

# KIC 006071557

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006071557-01	OBS	No	0.584961	131.797680	44.3	5.116	7.4	7.2	1.67	6406	1.30	20396.26

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006071557-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_FEW_DIFFS

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

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

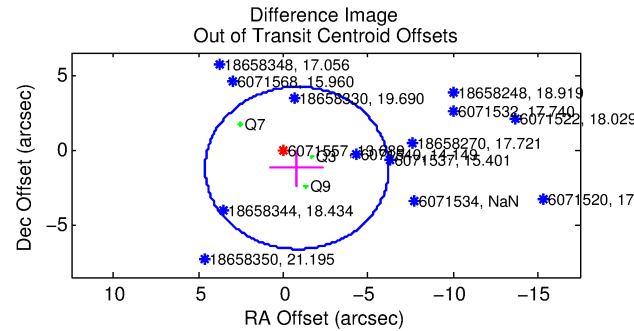
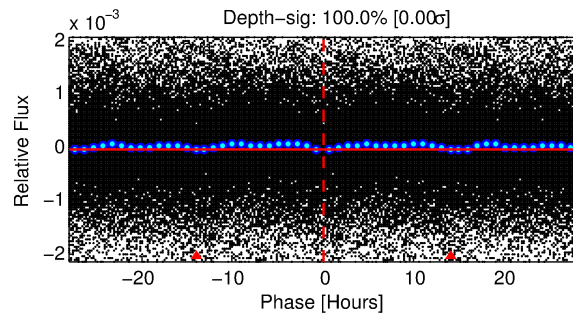
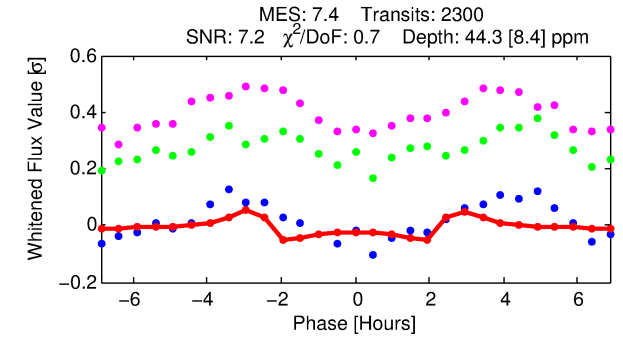
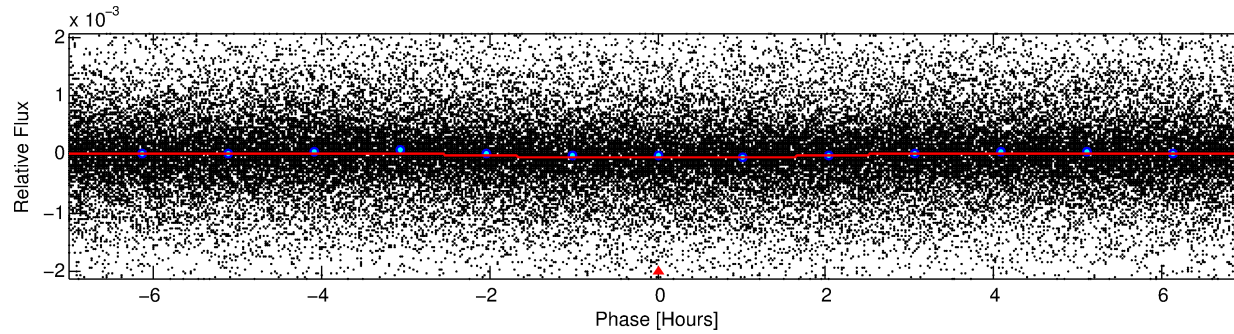
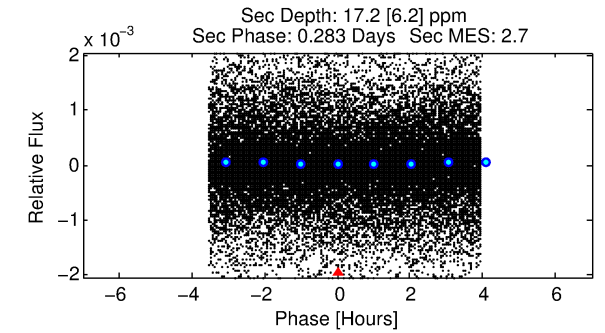
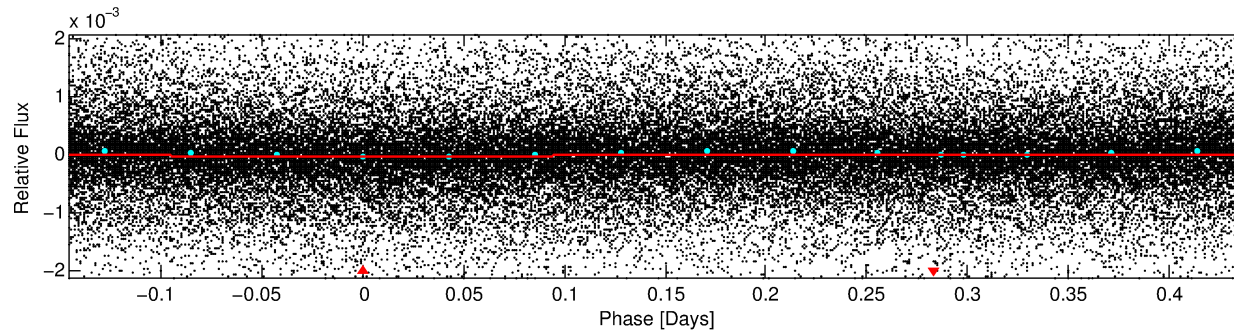
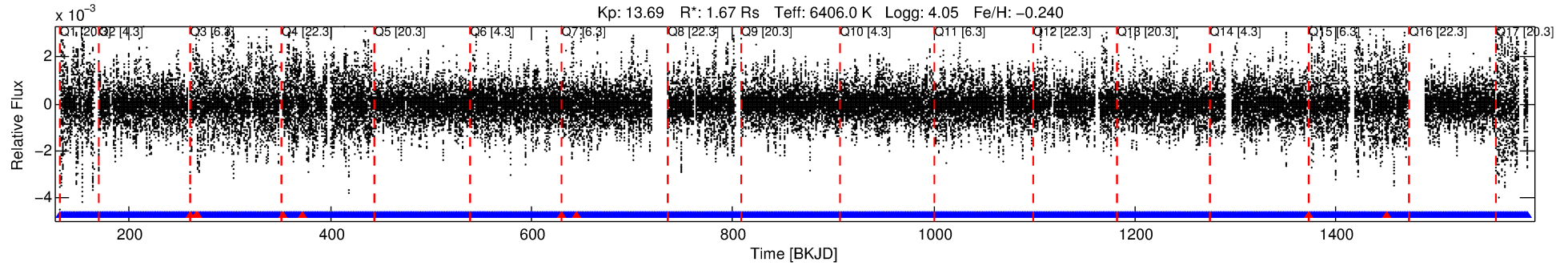
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006071557-01

No Significant Match Found

# DV One-Page Summary

KIC: 6071557 Candidate: 1 of 1 Period: 0.585 d



## DV Fit Results:

Period = 0.58496 [0.00001] d  
Epoch = 131.7977 [0.0025] BKJD  
Rp/R\* = 0.0072 [0.0015]  
a/R\* = 1.03 [0.05]  
b = 0.90 [0.21]  
Seff = 20396.26 [10837.77]  
Teq = 3047 [405] K  
Rp = 1.30 [0.52] Re  
a = 0.0144 [0.0046] AU  
Ag = 1.15 [0.87] [0.17σ]  
Teff = 4876 [705] K [2.25σ]

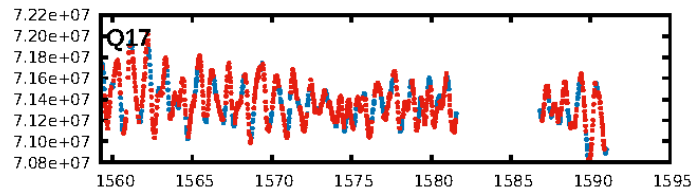
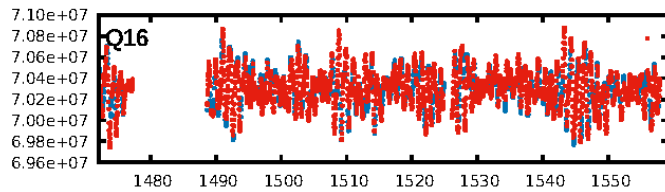
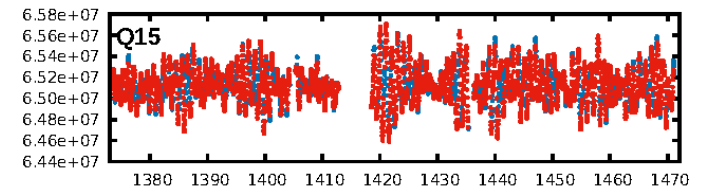
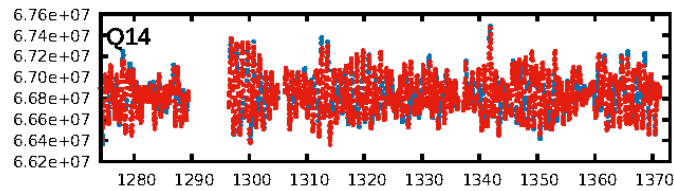
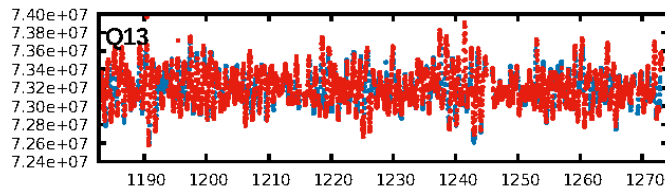
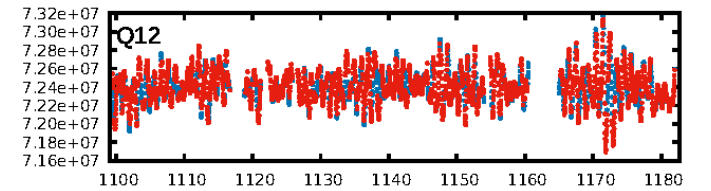
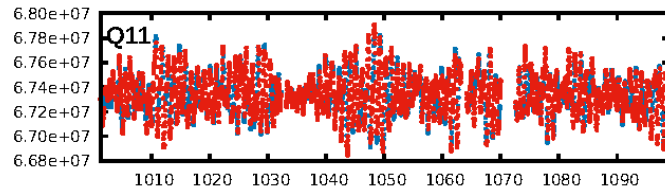
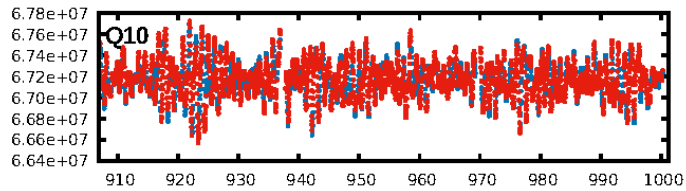
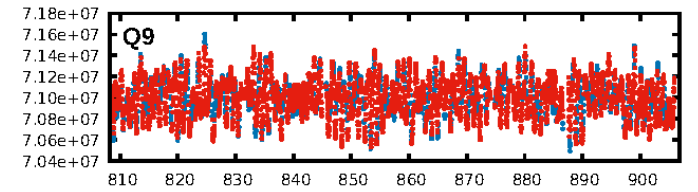
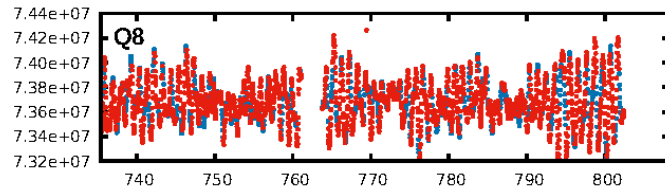
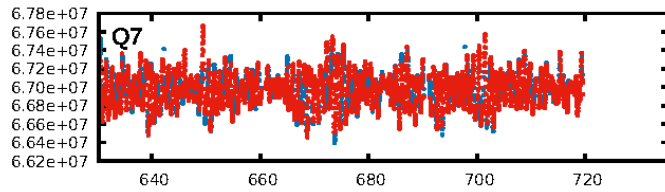
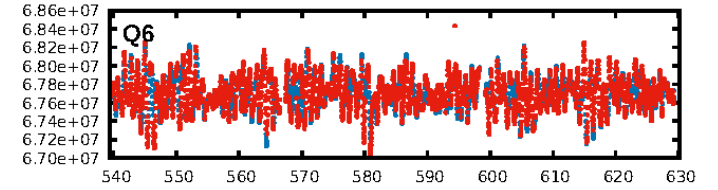
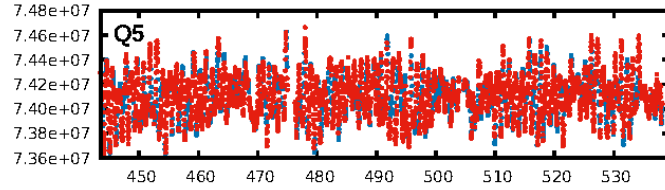
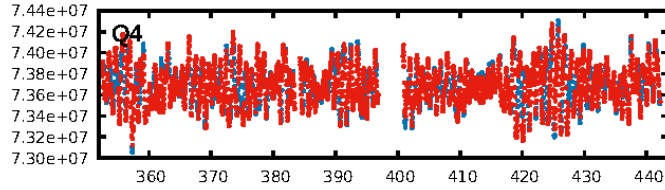
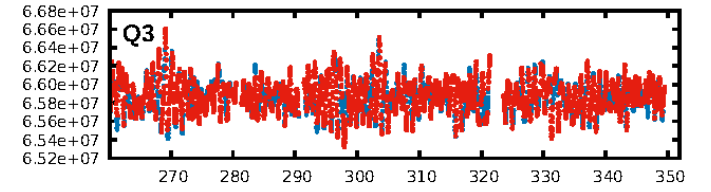
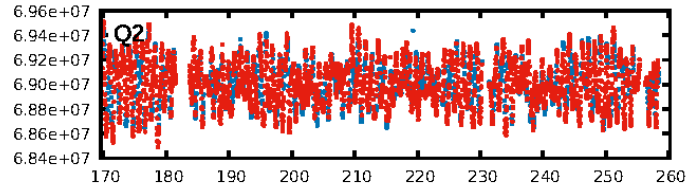
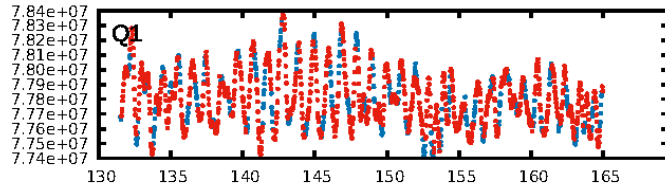
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [2189/2198]  
GhostDiagnostic-chr: 2.214  
Centroid-sig: 45.9%  
Centroid-so: 0.311 arcsec [0.59σ]  
OotOffset-rm: 1.470 arcsec [0.81σ]  
KicOffset-rm: 1.193 arcsec [0.65σ]  
OotOffset-st: 0/2/0/1 [3]  
KicOffset-st: 0/2/0/1 [3]  
DiffImageQuality-fgm: 0.00 [0/3]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:55:43 Z

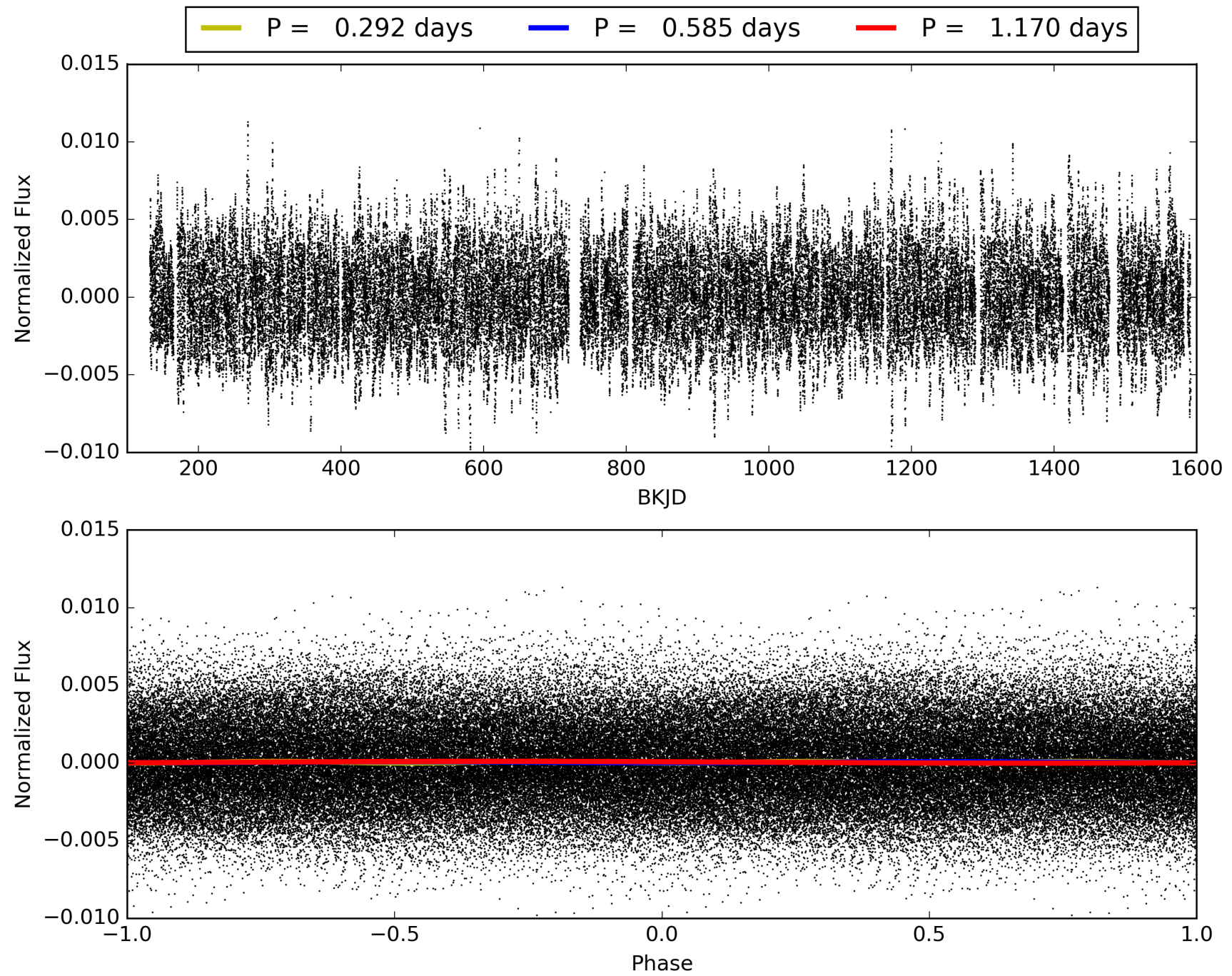
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006071557-01, PDC Light Curves



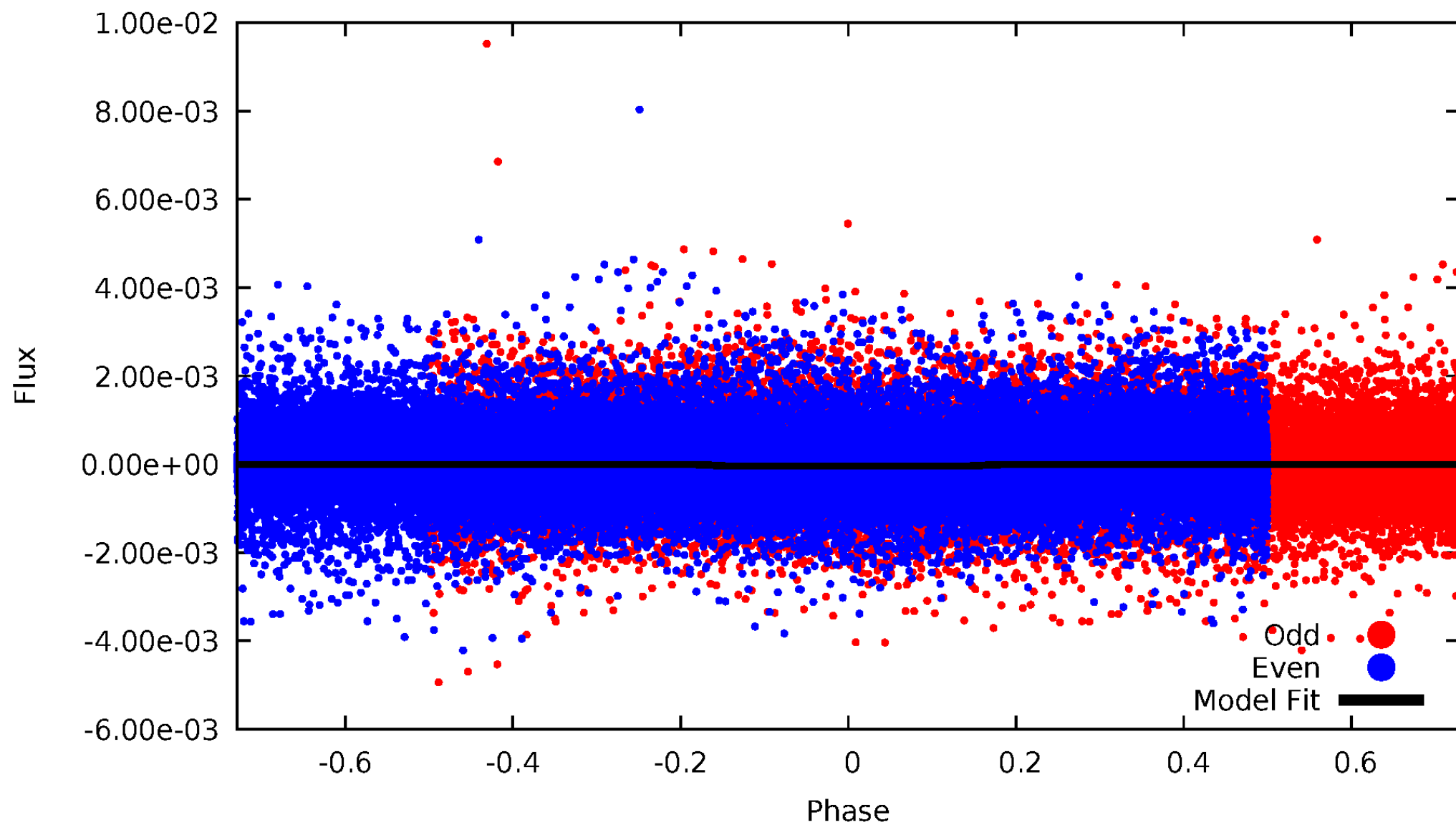


TCE 006071557-01



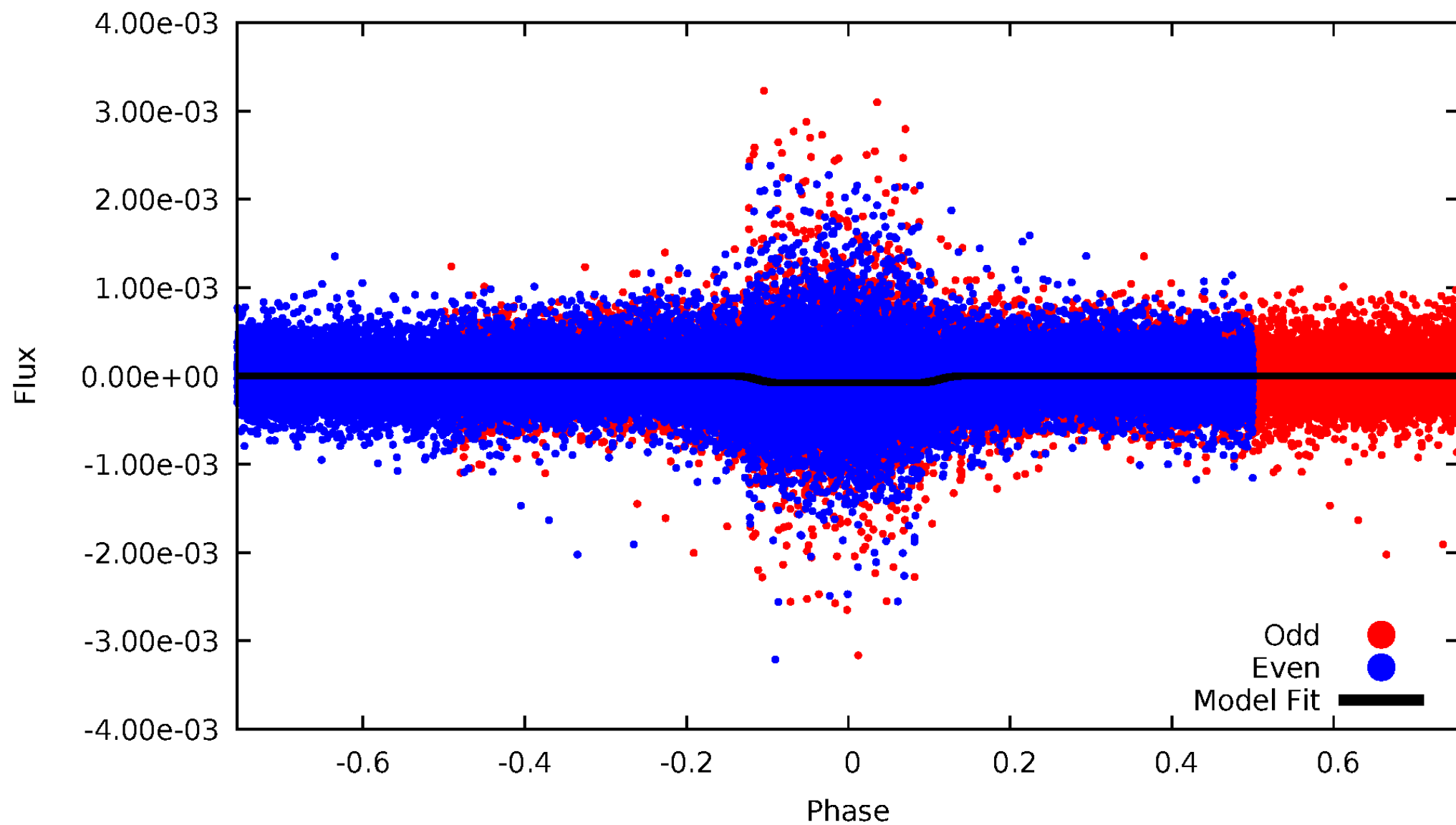
# DV Odd/Even

TCE 006071557-01



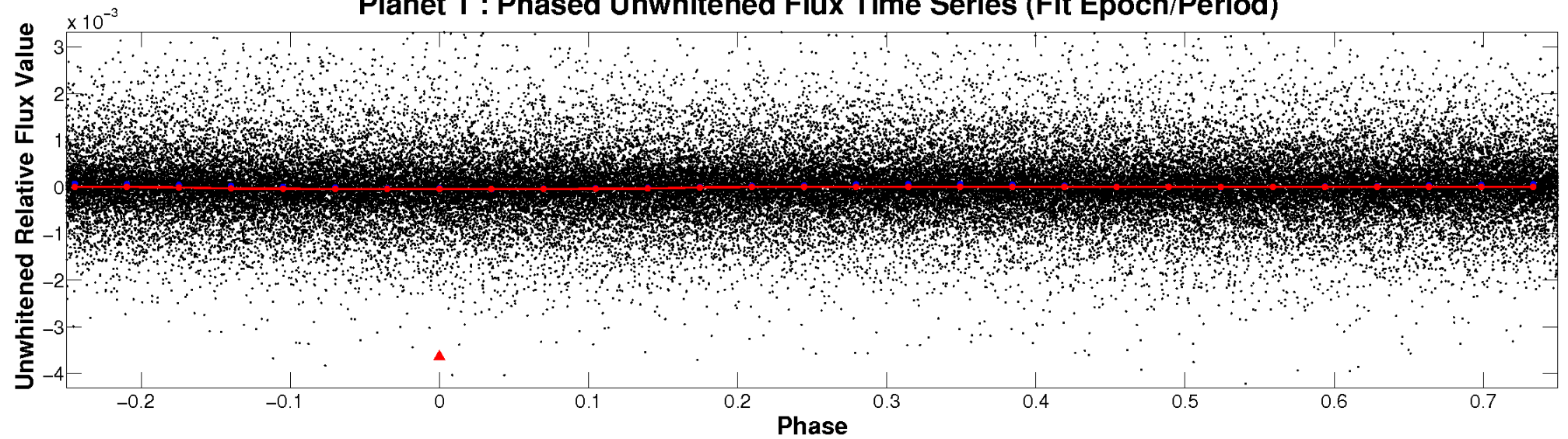
# ALT Odd/Even

TCE 006071557-01

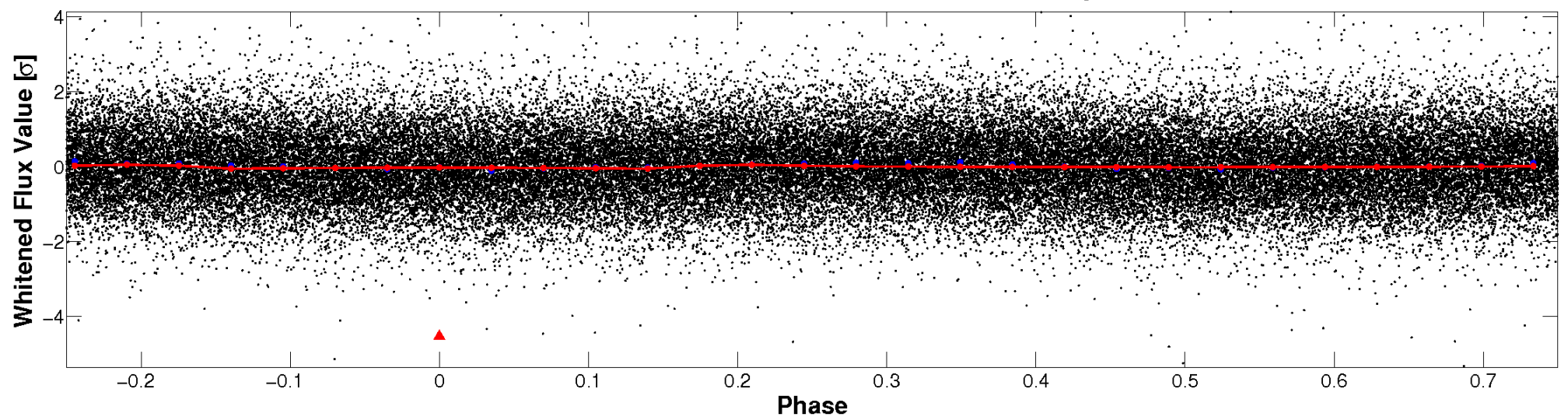


# Non-Whitened Vs. Whitened Light Curve

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



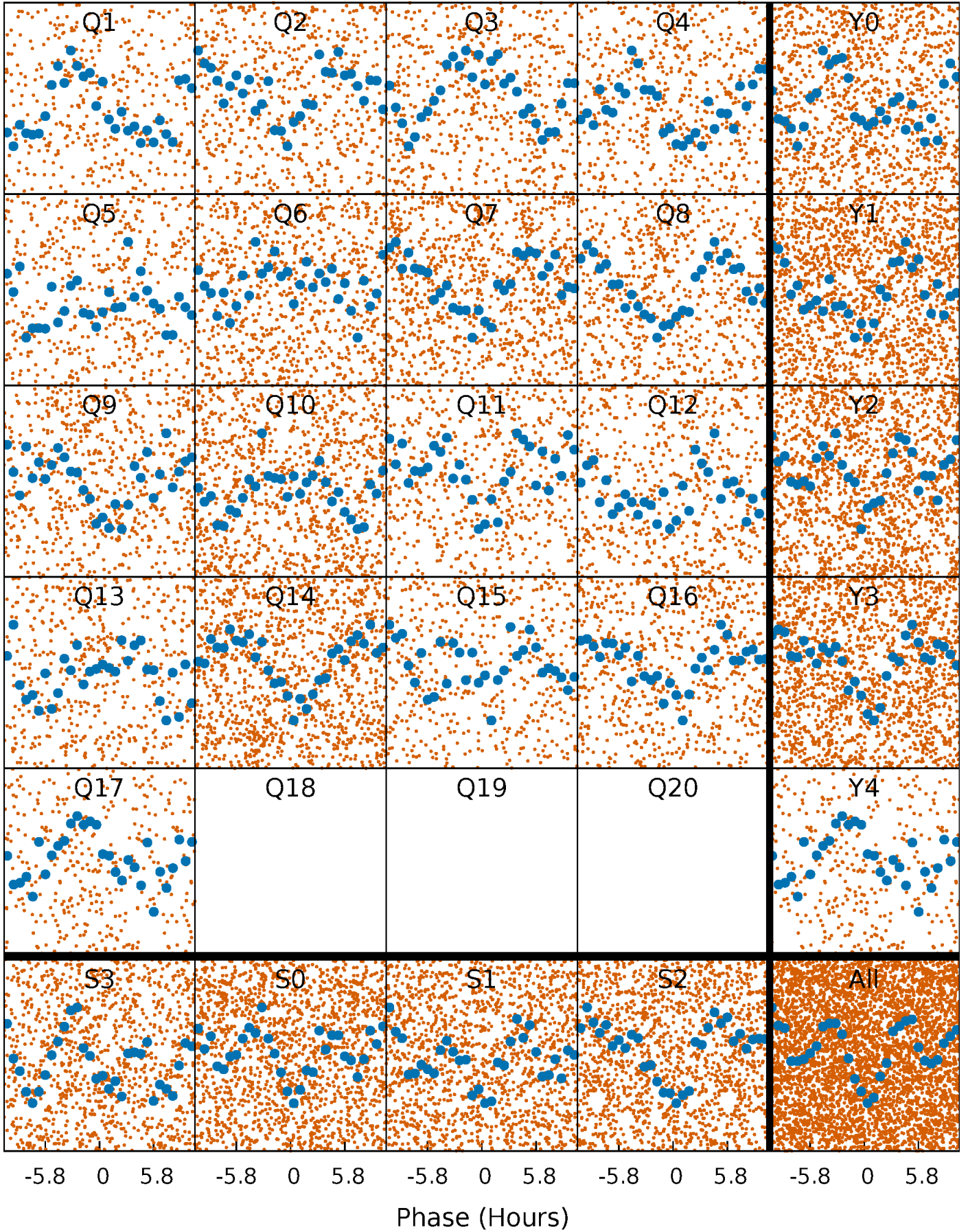
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

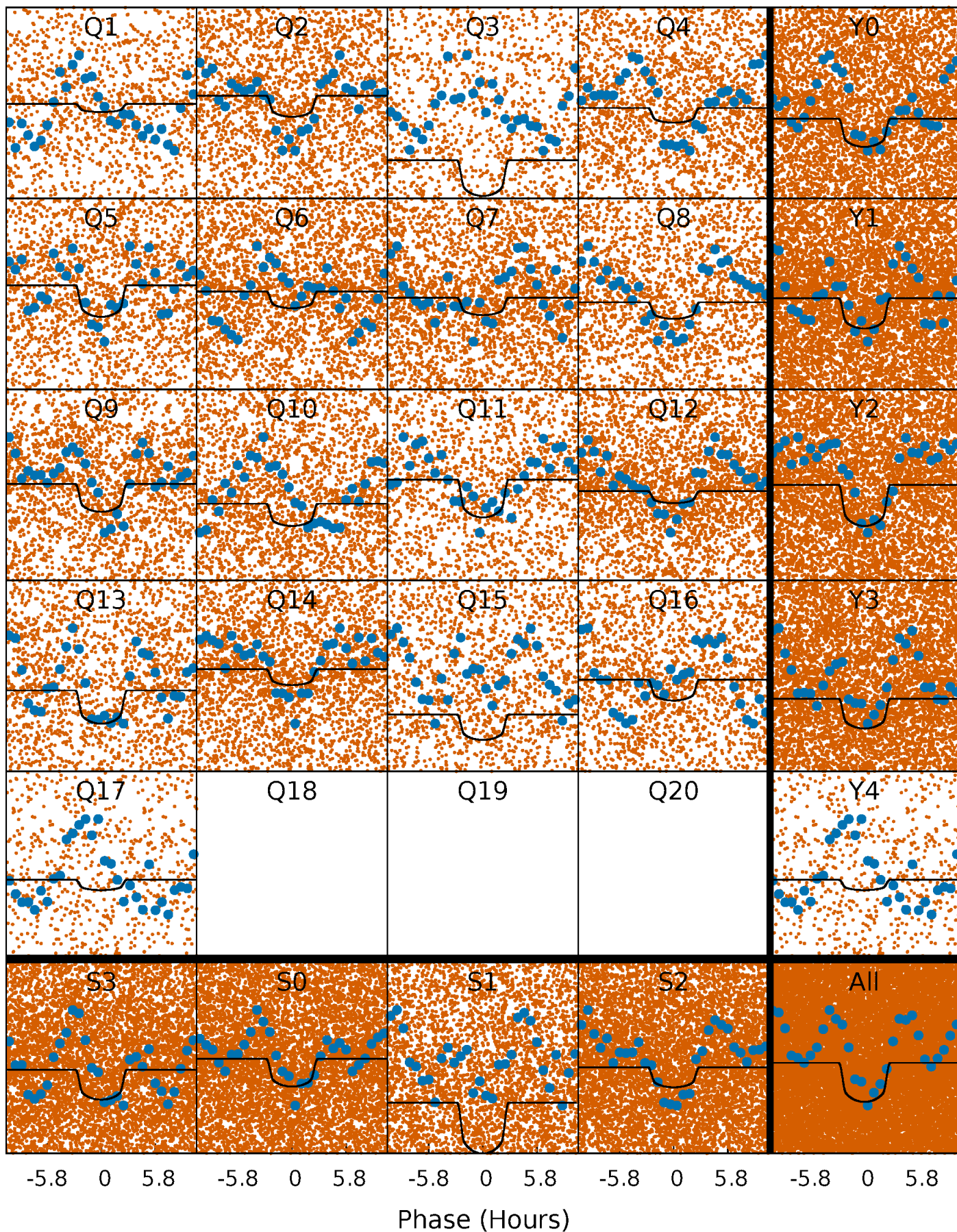
TCE 006071557-01 P= 0.584961 Days  $T_0=131.797680$  (BKJD)





# DV Quarter-Phased Transit Curves

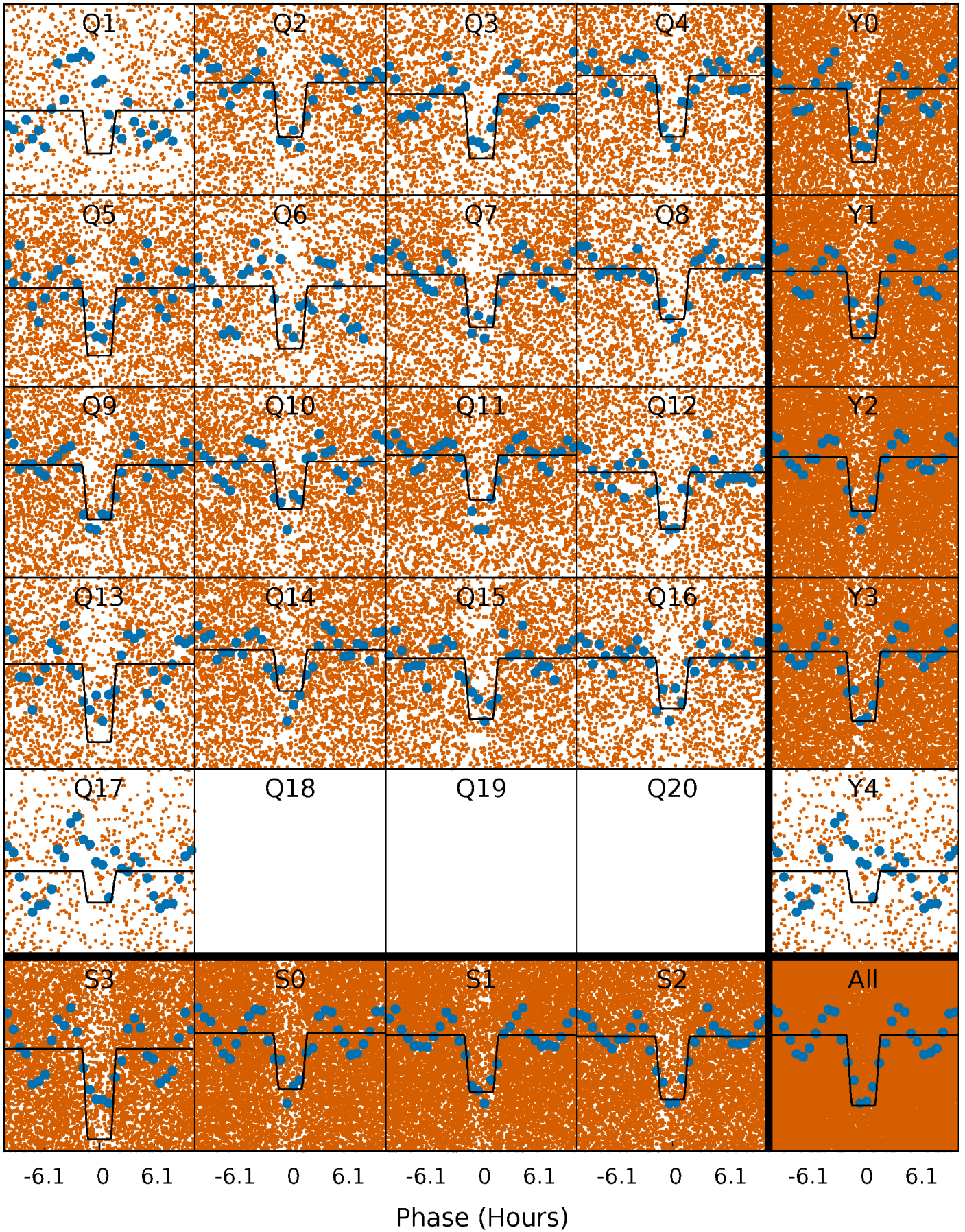
TCE 006071557-01 P= 0.584961 Days  $T_0=131.797680$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

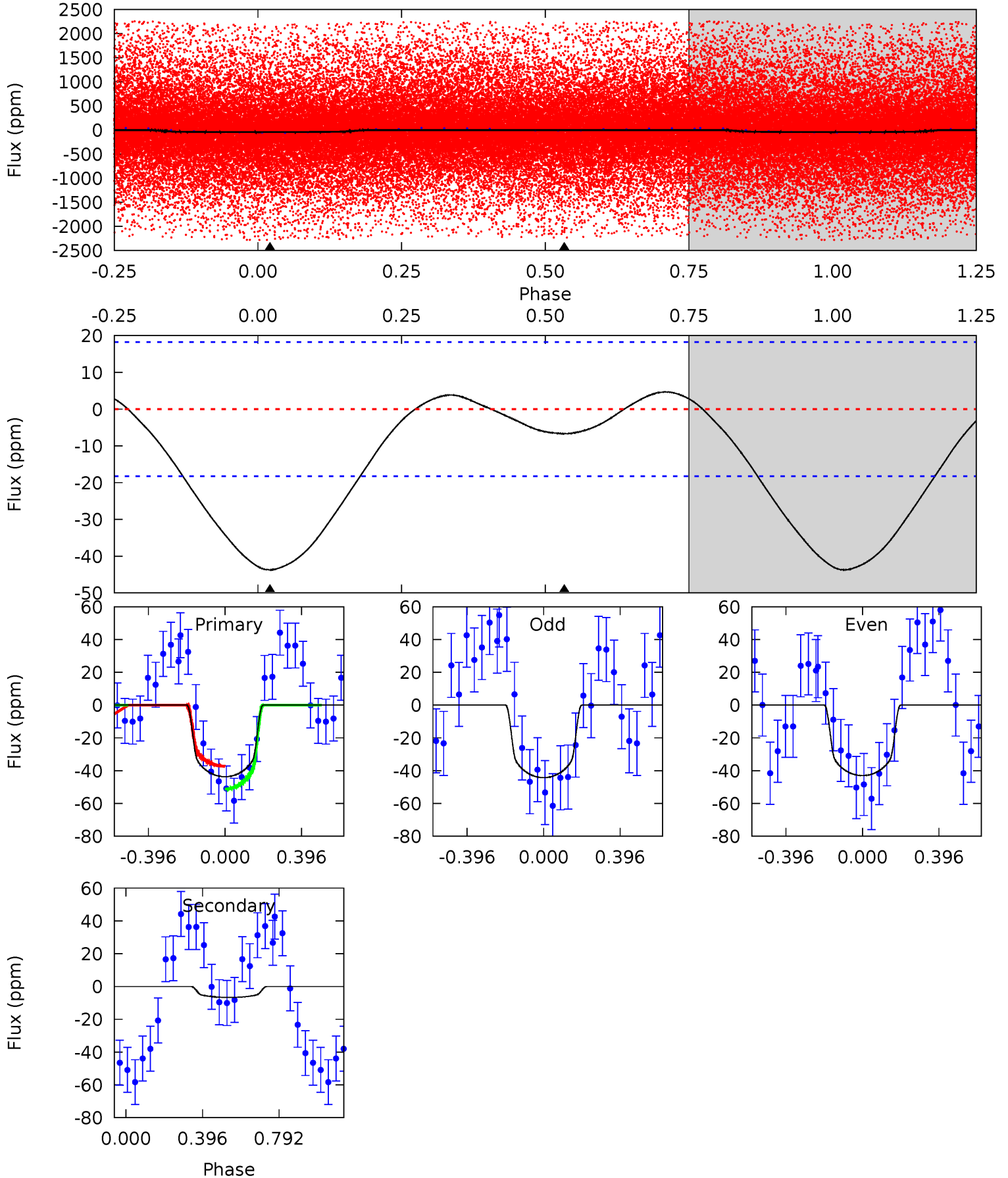
TCE 006071557-01 P= 0.584980 Days  $T_0=131.787587$  (BKJD)



# DV Model-Shift Uniqueness Test

006071557-01, P = 0.584961 Days, E = 131.212719 Days

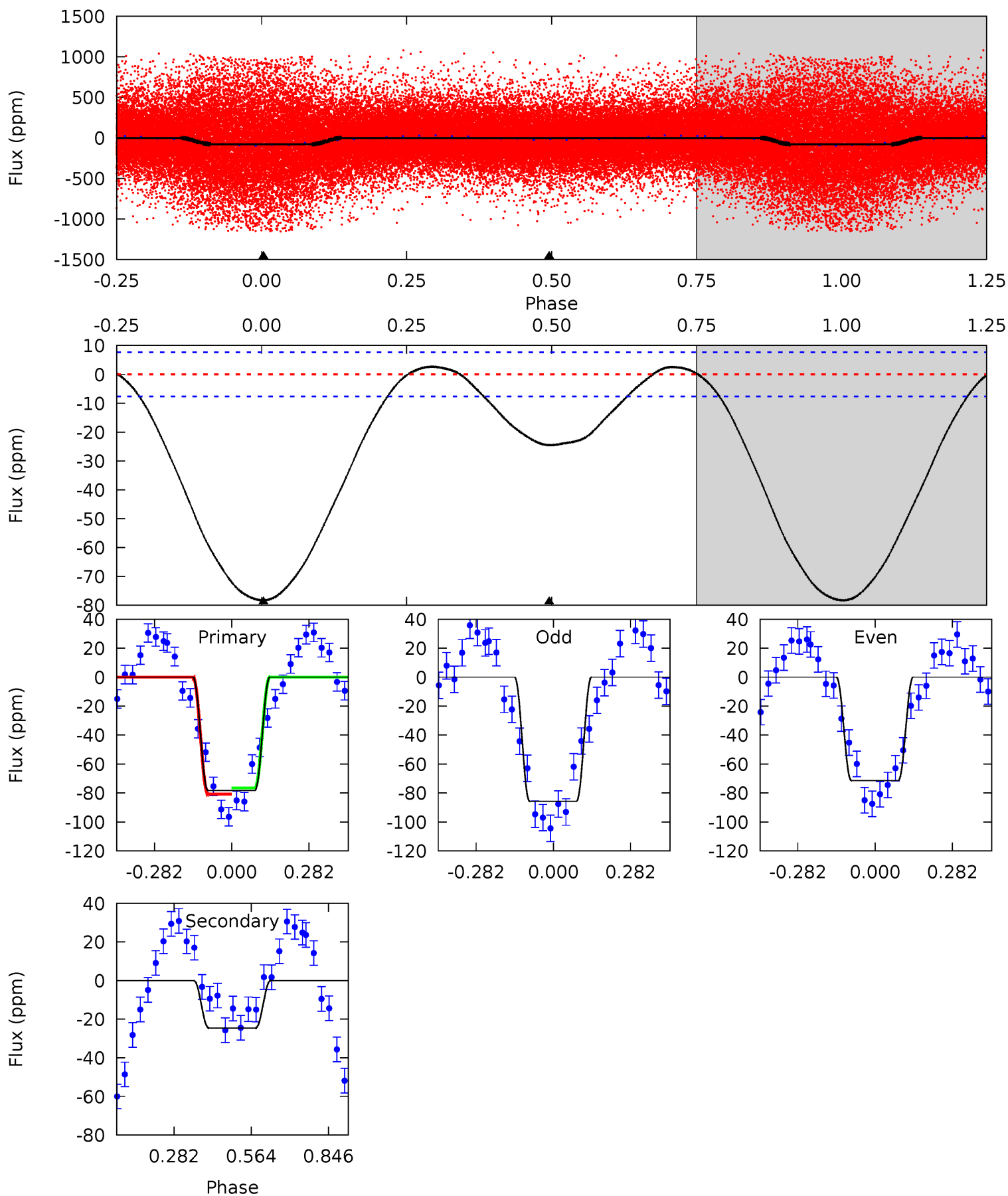
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	1.56	0	0	4.27	0.85	0.46	10.2	10.2	1.56	1.56	0.15	0.85	0.10	1.64



# Alt Model-Shift Uniqueness Test

006071557-01, P = 0.584980 Days, E = 131.202607 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
44.5	13.9	0	0	4.34	1.08	1.17	44.5	44.5	13.9	13.9	4.05	0.84	0.03	0





### Stellar Parameters For KIC 006071557

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6406^{+175}_{-233}$	$4.055^{+0.299}_{-0.161}$	$-0.240^{+0.250}_{-0.300}$	$1.670^{+0.461}_{-0.563}$	$1.154^{+0.192}_{-0.174}$	$0.349^{+0.686}_{-0.152}$
	+3%/-4%	+7%/-4%	+104%/-125%	+28%/-34%	+17%/-15%	+197%/-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 006071557-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-7 \pm 4$	$1.24^{+0.39}_{-0.30}$	$4194^{+366}_{-364}$	$3466^{+847}_{-6974}$	$0.461^{+0.533}_{-0.329}$
Alt.	$-25 \pm 2$	$1.53^{+0.42}_{-0.34}$	$4191^{+321}_{-384}$	$4614^{+522}_{-487}$	$1.174^{+0.807}_{-0.441}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

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

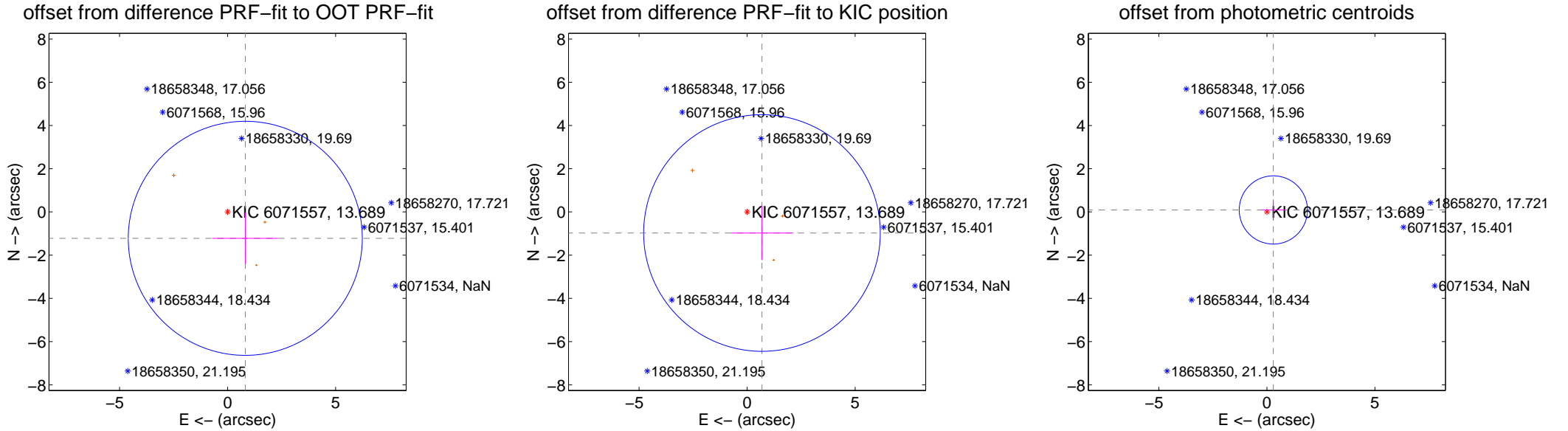
## DV Centroid Data

Supplemental centroid analysis for 006071557-01. Kepler magnitude: 13.69. Transit SNR 7.23

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

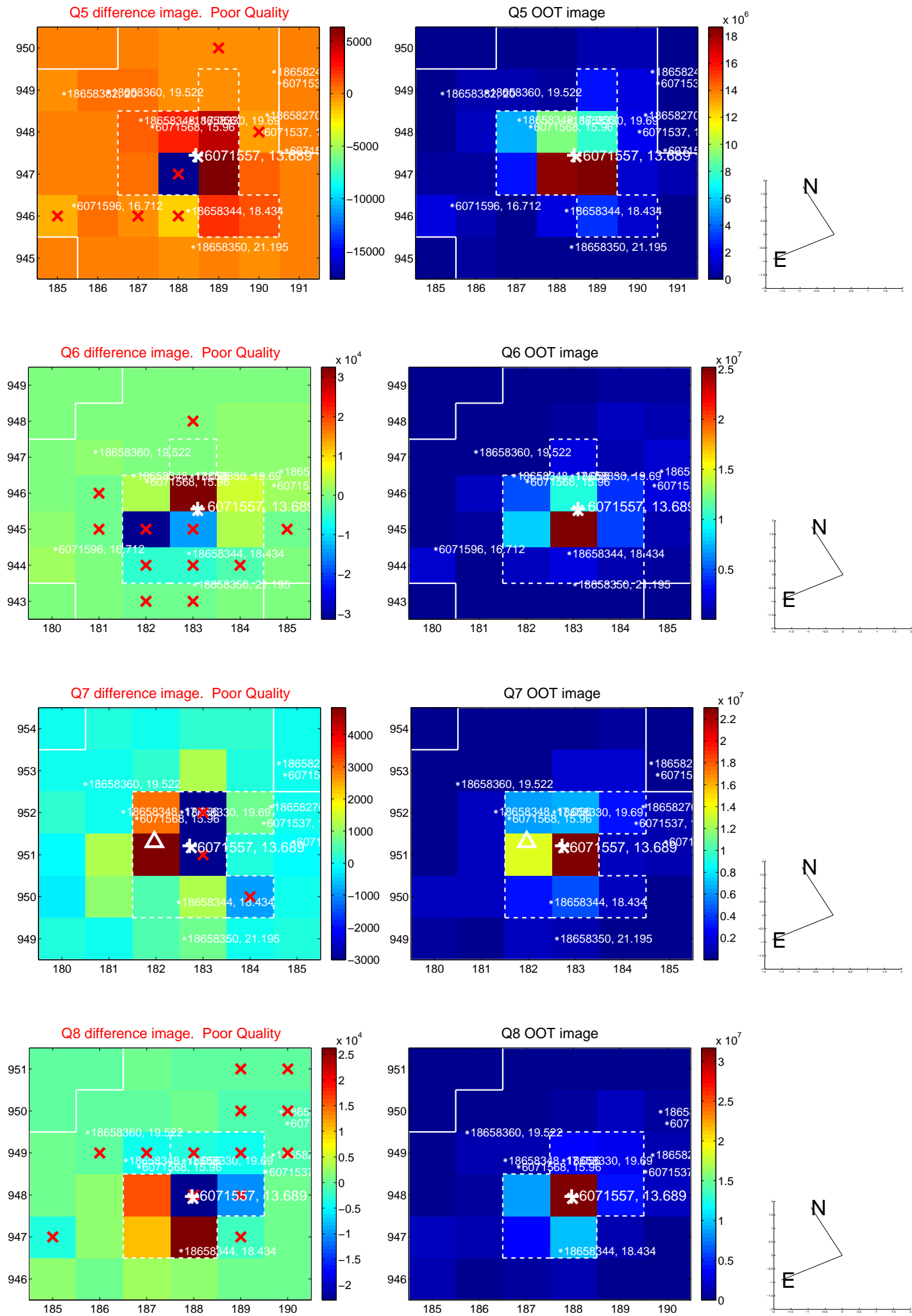
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.470 \pm 1.805$	0.81	$-0.818 \pm 1.530$	$-1.222 \pm 1.186$
PRF-fit source offset from KIC position	$1.193 \pm 1.825$	0.65	$-0.687 \pm 1.436$	$-0.975 \pm 1.256$
photometric centroid source offset	$0.31 \pm 0.53$	0.59	$-0.30 \pm 0.53$	$0.09 \pm 0.49$



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.

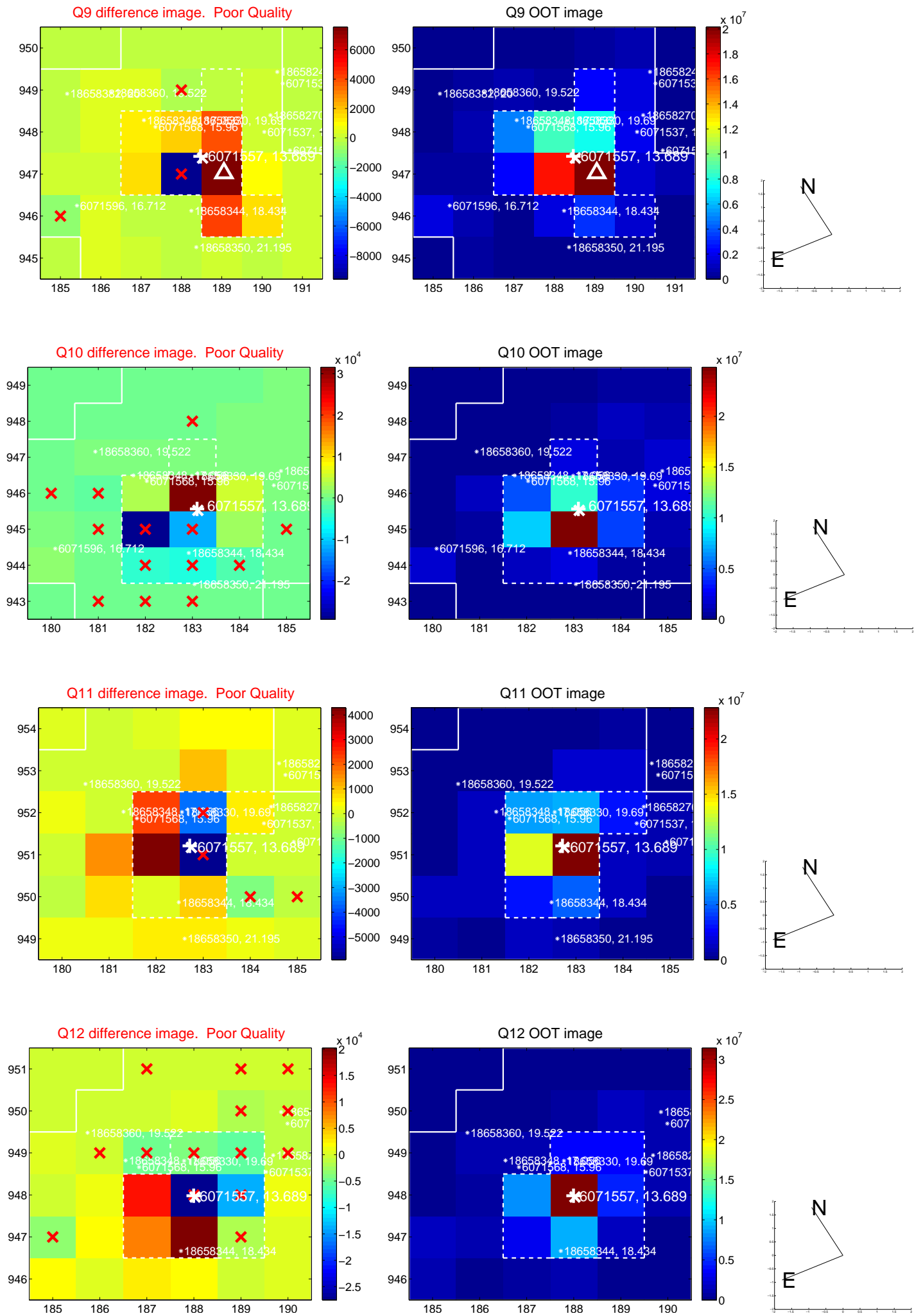


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

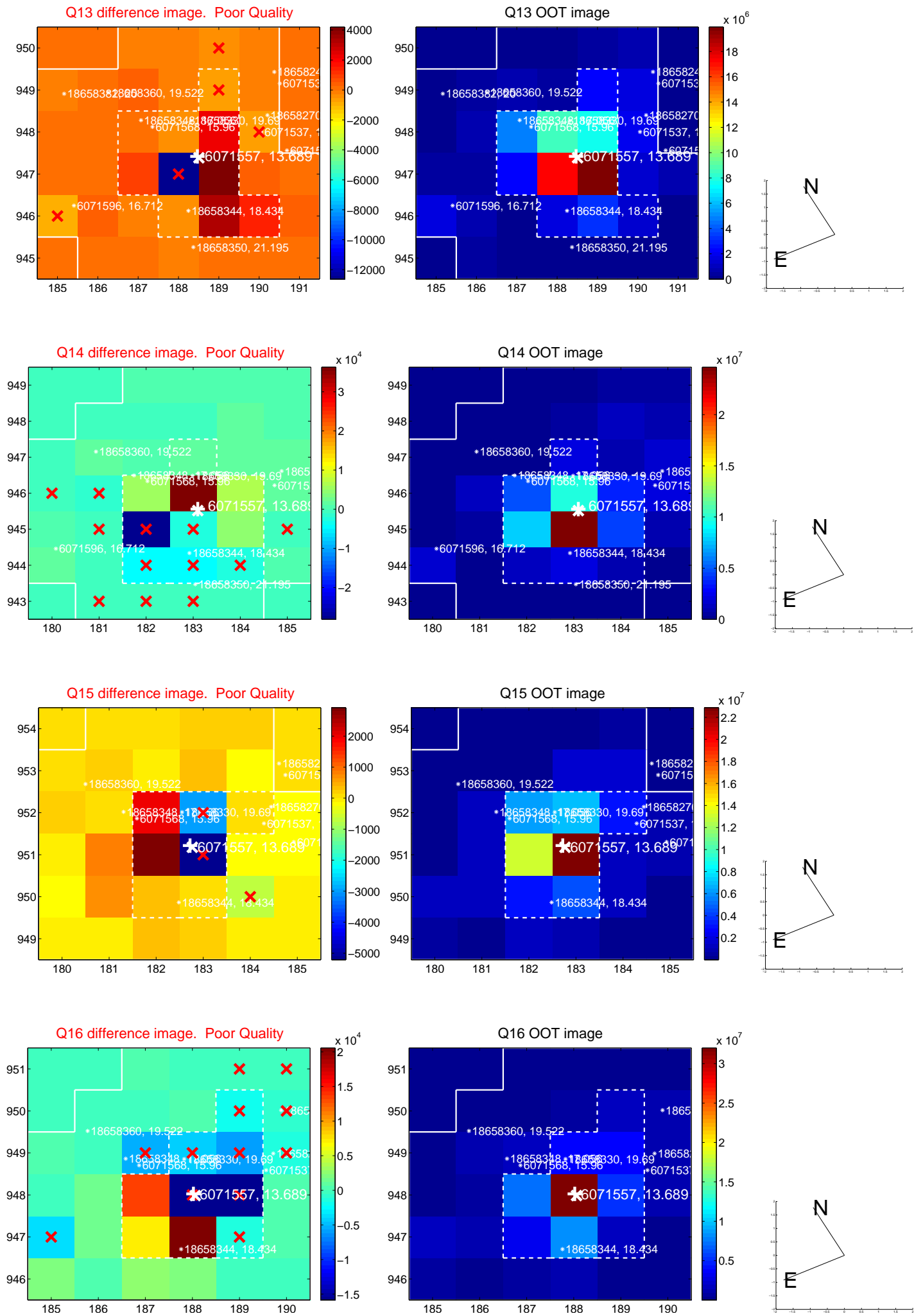




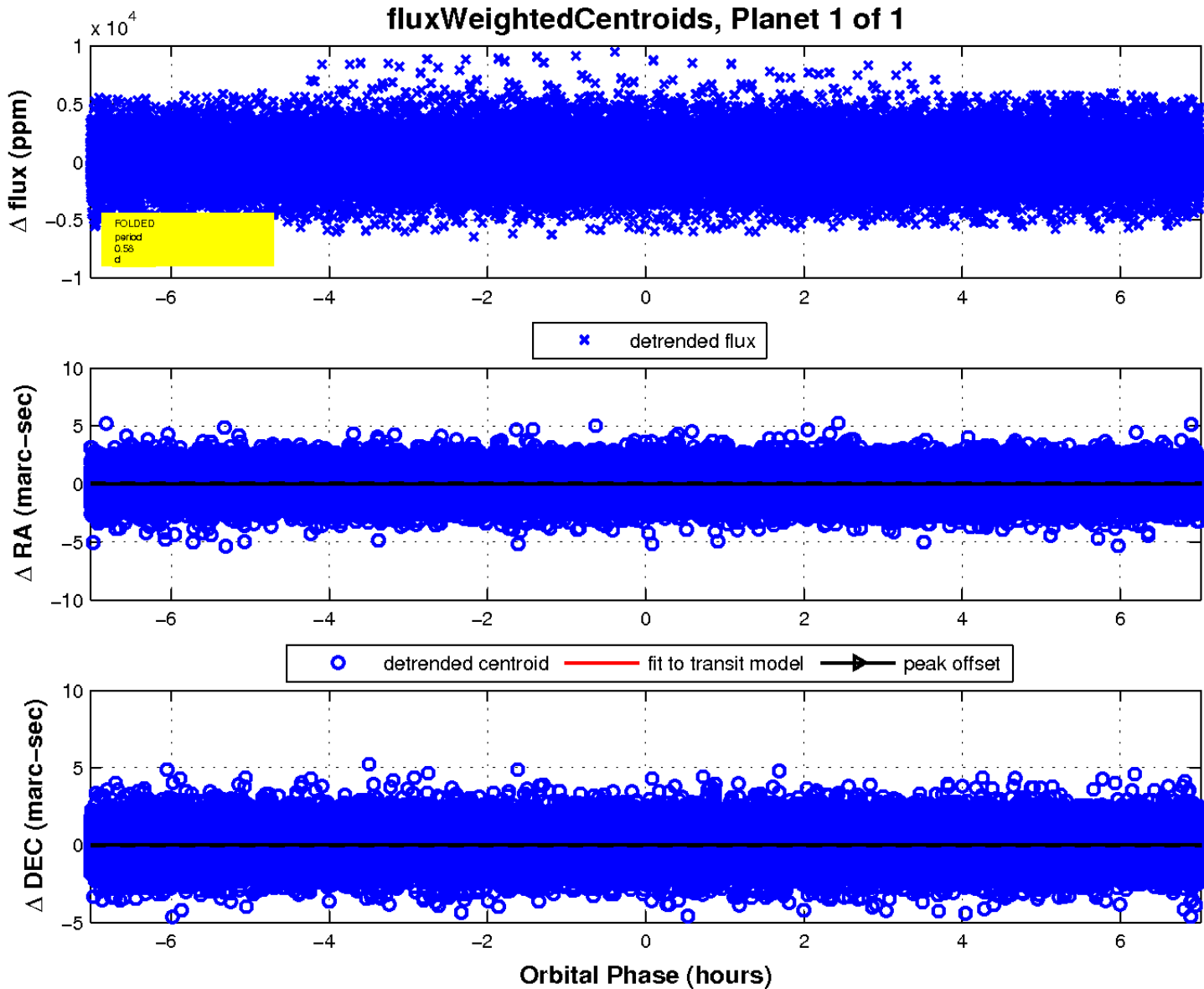
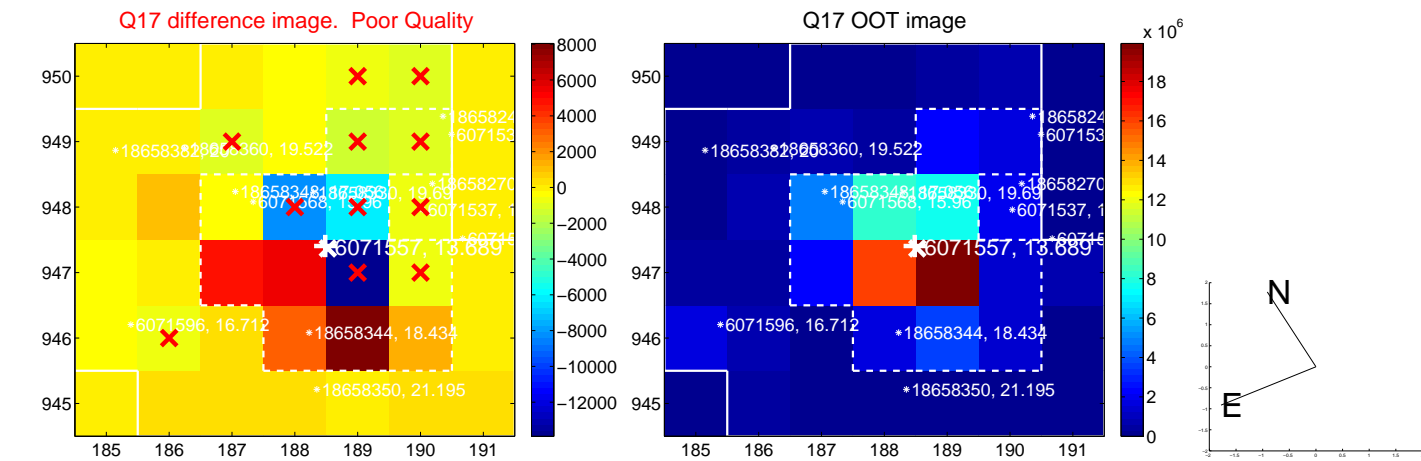
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



UKIRT Image

