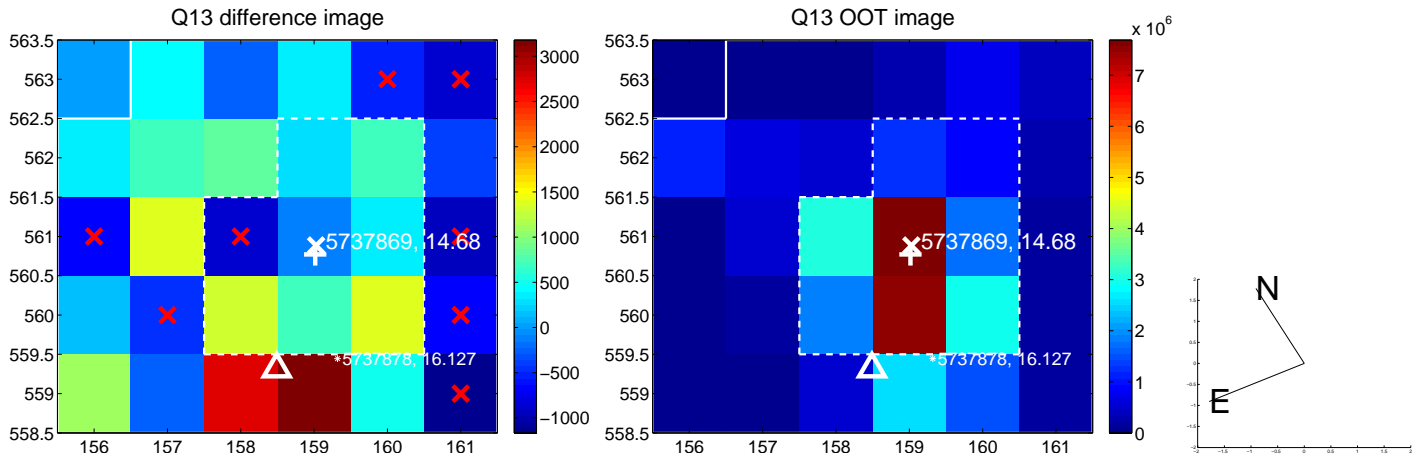
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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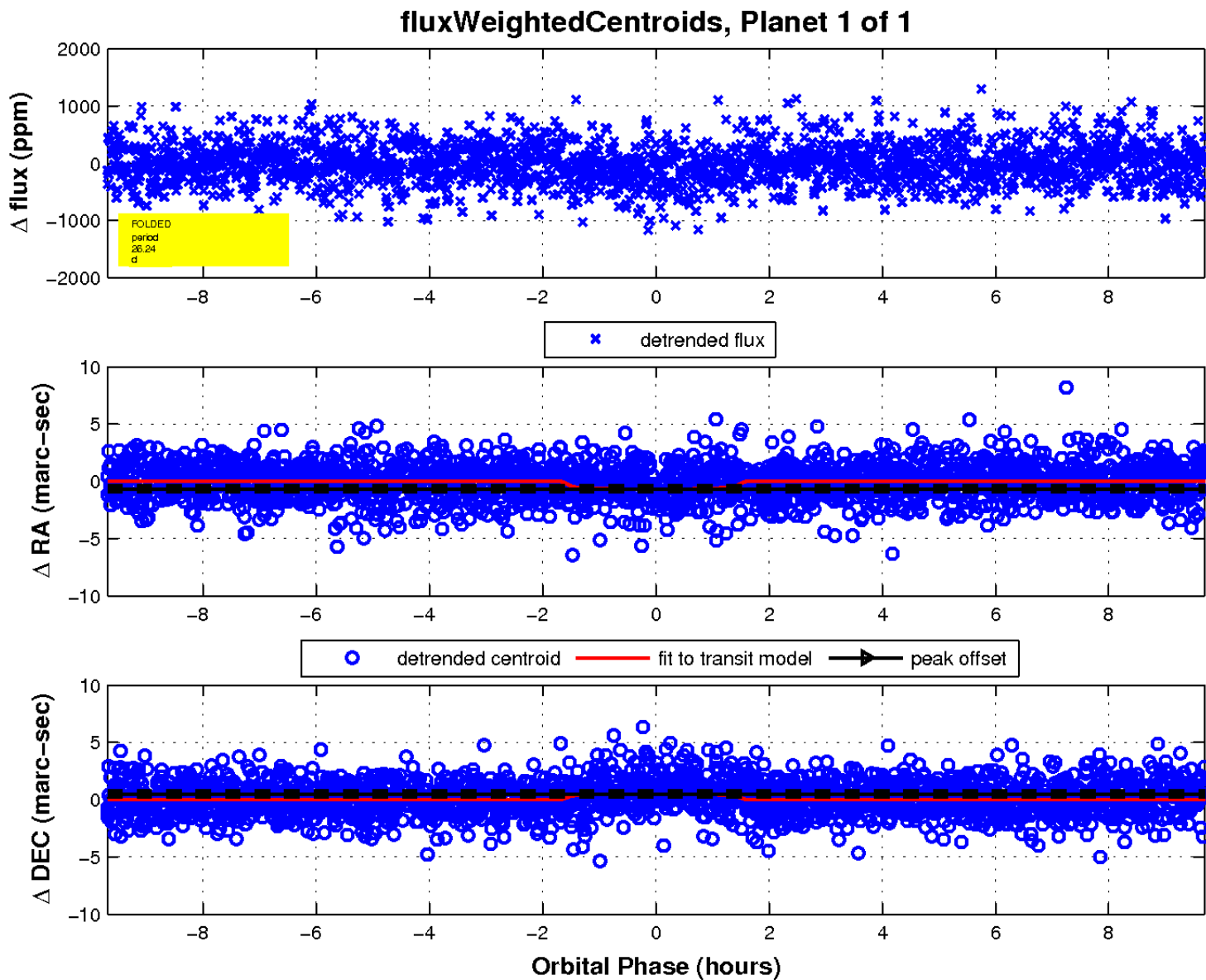
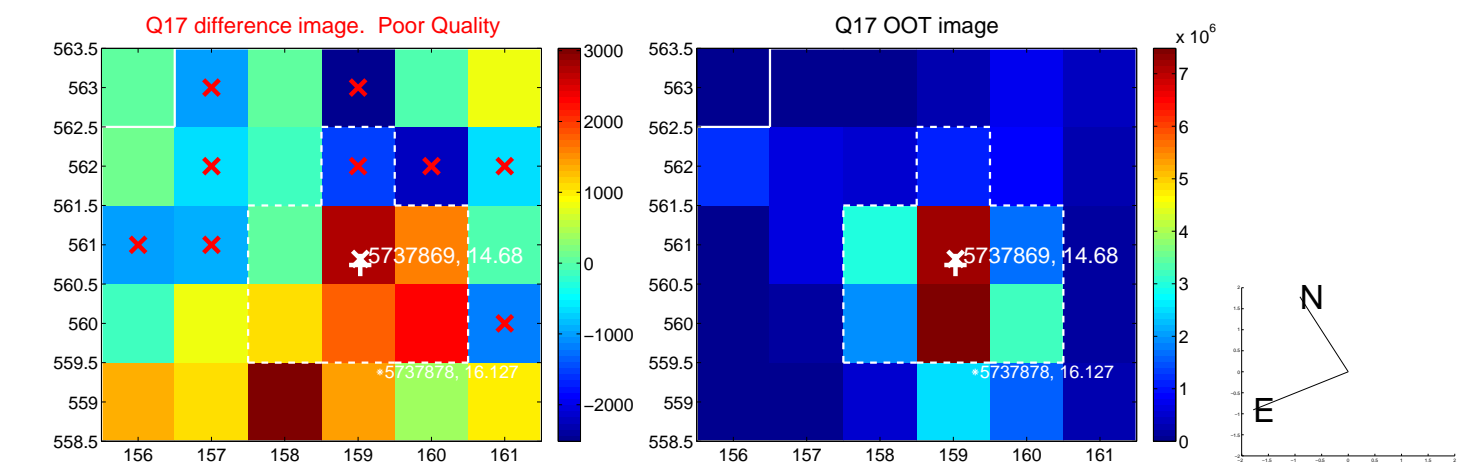


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

