

# KIC 006150518

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006150518-01	OBS	No	14.466064	132.528969	57.2	19.048	10.2	9.7	1.88	6731	1.48	379.81

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006150518-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—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.

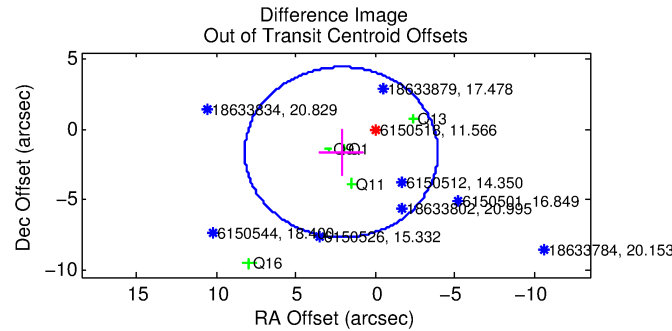
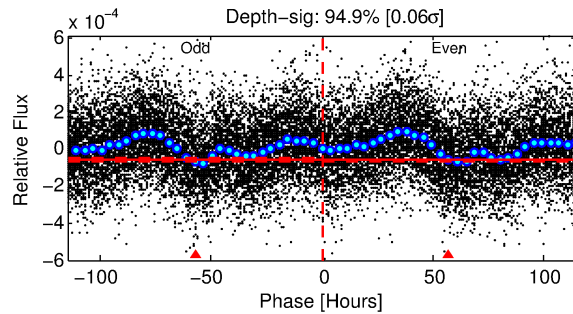
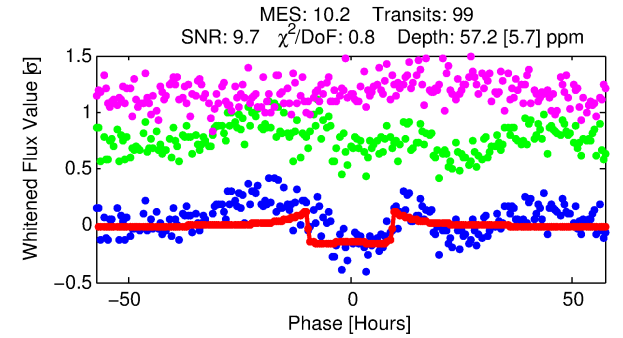
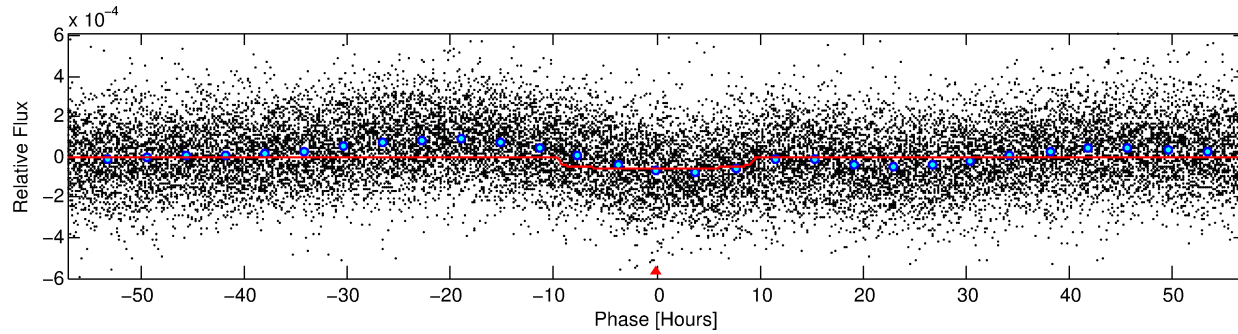
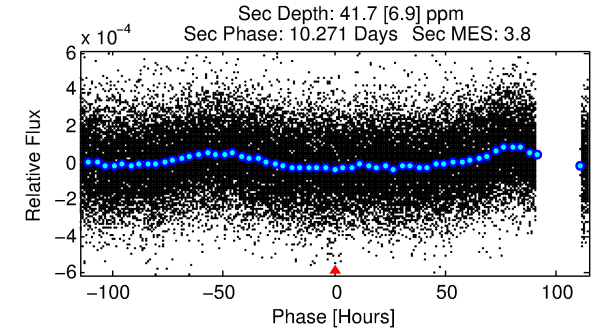
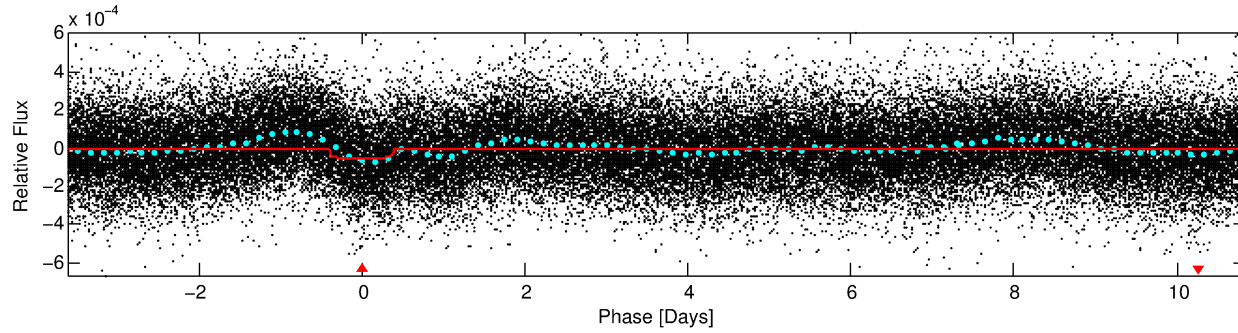
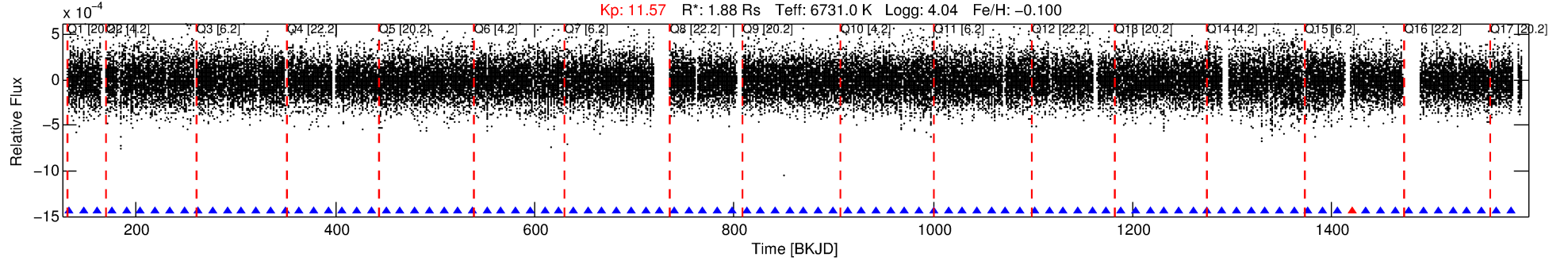
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006150518-01

No Significant Match Found

# DV One-Page Summary

KIC: 6150518 Candidate: 1 of 1 Period: 14.466 d



## DV Fit Results:

Period = 14.46606 [0.00022] d  
Epoch = 132.5290 [0.0125] BKJD  
Rp/R\* = 0.0072 [0.0018]  
a/R\* = 4.87 [6.36]  
b = 0.57 [1.61]  
Seff = 379.81 [180.75]  
Teq = 1126 [134] K  
Rp = 1.48 [0.61] Re  
a = 0.1305 [0.0383] AU  
Ag = 178.19 [122.33] [1.45σ]  
Teffp = 6359 [873] K [5.93σ]

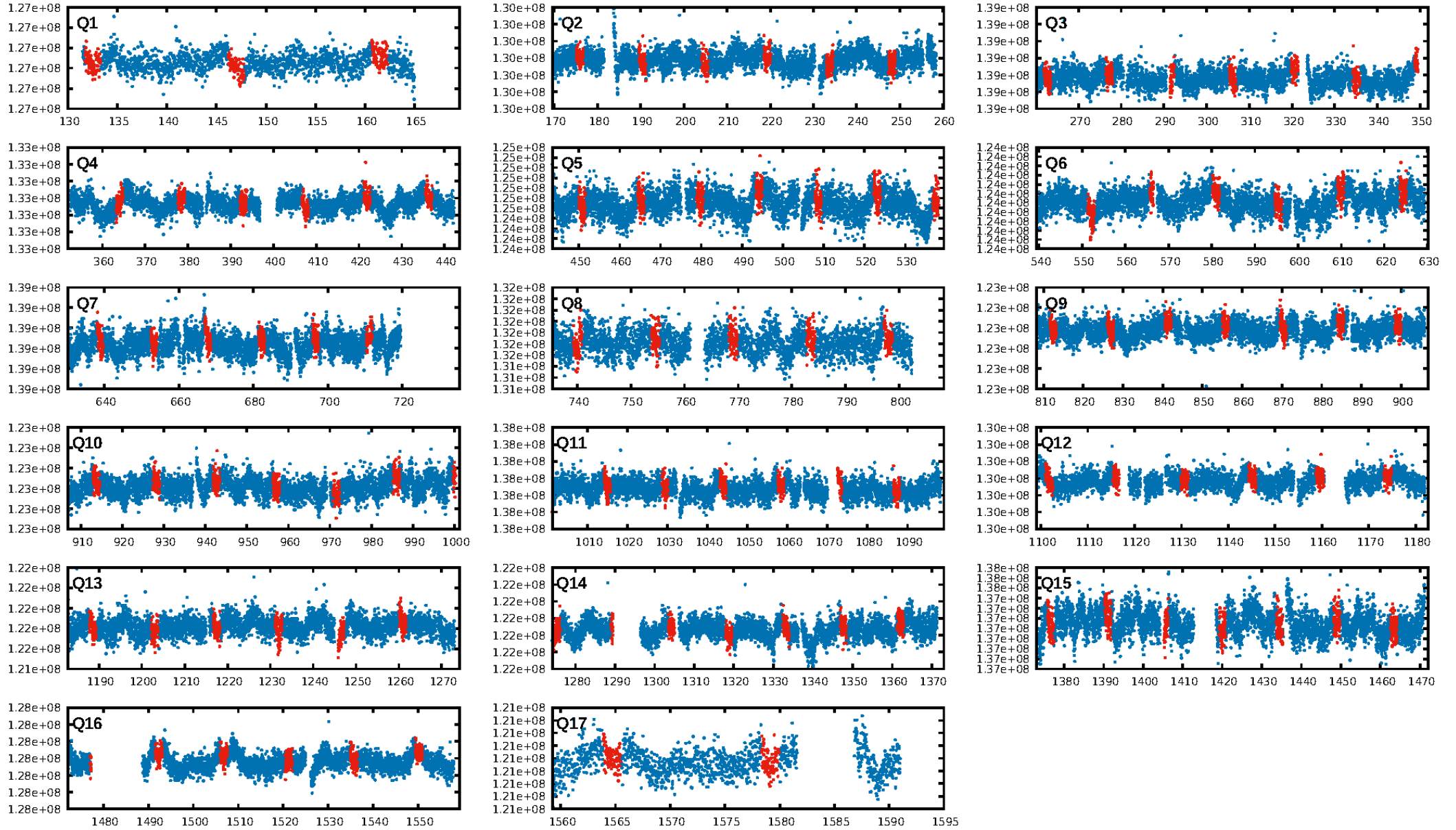
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.08e-21  
RollingBand-fgt: 0.99 [93/94]  
GhostDiagnostic-chr: 1.735  
Centroid-sig: 1.6%  
Centroid-so: 1.996 arcsec [2.09σ]  
OotOffset-rm: 2.678 arcsec [1.32σ]  
KicOffset-rm: 2.022 arcsec [1.34σ]  
OotOffset-st: 0/1/1/3 [5]  
KicOffset-st: 0/1/1/3 [5]  
DiffImageQuality-fgm: 0.20 [1/5]  
DiffImageOverlap-fno: 1.00 [17/17]

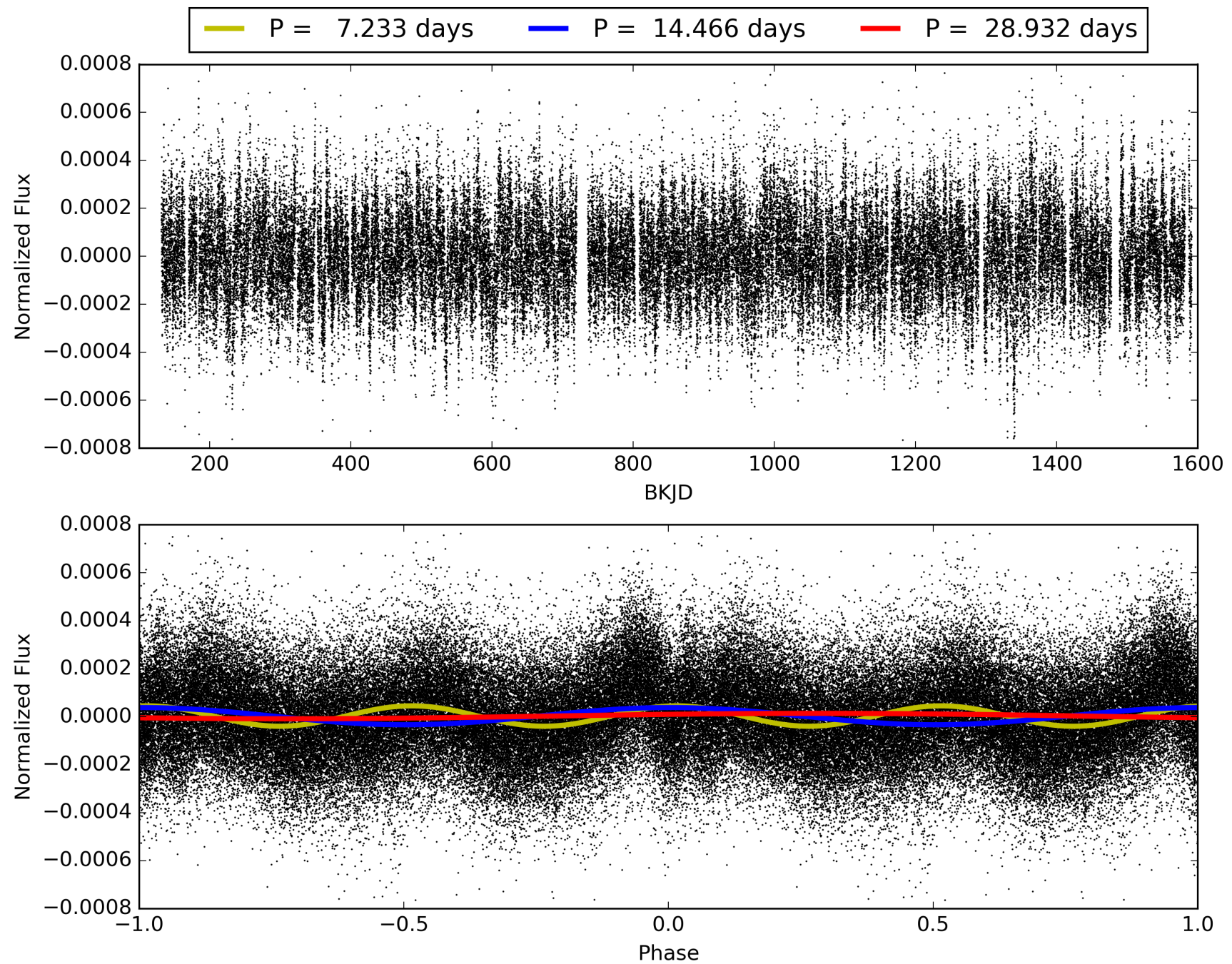
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 21:15:43 Z

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

# TCE 006150518-01, PDC Light Curves



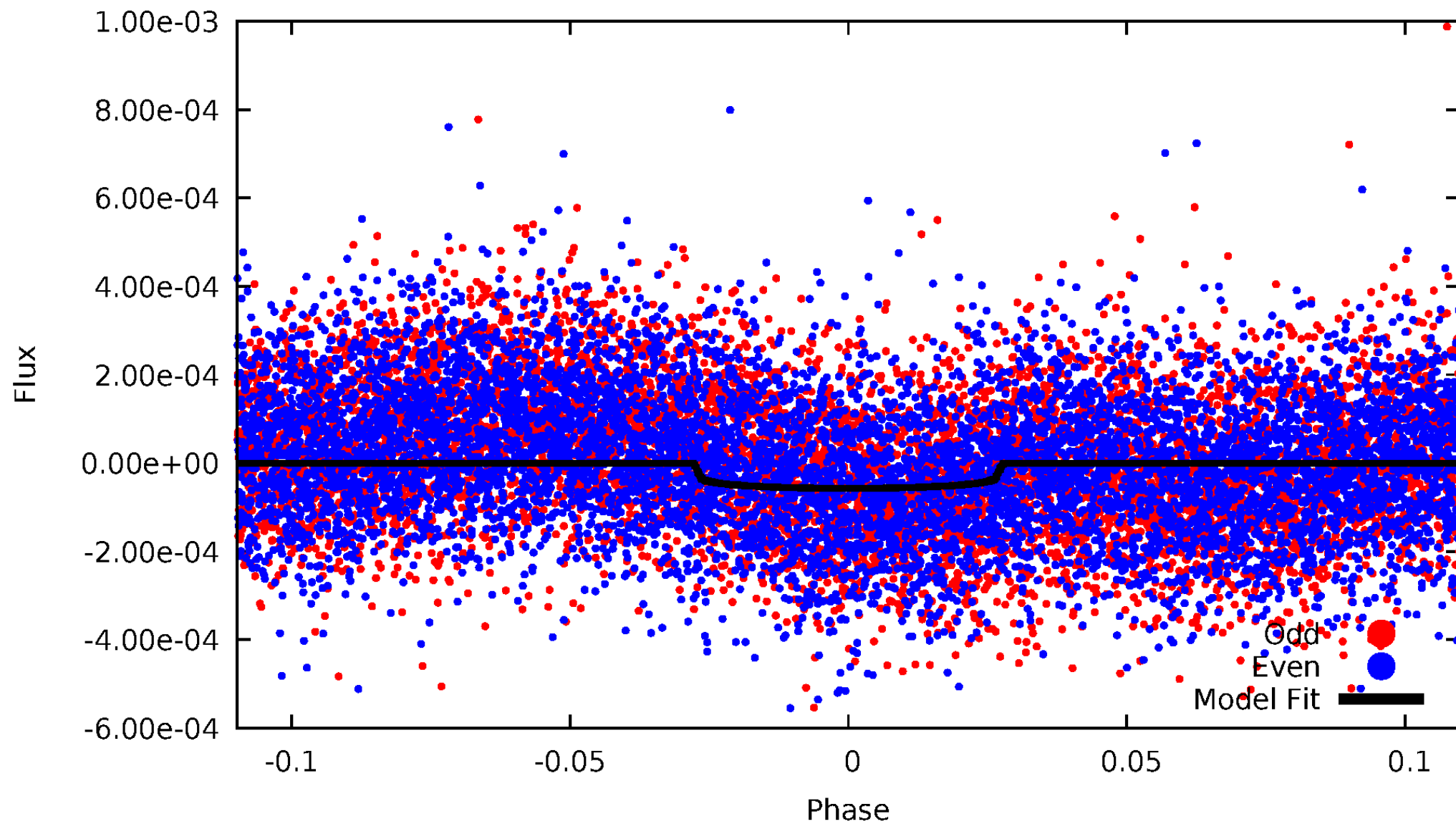
TCE 006150518-01





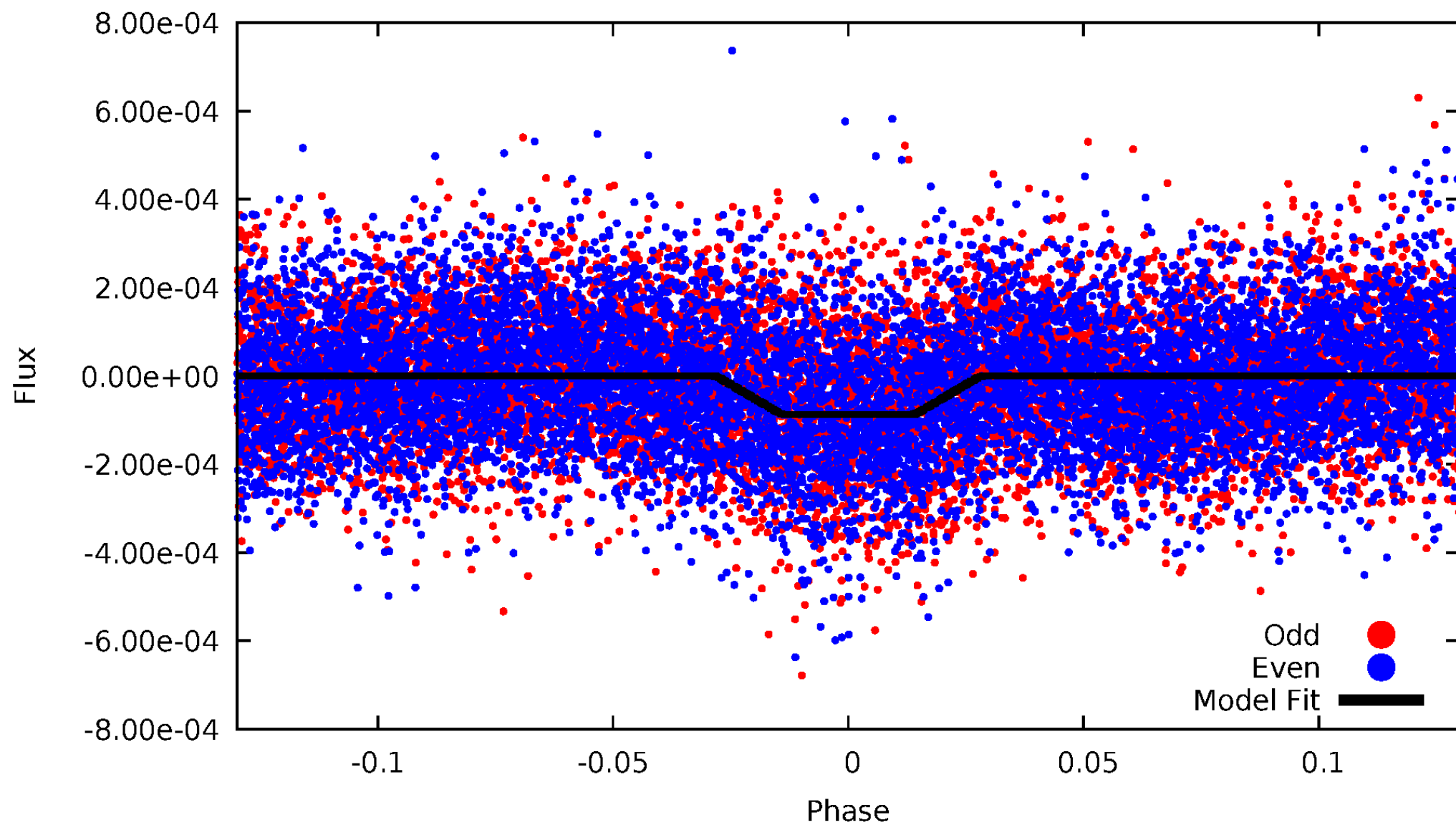
# DV Odd/Even

TCE 006150518-01

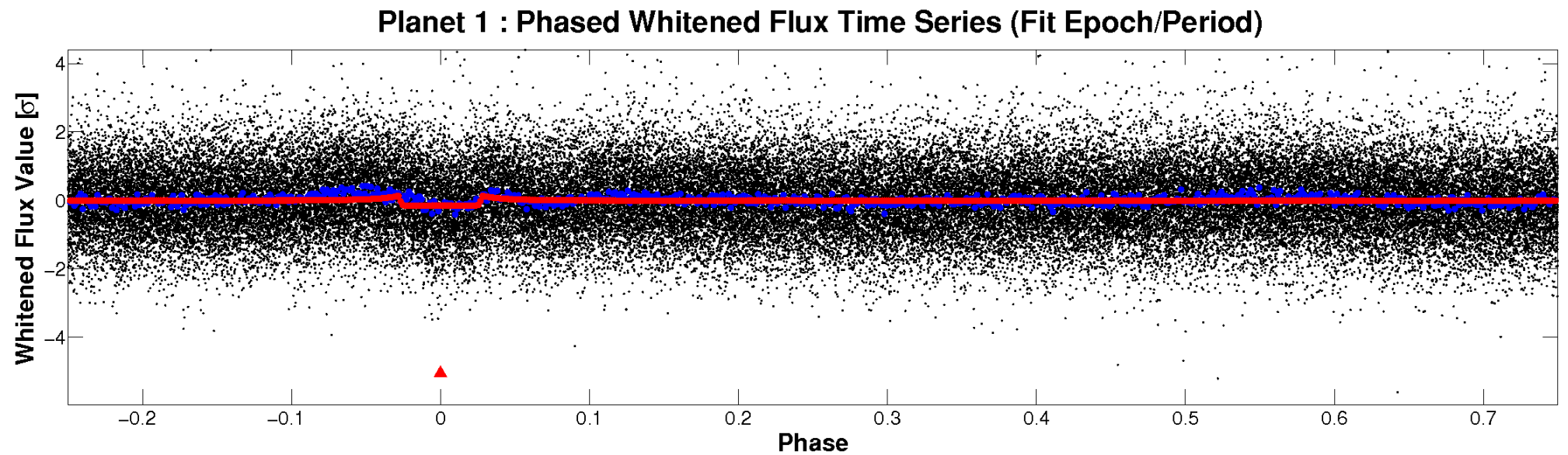
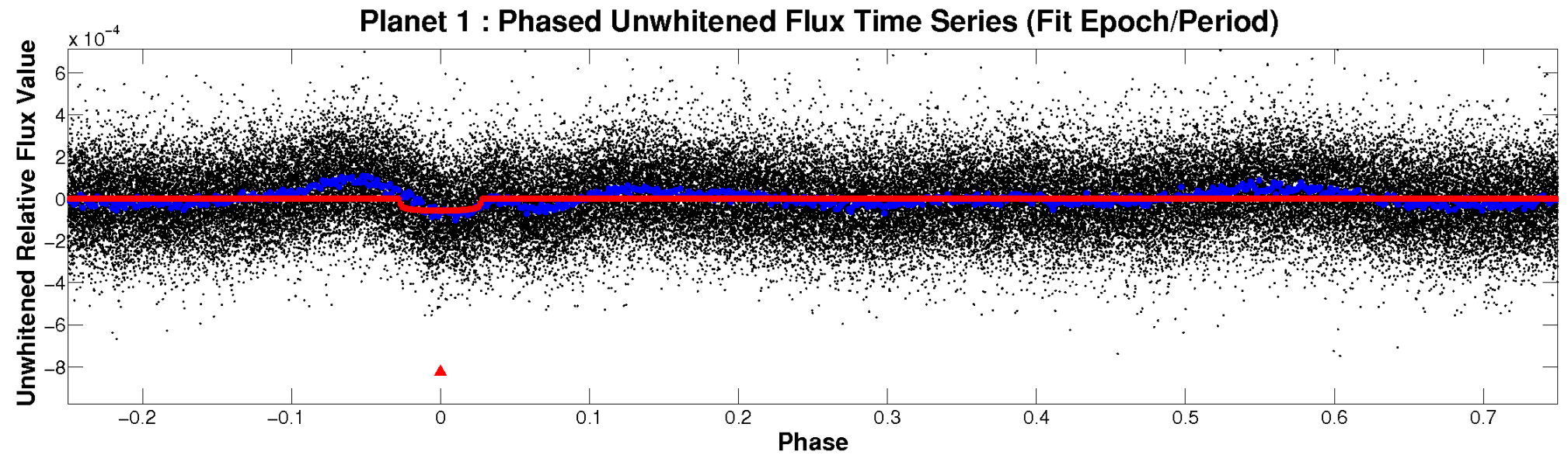


# ALT Odd/Even

TCE 006150518-01

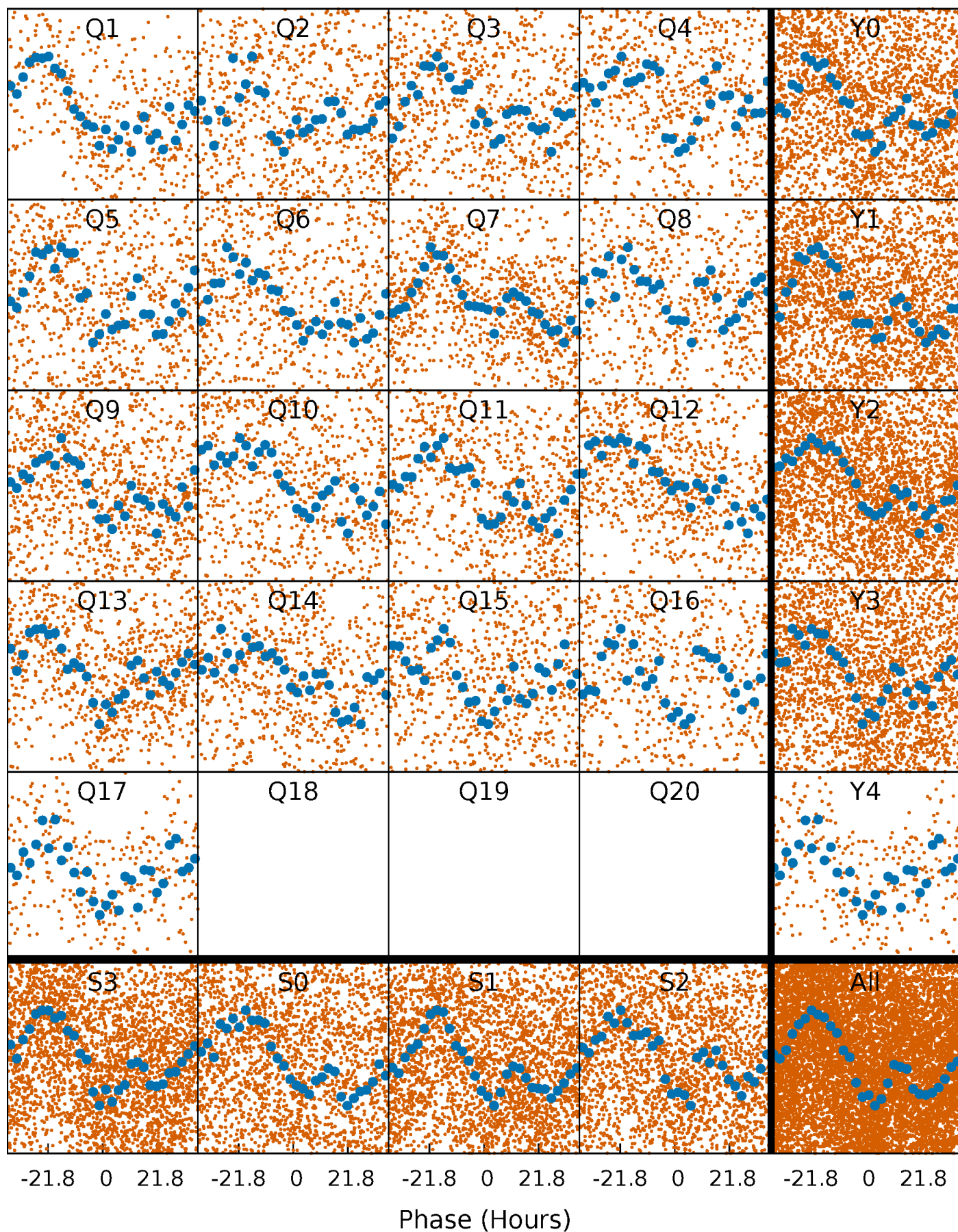


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

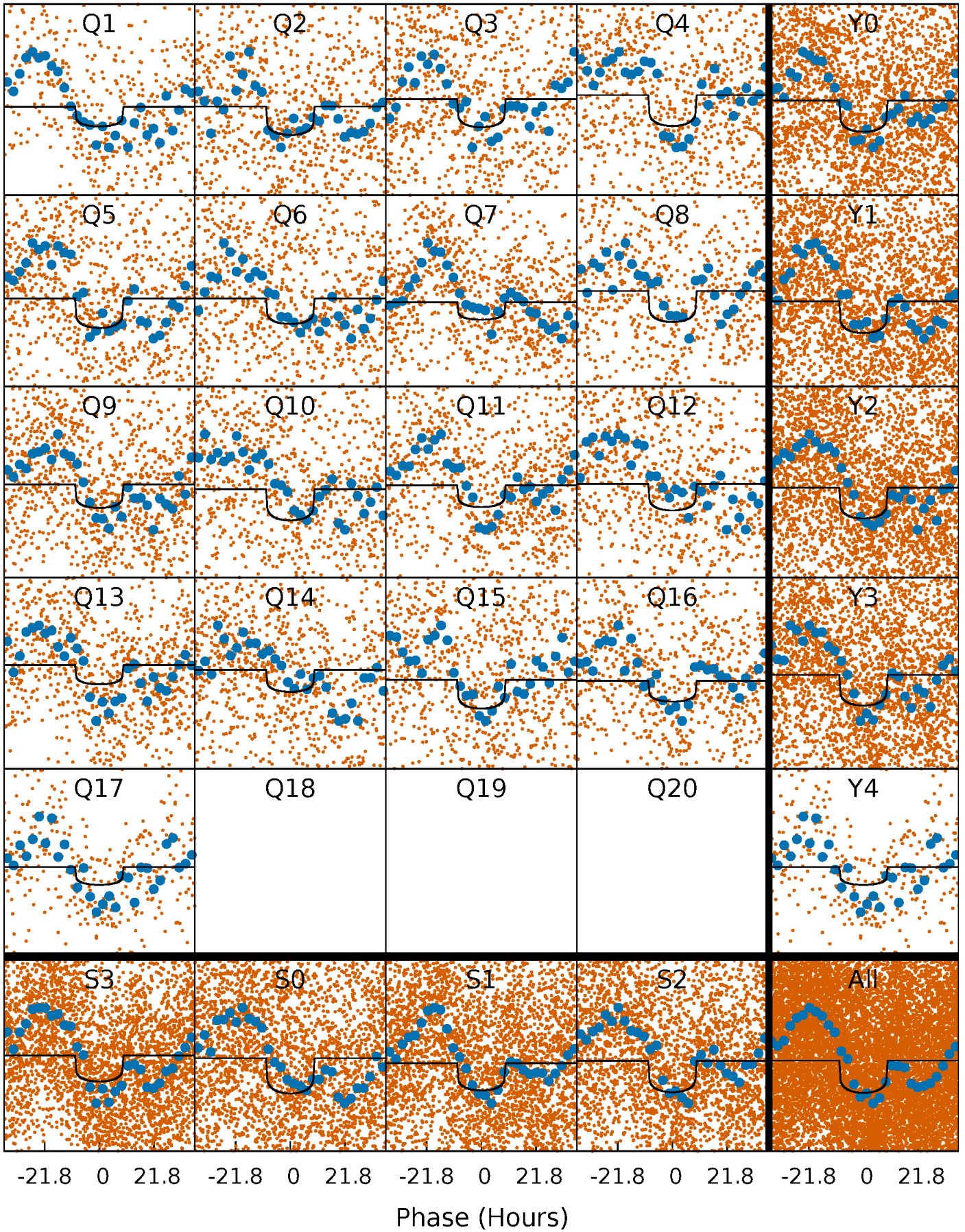
TCE 006150518-01 P= 14.466064 Days  $T_0=132.528969$  (BKJD)





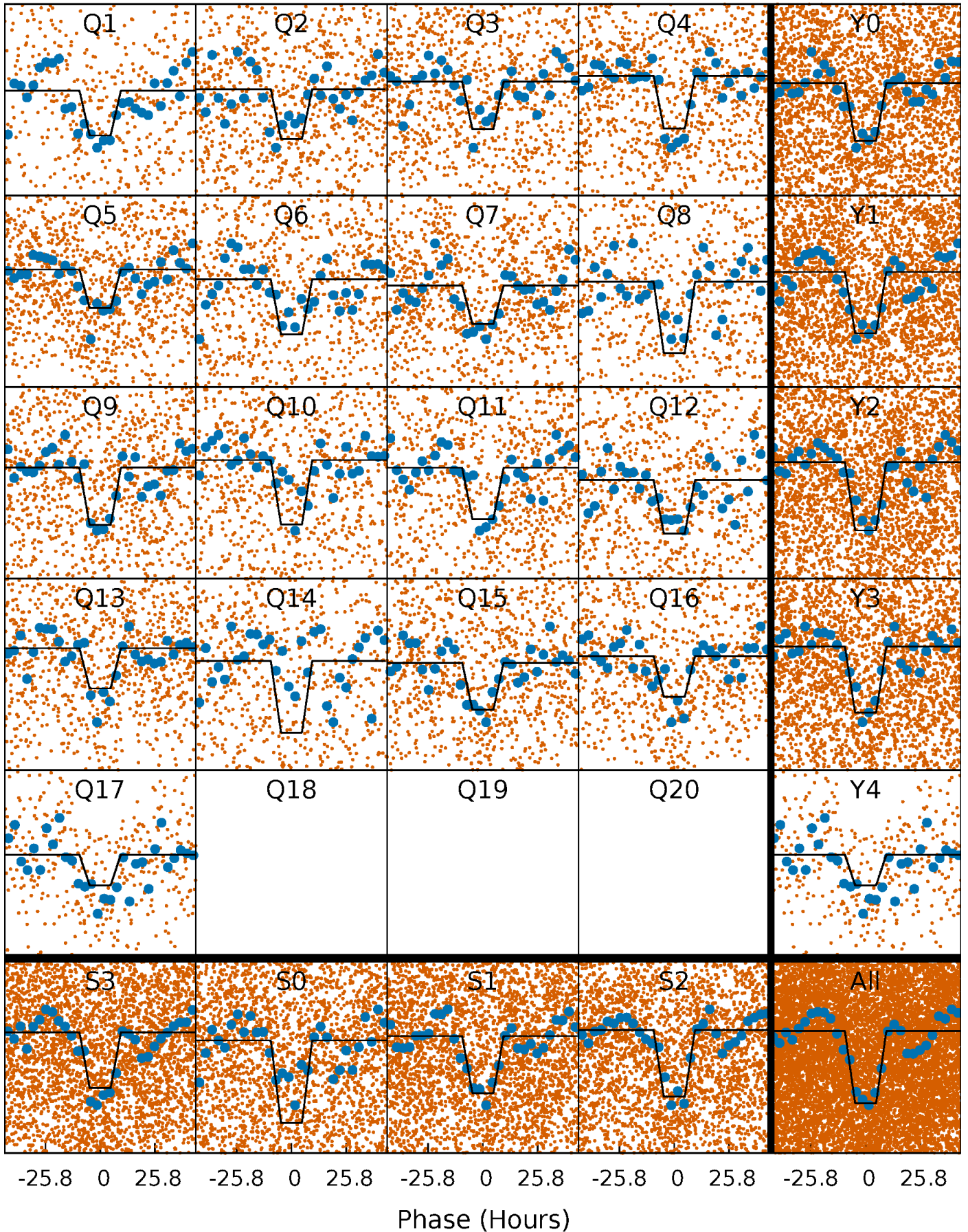
# DV Quarter-Phased Transit Curves

TCE 006150518-01 P= 14.466064 Days  $T_0=132.528969$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 006150518-01 P= 14.465383 Days  $T_0=132.592972$  (BKJD)

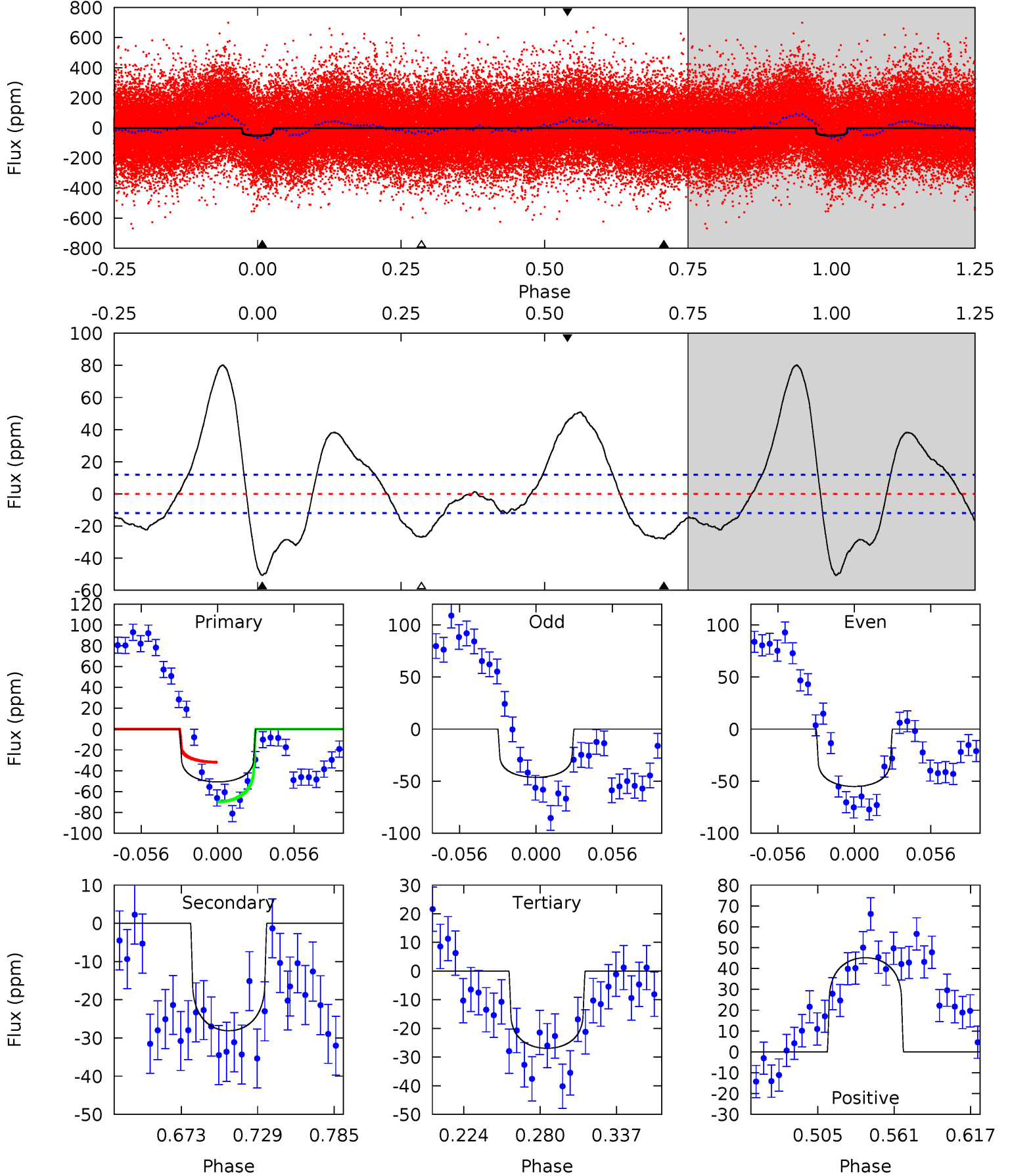




# DV Model-Shift Uniqueness Test

006150518-01, P = 14.466064 Days, E = 118.062905 Days

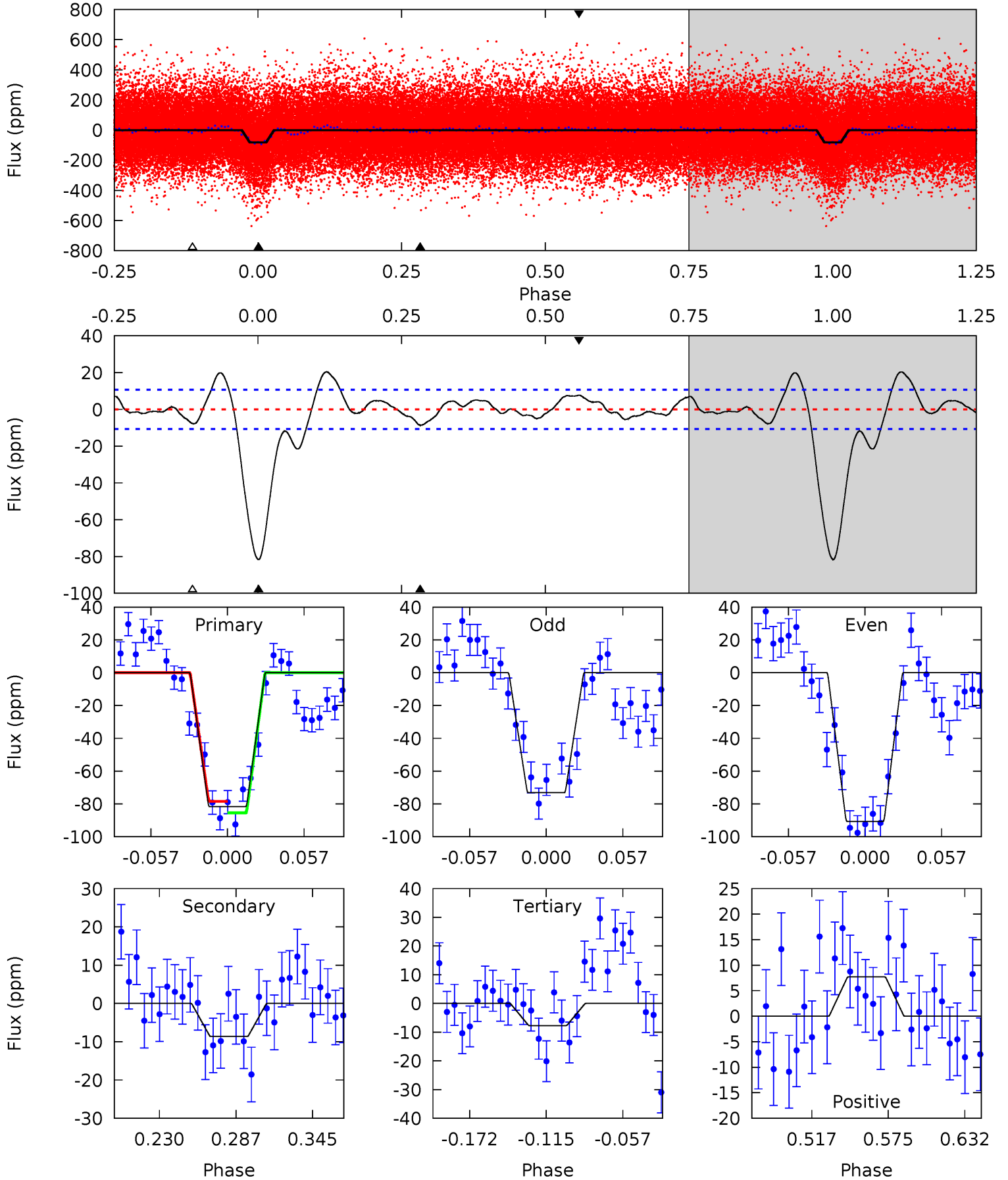
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.9	11.0	10.6	17.8	4.68	1.91	10.4	9.35	2.18	0.46	-6.71	1.74	1.11	0.61	7.48



# Alt Model-Shift Uniqueness Test

006150518-01, P = 14.465383 Days, E = 118.127589 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
35.8	3.78	3.39	3.38	4.68	1.90	3.06	32.4	32.4	0.39	0.40	3.83	1.05	0.20	1.54





### Stellar Parameters For KIC 006150518

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6731^{+189}_{-283}$	$4.043^{+0.252}_{-0.168}$	$-0.100^{+0.250}_{-0.300}$	$1.876^{+0.563}_{-0.620}$	$1.420^{+0.208}_{-0.277}$	$0.303^{+0.483}_{-0.142}$
	+3%/-4%	+6%/-4%	+250%/-300%	+30%/-33%	+15%/-20%	+159%/-47%
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 006150518-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-28 \pm 3$	$1.44^{+0.46}_{-0.45}$	$1557^{+125}_{-147}$	$5715^{+997}_{-590}$	$124^{+133}_{-50}$
Alt.	$-9 \pm 2$	$1.86^{+0.45}_{-0.46}$	$1554^{+128}_{-133}$	$4051^{+431}_{-341}$	$24^{+20}_{-10}$

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

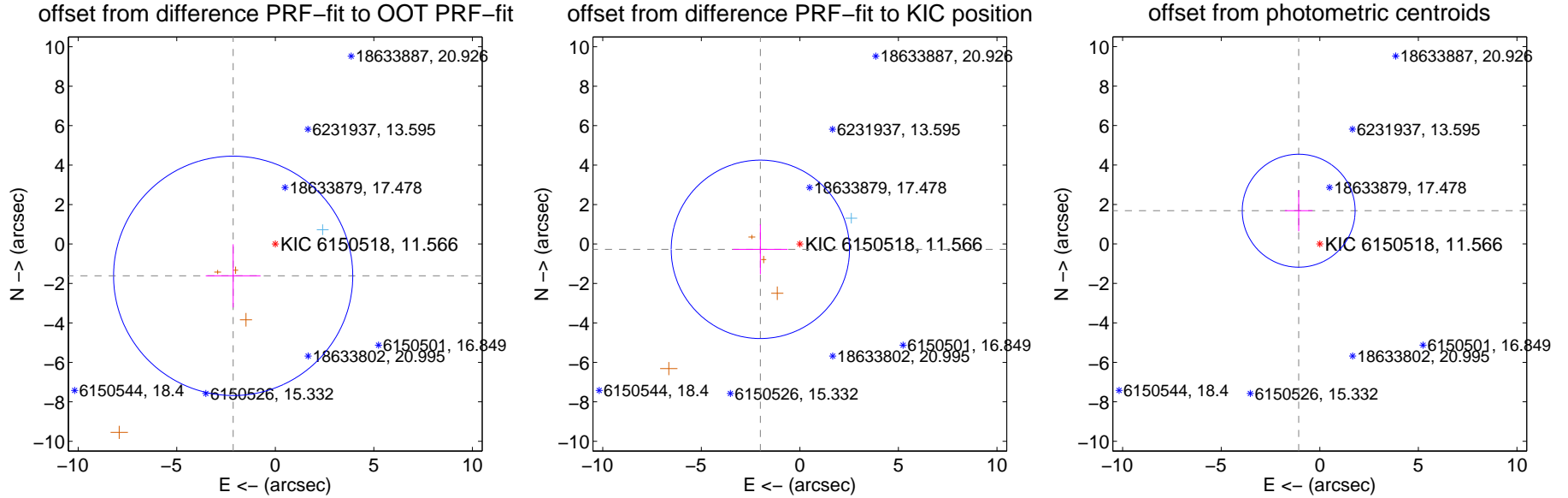
## DV Centroid Data

Supplemental centroid analysis for 006150518-01. **Kepler magnitude: 11.57.** Transit SNR 9.72

There are 1 quarters with good PRF difference image offsets

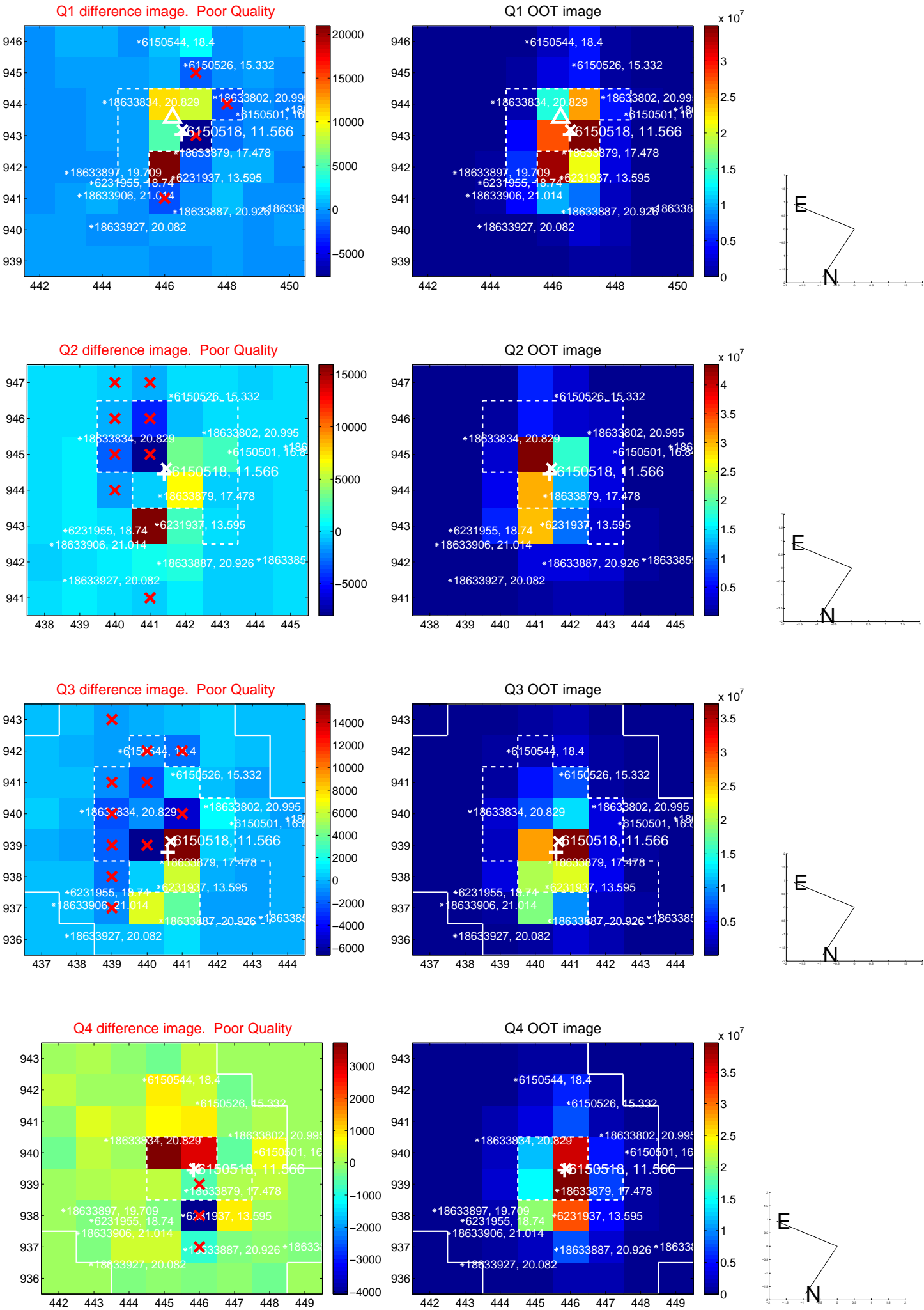
The OOT PRF centroid is offset from the target star catalog position by about 3.47 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.678 \pm 2.022$	1.32	$2.138 \pm 1.392$	$-1.614 \pm 1.603$
PRF-fit source offset from KIC position	$2.022 \pm 1.507$	1.34	$2.004 \pm 1.382$	$-0.269 \pm 1.262$
photometric centroid source offset	$2.00 \pm 0.95$	2.09	$1.07 \pm 0.70$	$1.68 \pm 1.04$

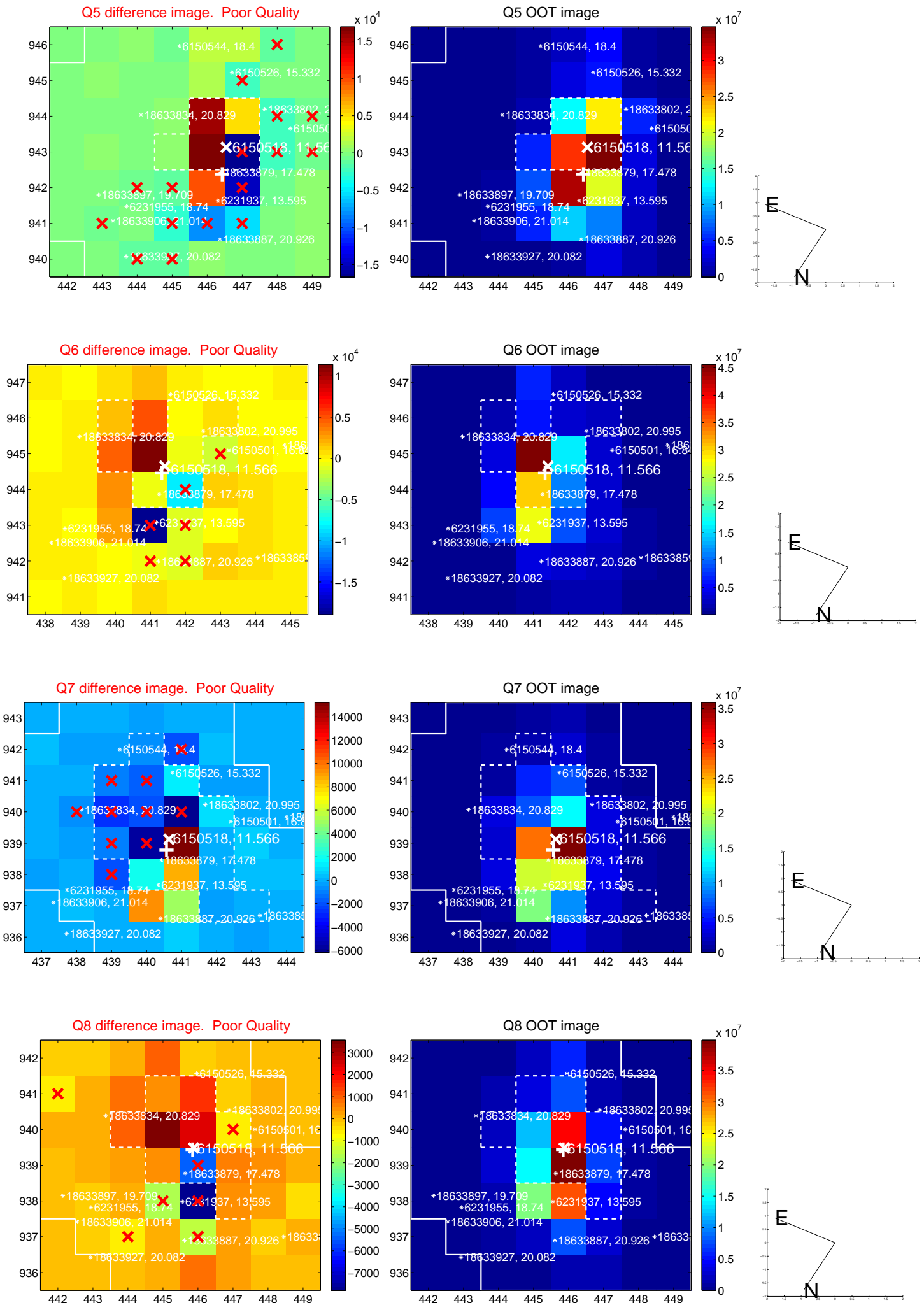


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

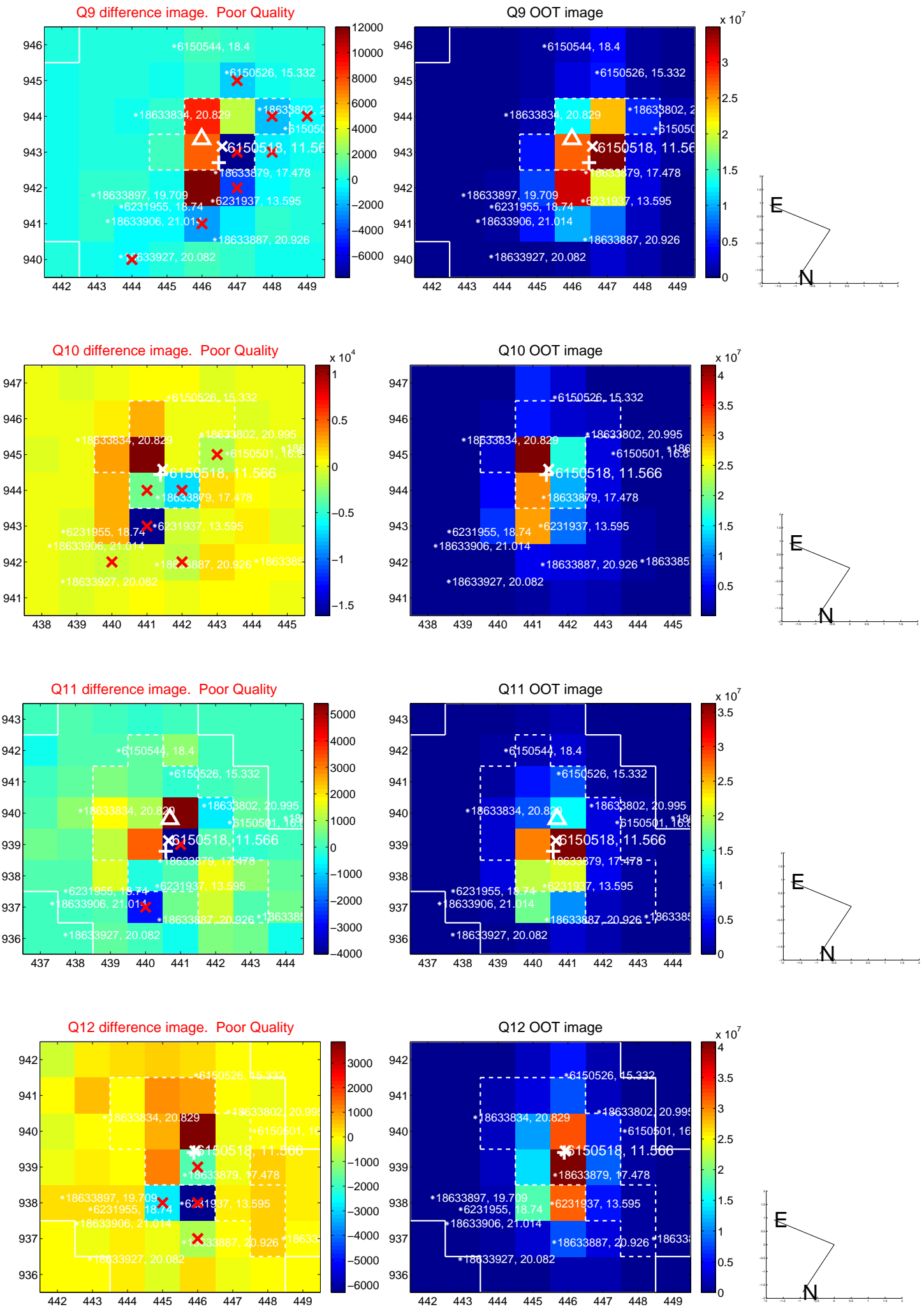


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

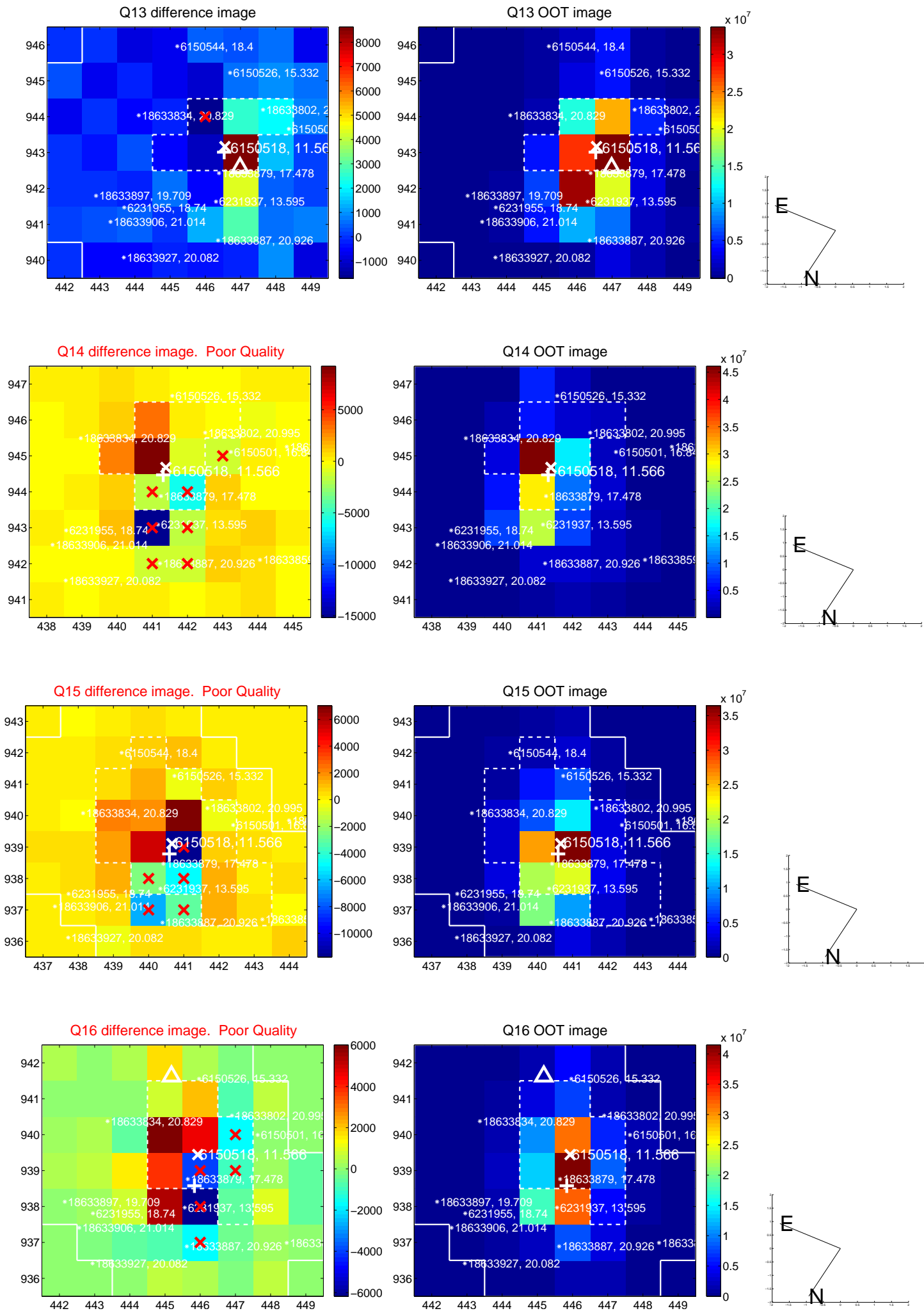




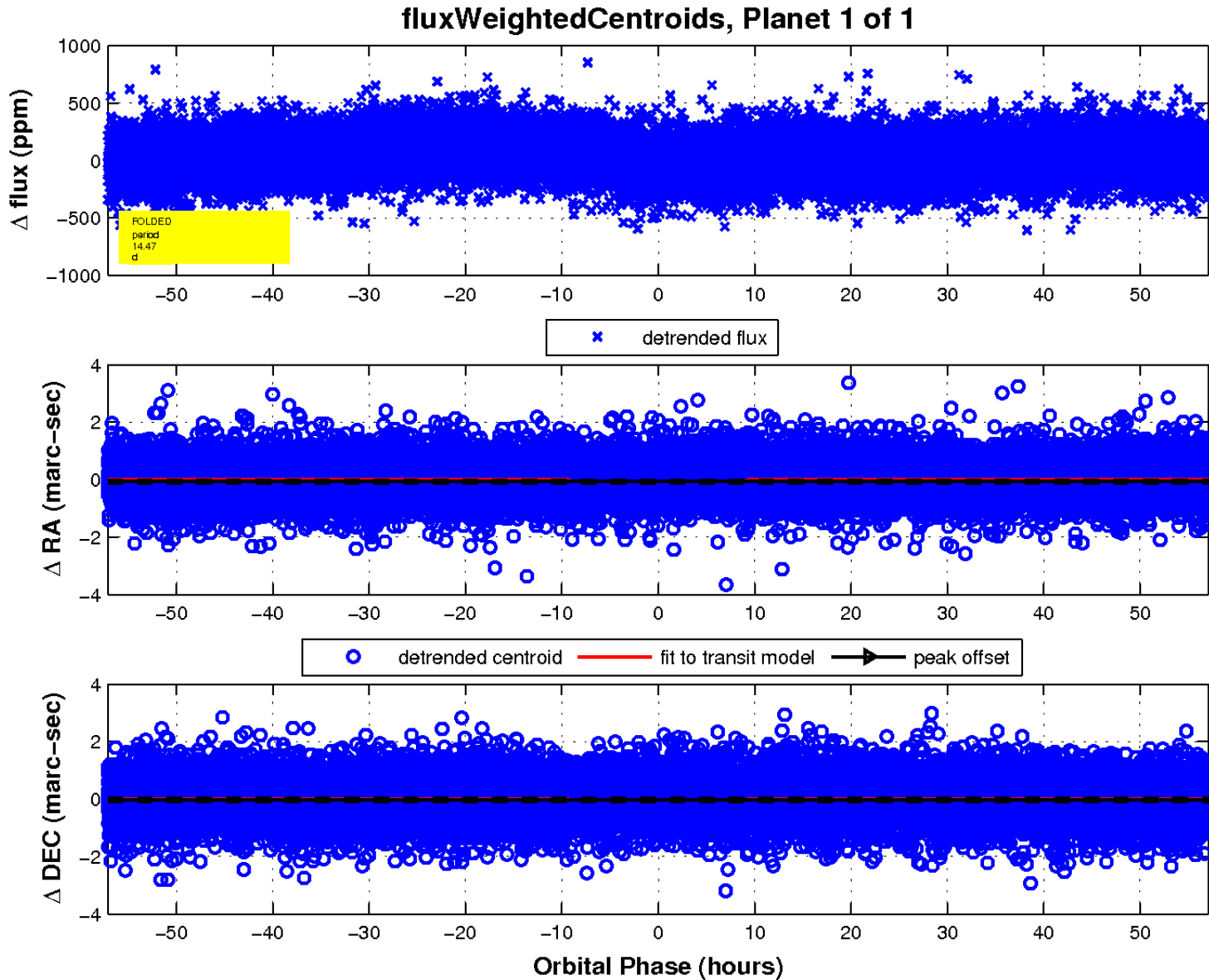
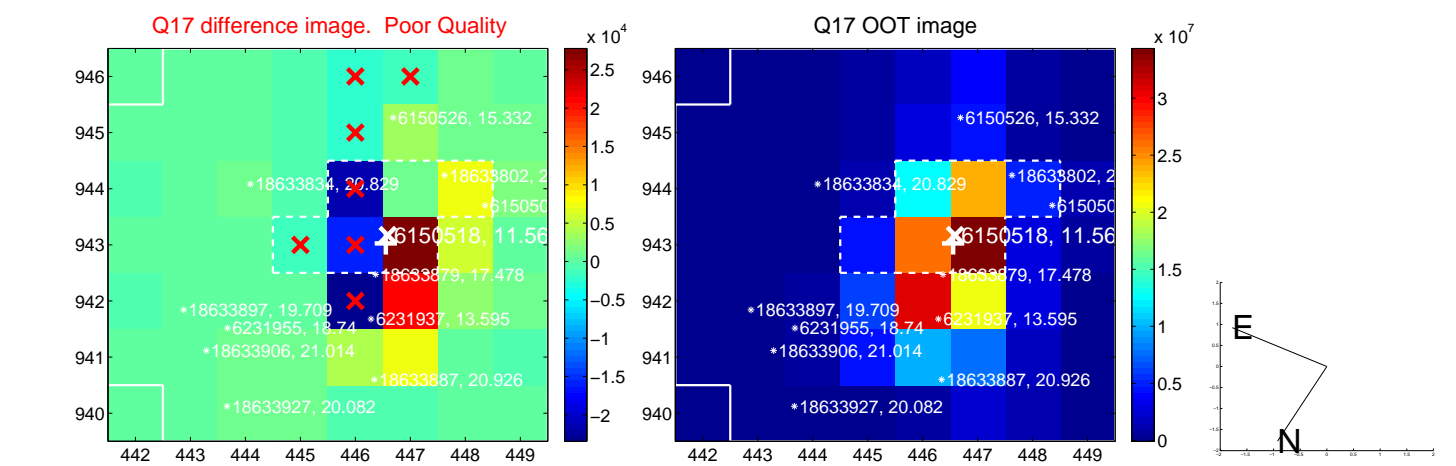
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

