

KIC 004545729

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})
004545729-01	OBS	No	18.383040	141.670653	182.6	42.304	22.5	33.3	1.85	6343	4.99	233.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004545729-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

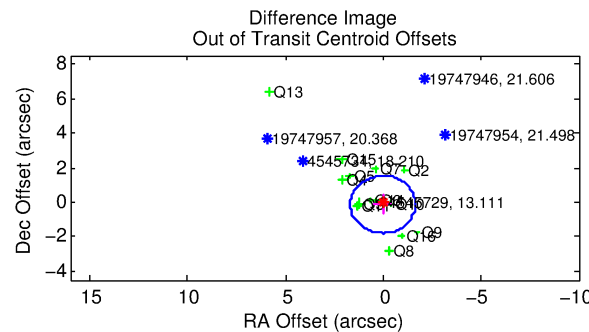
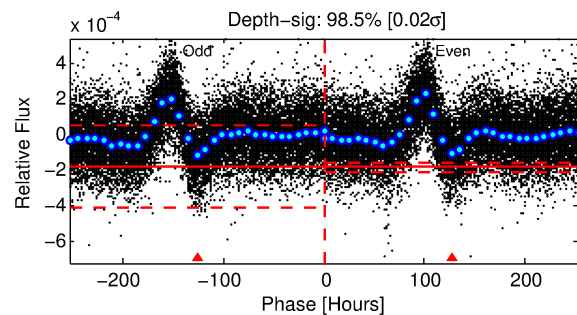
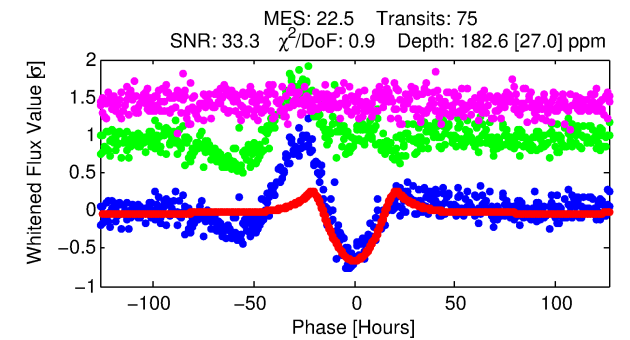
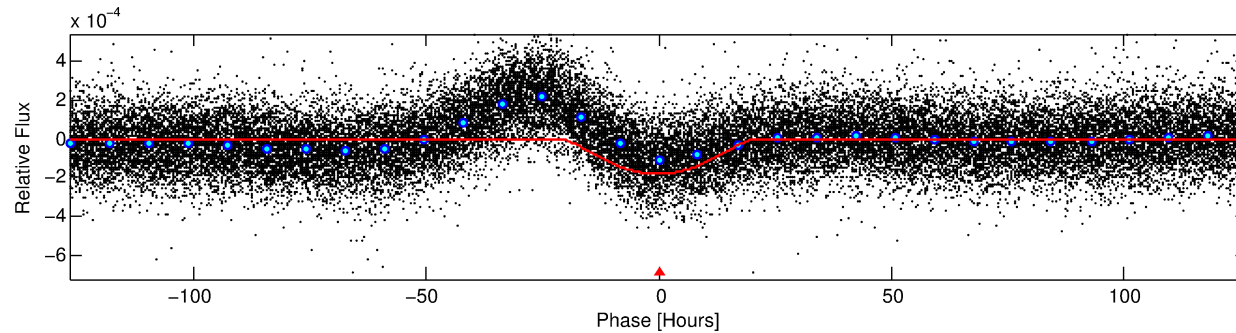
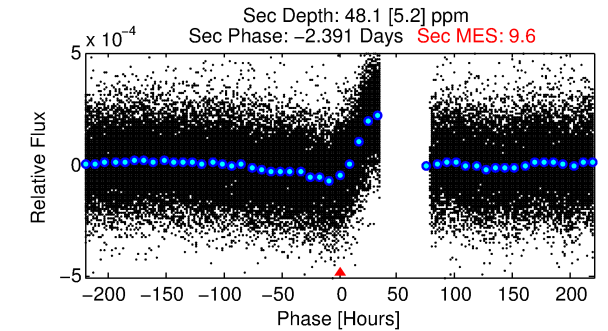
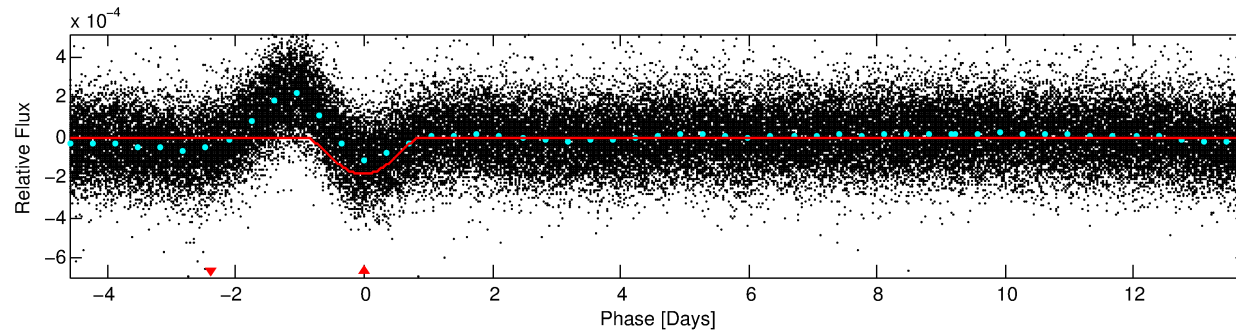
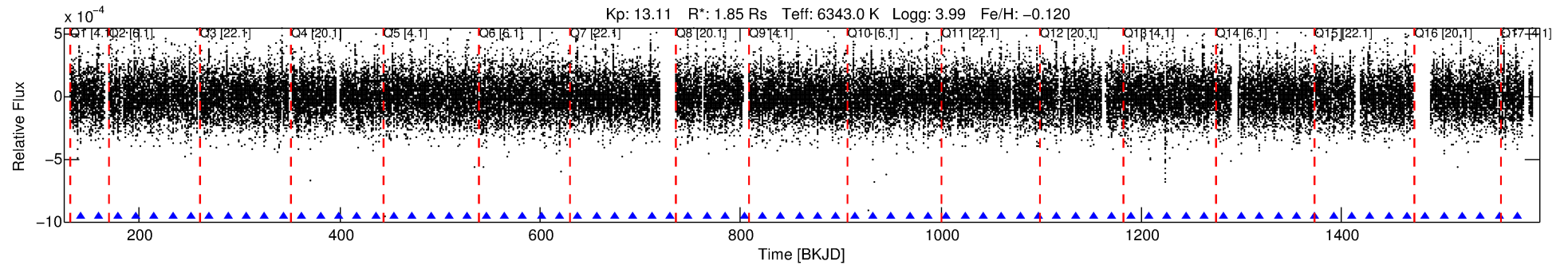
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004545729-01

No Significant Match Found

DV One-Page Summary

KIC: 4545729 Candidate: 1 of 1 Period: 18.383 d



DV Fit Results:

Period = 18.38304 [0.00048] d
Epoch = 141.6707 [0.0213] BKJD
Rp/R* = 0.0247 [0.0131]
a/R* = 1.25 [0.05]
b = 1.00 [0.02]
Seff = 233.40 [105.88]
Teq = 997 [113] K
Rp = 4.99 [3.00] Re
a = 0.1461 [0.0399] AU
Ag = 22.70 [26.24] [0.83σ]
Teffp = 3364 [904] K [2.60σ]

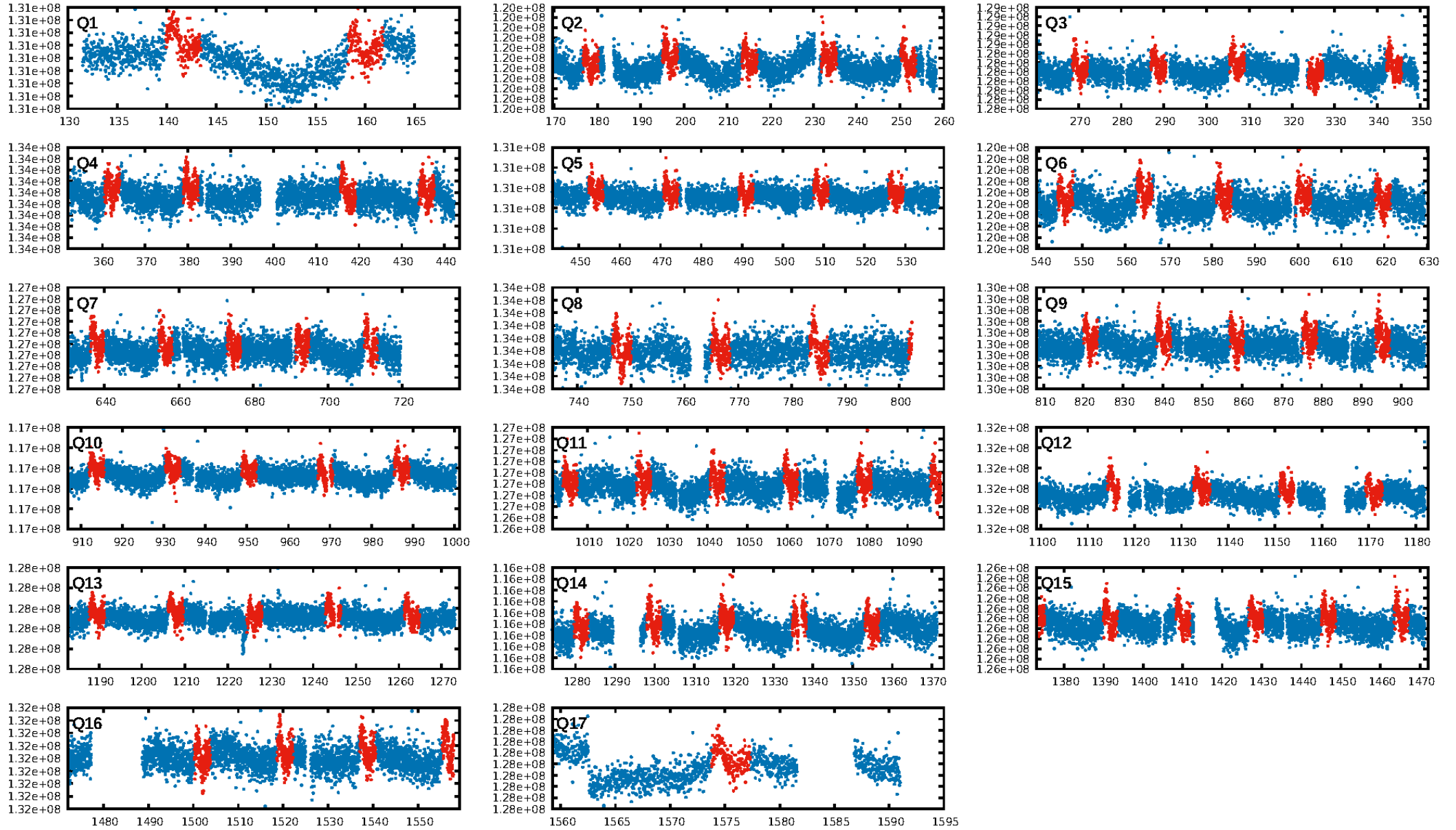
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.98e-103
RollingBand-fgt: 1.00 [72/72]
GhostDiagnostic-chr: 2.155
Centroid-sig: 62.3%
Centroid-so: 0.101 arcsec [0.37σ]
OotOffset-rm: 0.136 arcsec [0.24σ]
KicOffset-rm: 0.126 arcsec [0.24σ]
OotOffset-st: 4/4/3/3 [14]
KicOffset-st: 4/4/3/3 [14]
DiffImageQuality-fgm: 0.79 [11/14]
DiffImageOverlap-fno: 1.00 [16/16]

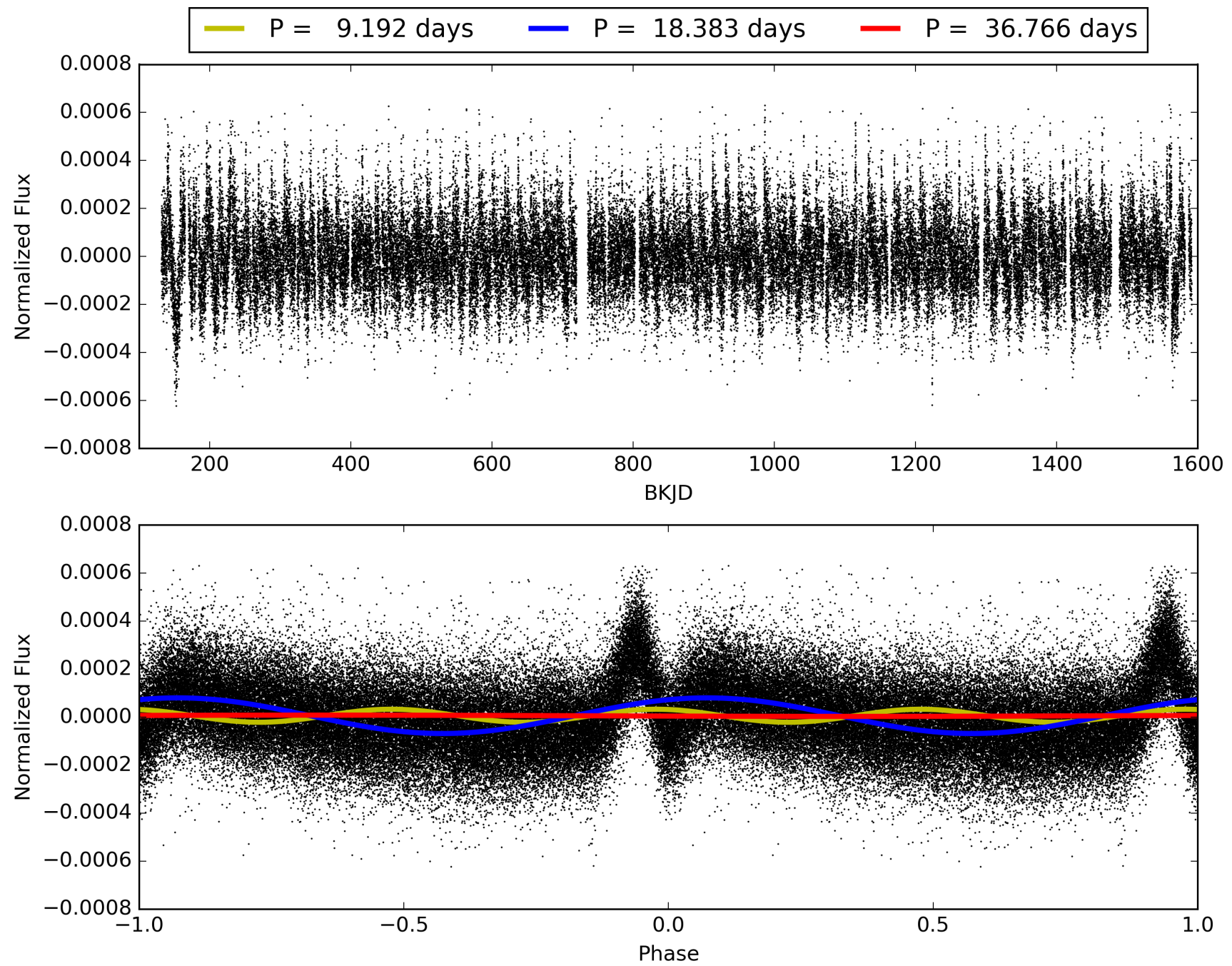
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 02:12:09 Z

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

TCE 004545729-01, PDC Light Curves

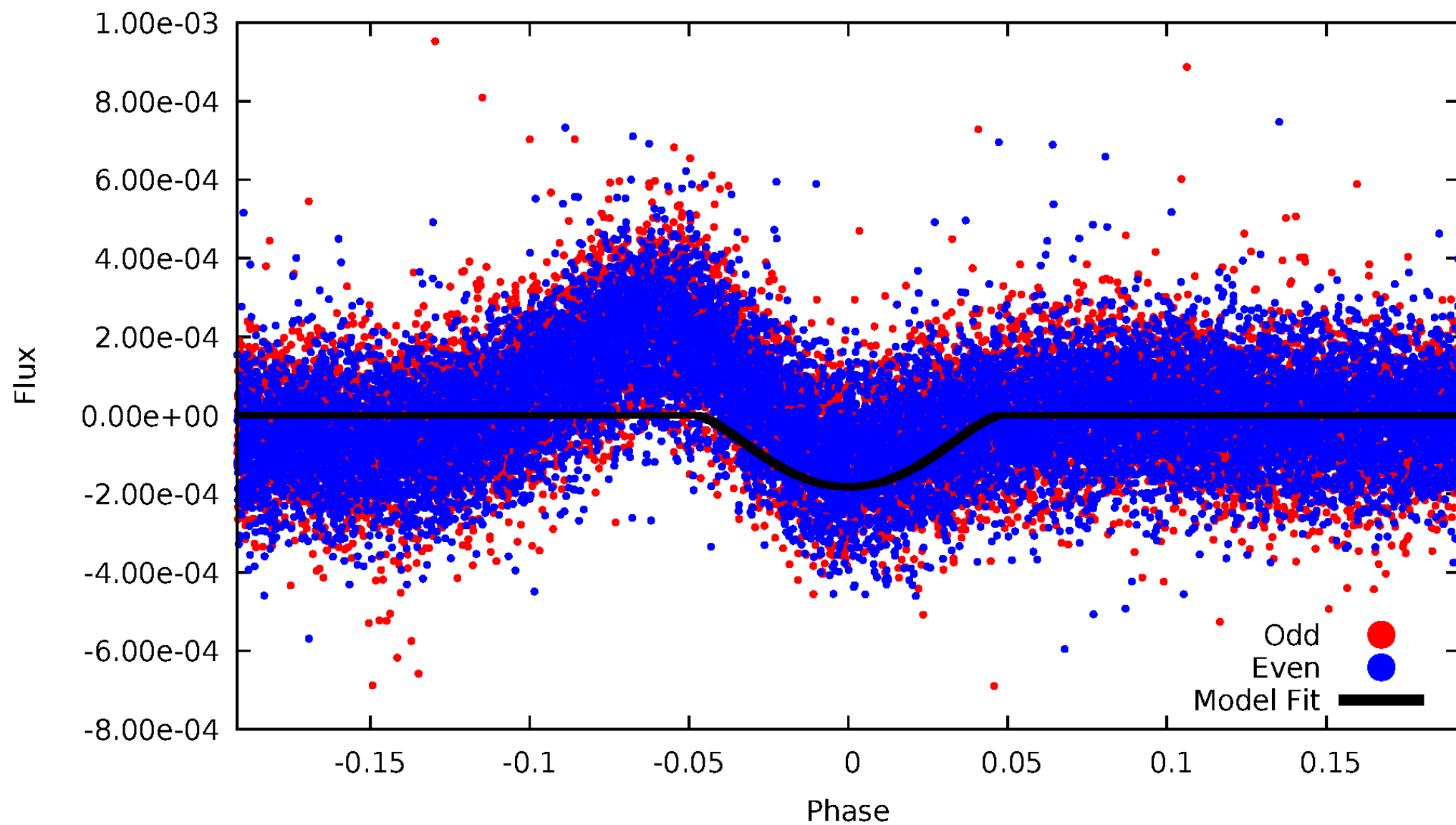


TCE 004545729-01



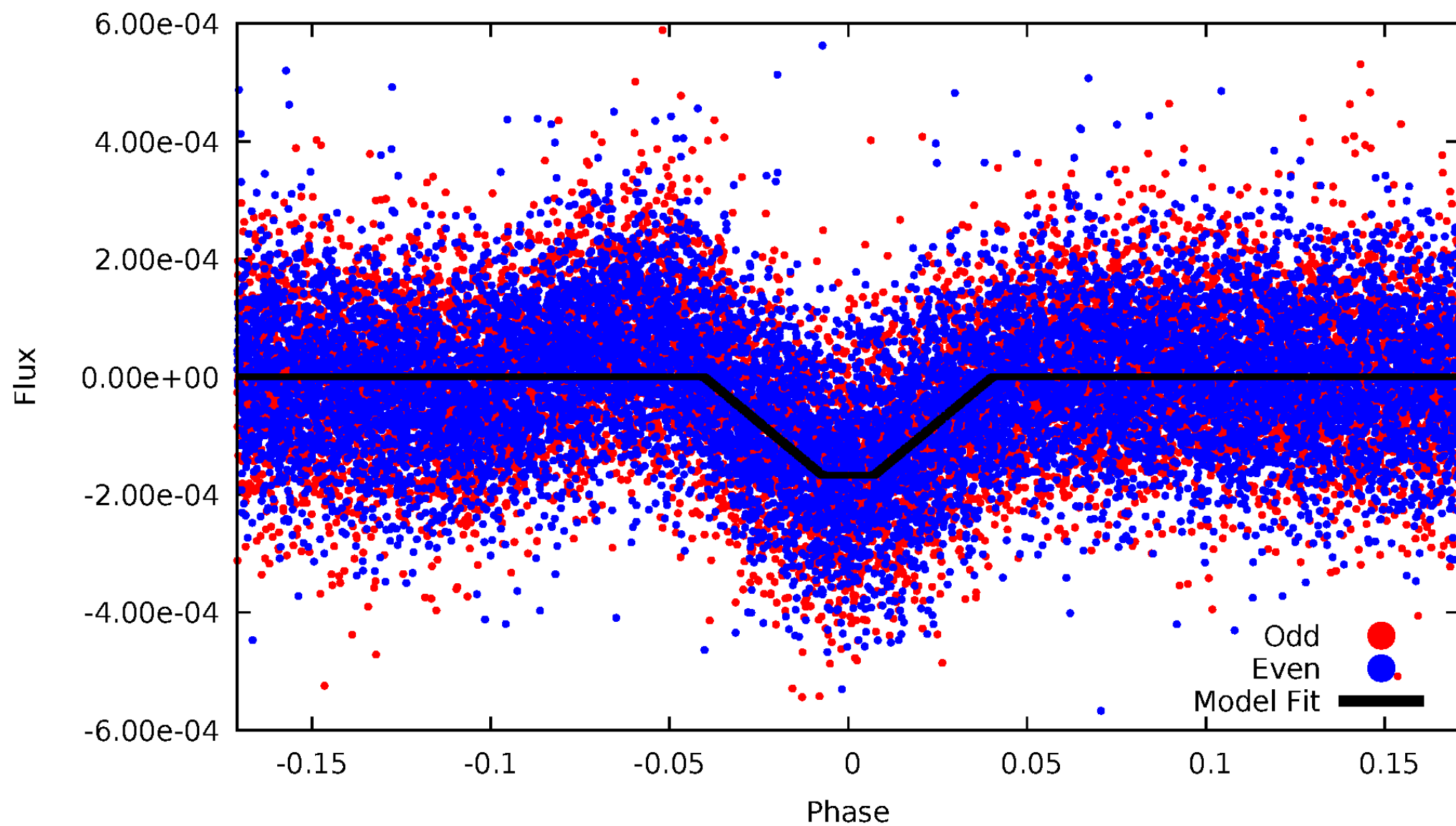
DV Odd/Even

TCE 004545729-01



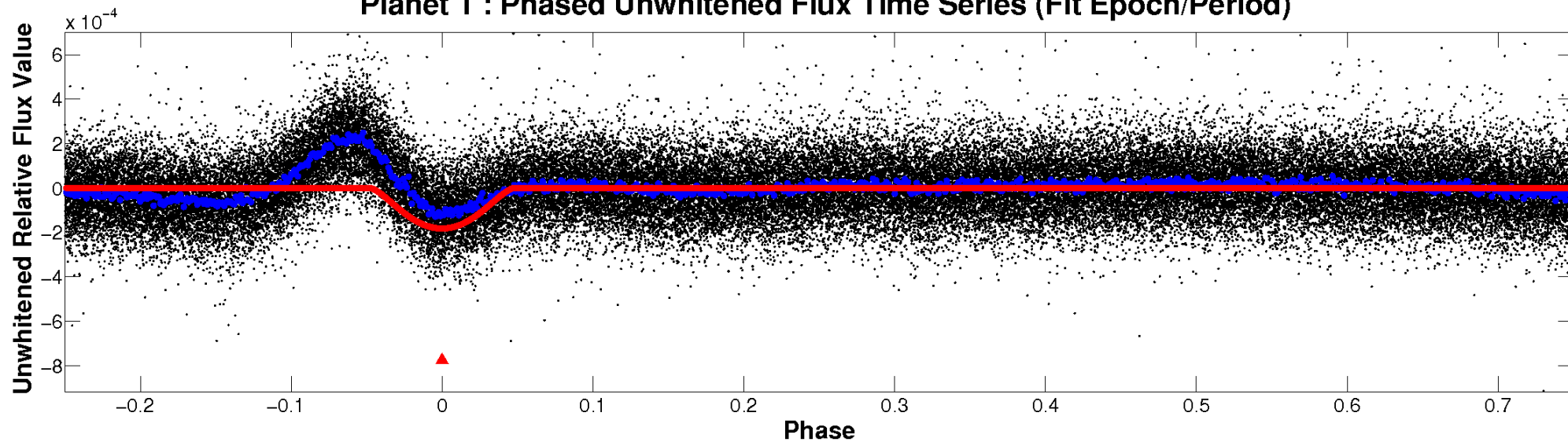
ALT Odd/Even

TCE 004545729-01

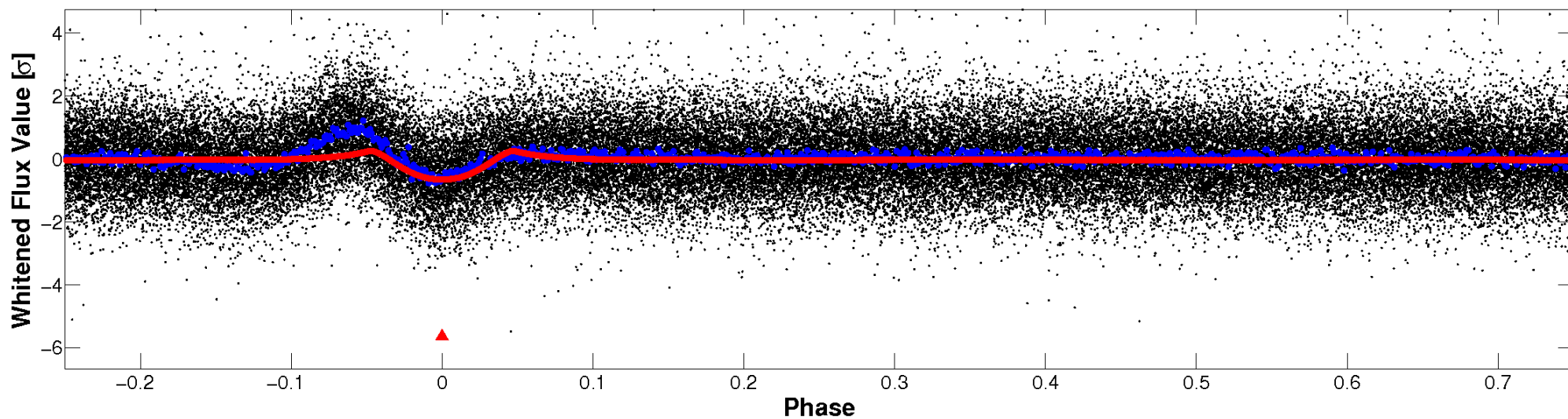


Non-Whitened Vs. Whitened Light Curve

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

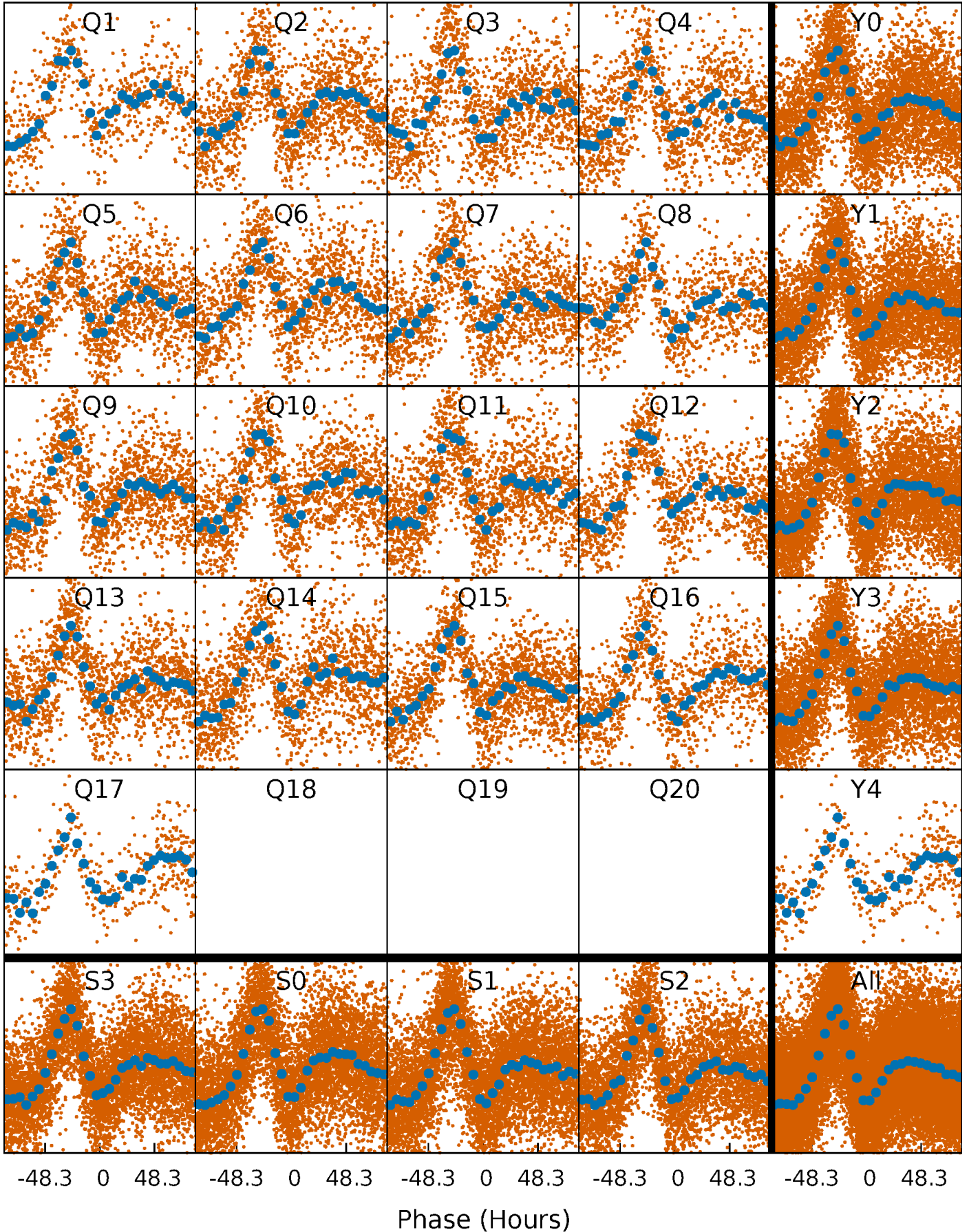


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



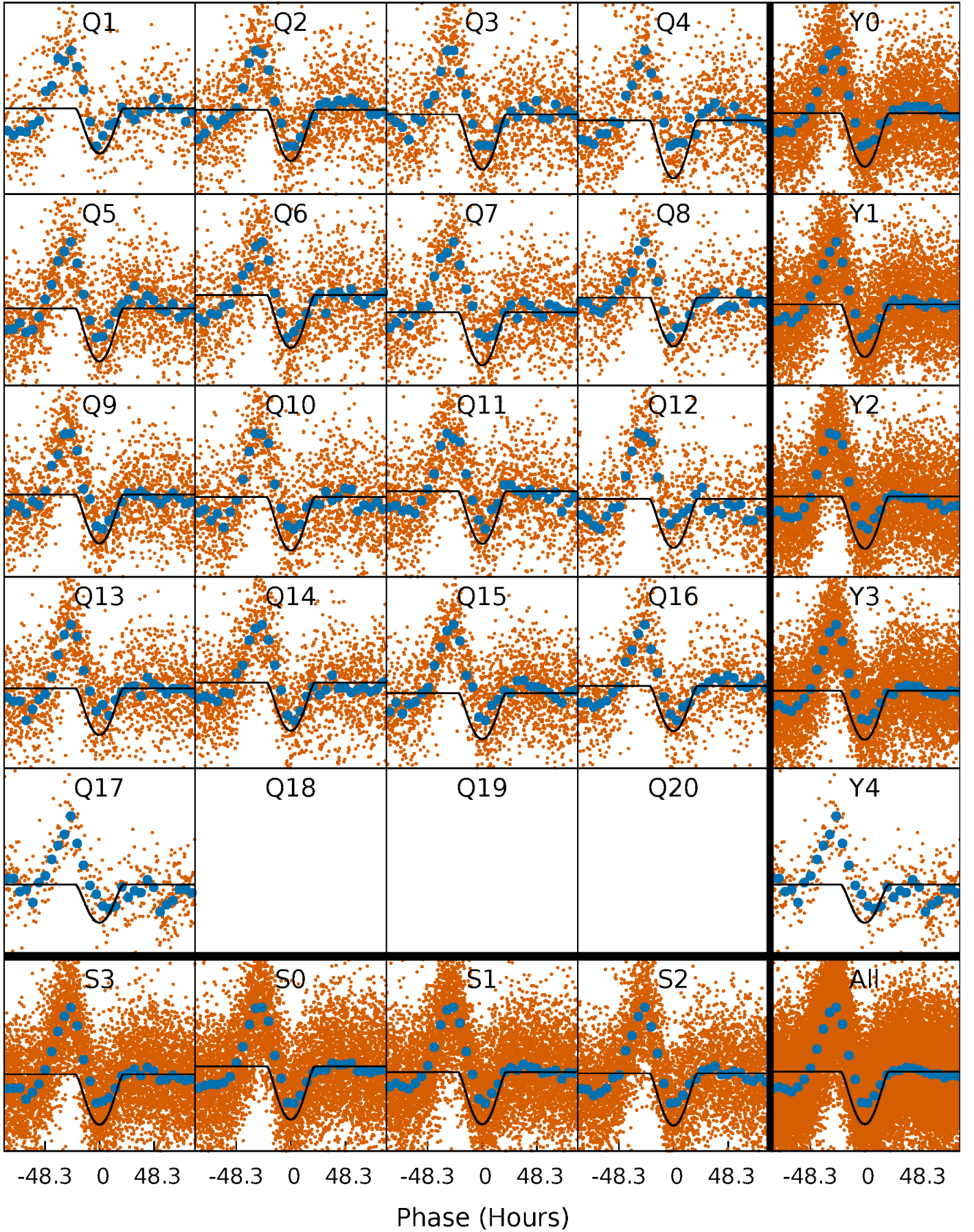
PDC Quarter-Phased Transit Curves

TCE 004545729-01 P= 18.383040 Days $T_0=141.670653$ (BKJD)



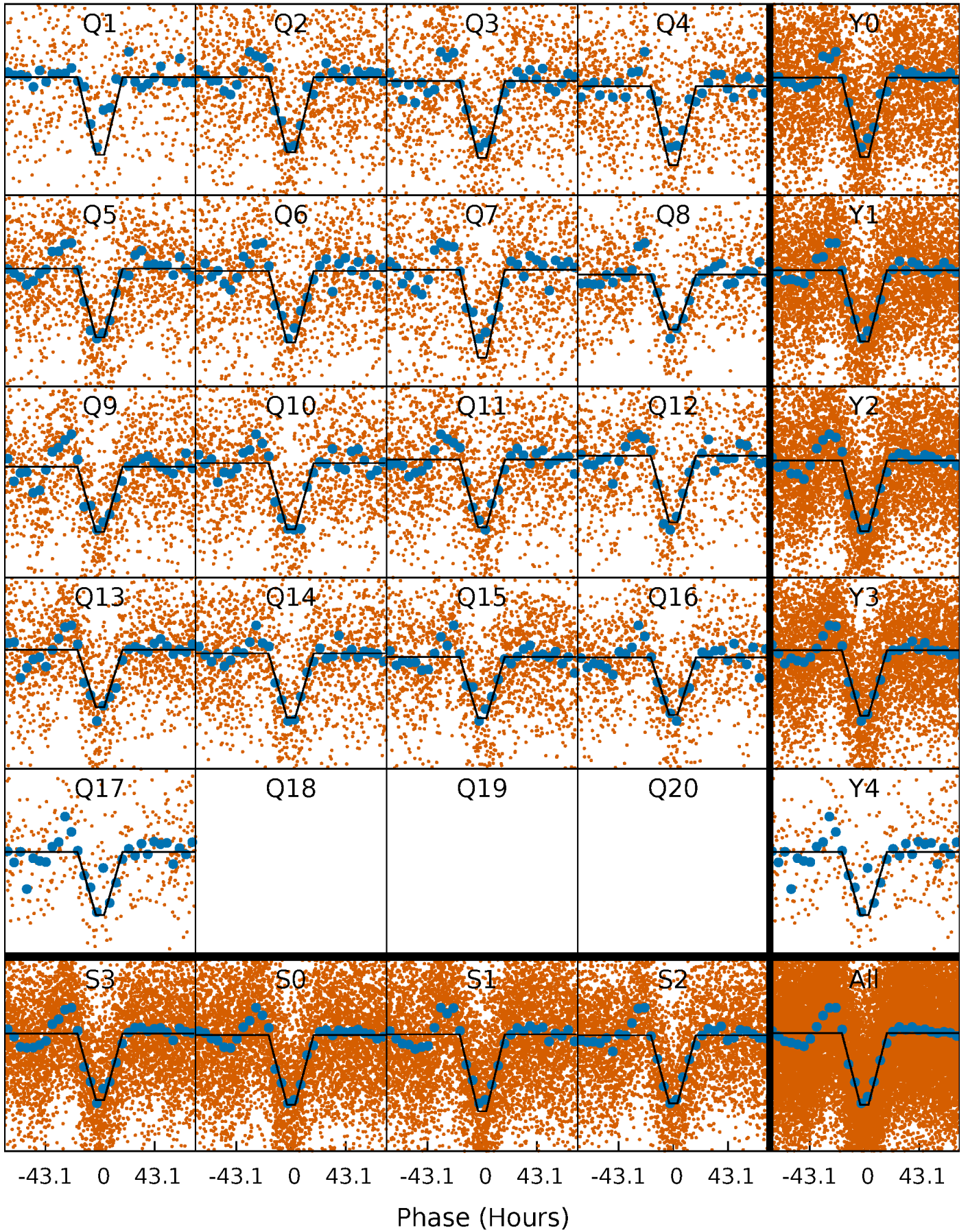
DV Quarter-Phased Transit Curves

TCE 004545729-01 P= 18.383040 Days $T_0=141.670653$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

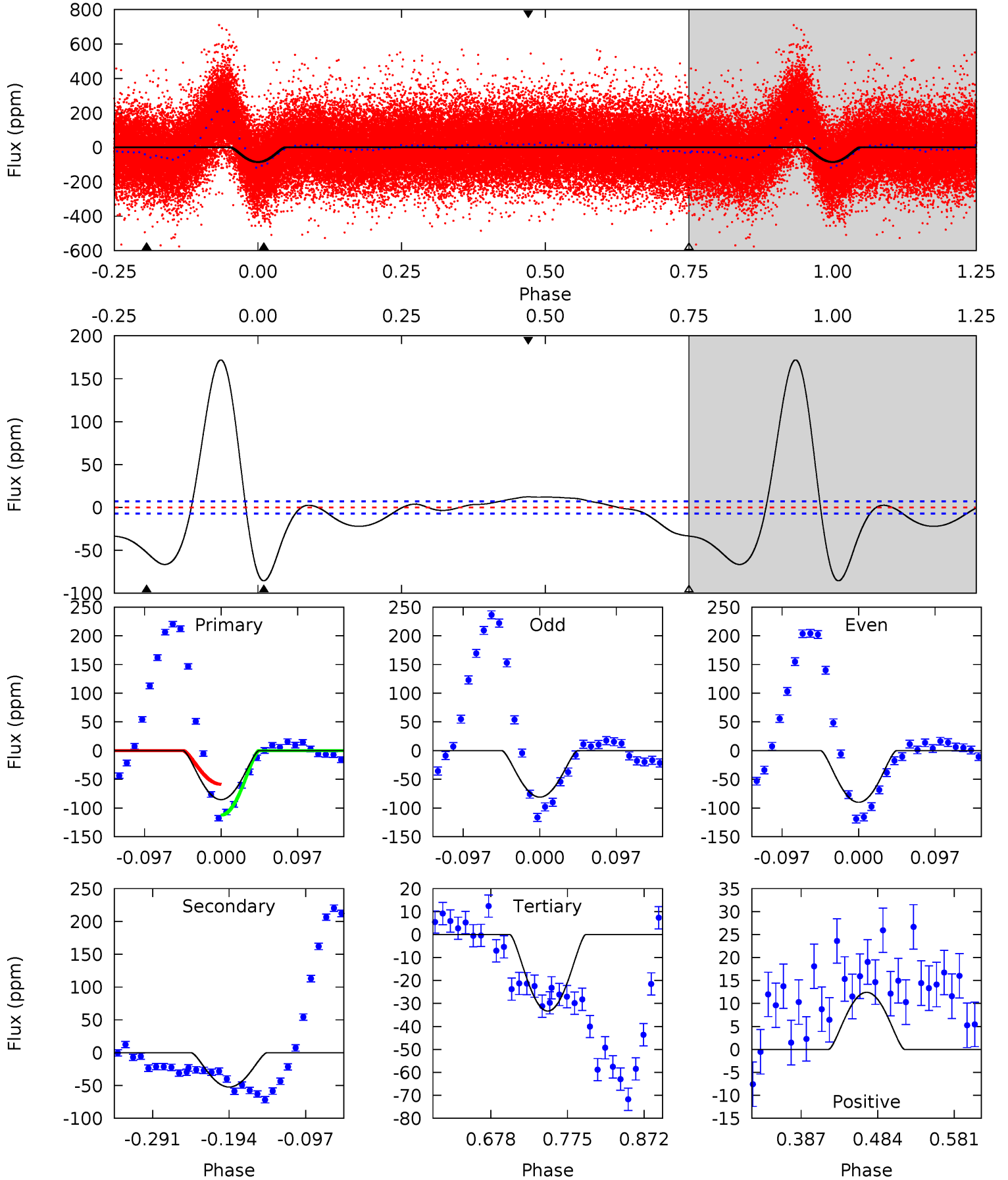
TCE 004545729-01 P= 18.382955 Days $T_0=141.622667$ (BKJD)



DV Model-Shift Uniqueness Test

004545729-01, P = 18.383040 Days, E = 123.287613 Days

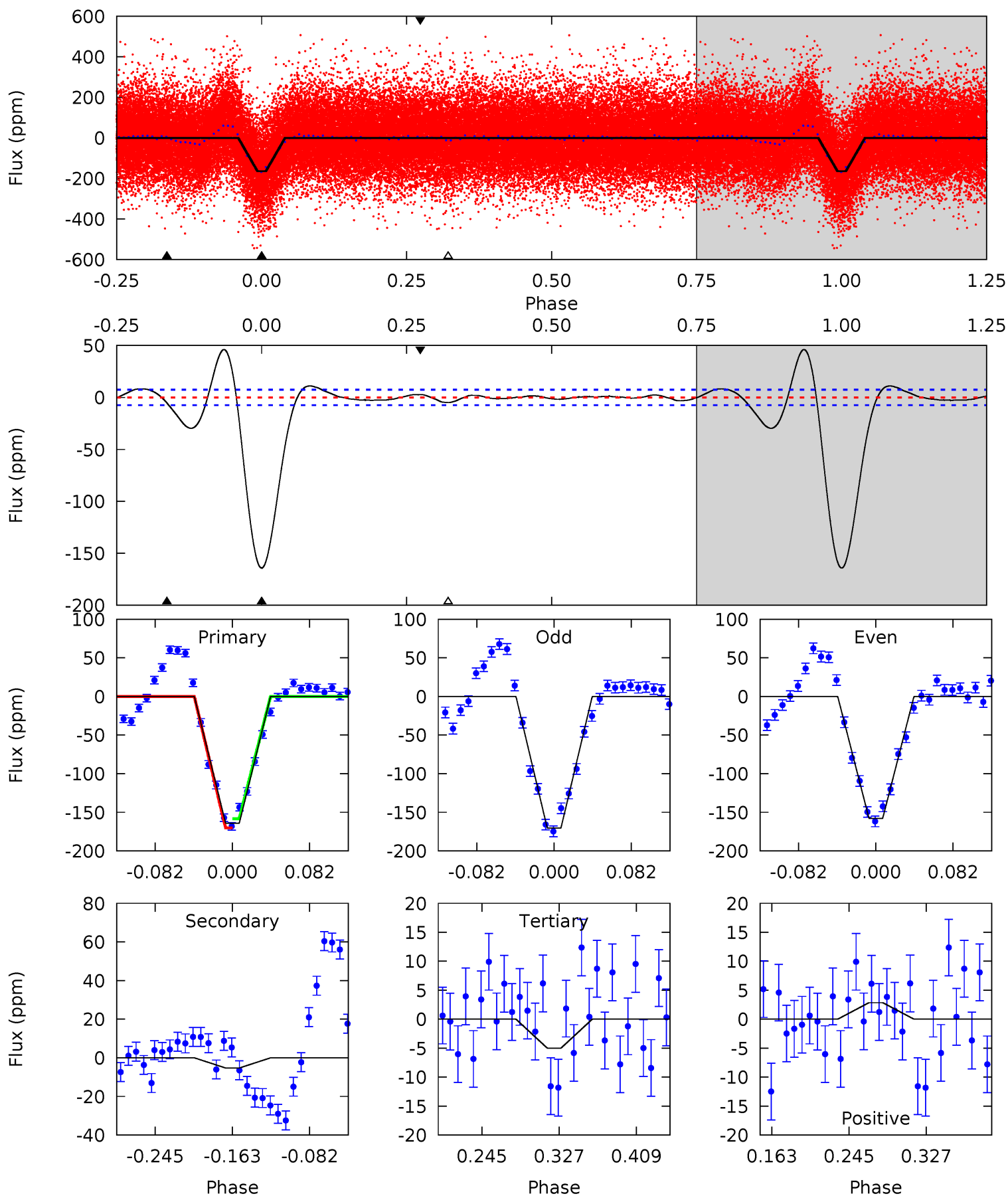
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
54.5	33.3	21.2	7.92	4.57	1.66	11.4	33.2	46.5	12.1	25.4	2.88	1.01	0.67	17.0



Alt Model-Shift Uniqueness Test

004545729-01, P = 18.382955 Days, E = 123.239712 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
101.5	3.27	3.09	1.77	4.61	1.74	1.63	98.4	99.7	0.17	1.50	3.90	1.04	0.22	3.73



Stellar Parameters For KIC 004545729

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6343^{+161}_{-177}	$3.992^{+0.259}_{-0.111}$	$-0.120^{+0.250}_{-0.250}$	$1.853^{+0.427}_{-0.522}$	$1.229^{+0.210}_{-0.191}$	$0.272^{+0.416}_{-0.108}$
	+3%/-3%	+6%/-3%	+208%/-208%	+23%/-28%	+17%/-16%	+153%/-40%
Source	PHO1	FLK73	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 004545729-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-52 ± 2	$4.62^{+2.74}_{-2.31}$	1367^{+88}_{-112}	3848^{+1144}_{-537}	29^{+86}_{-18}
Alt.	-5 ± 2	$3.00^{+2.18}_{-1.88}$	1368^{+87}_{-110}	3049^{+1253}_{-456}	$6.560^{+48.488}_{-4.385}$

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

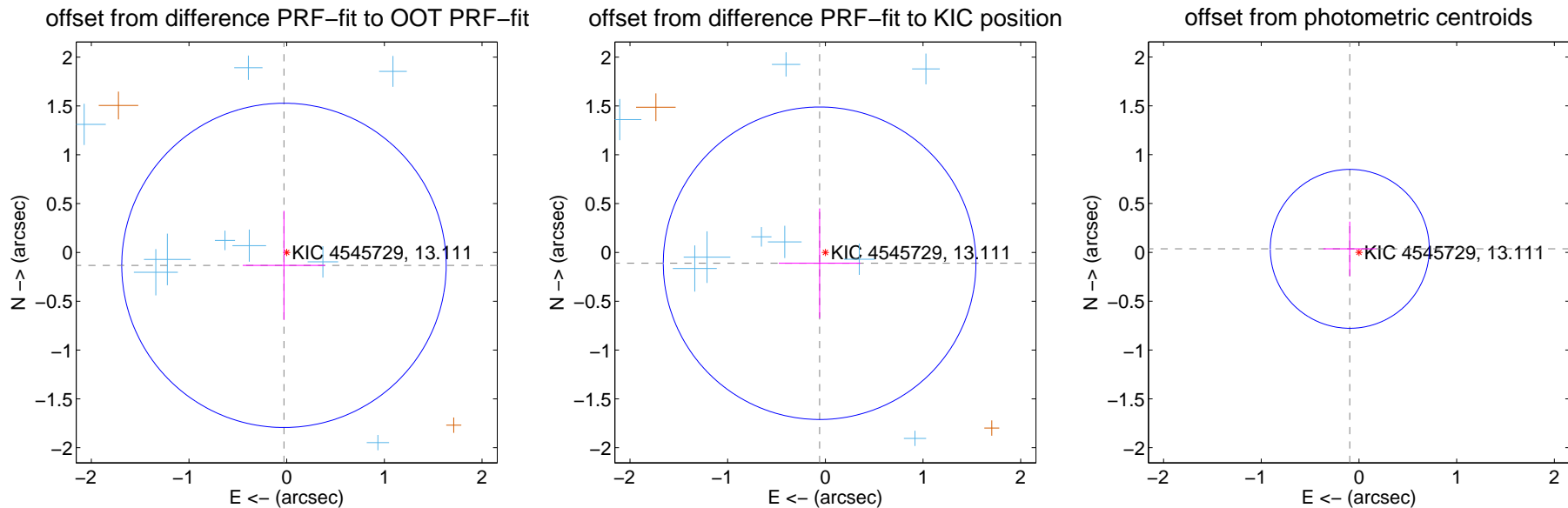
DV Centroid Data

Supplemental centroid analysis for 004545729-01. Kepler magnitude: 13.11. Transit SNR 33.27

There are 11 quarters with good PRF difference image offsets

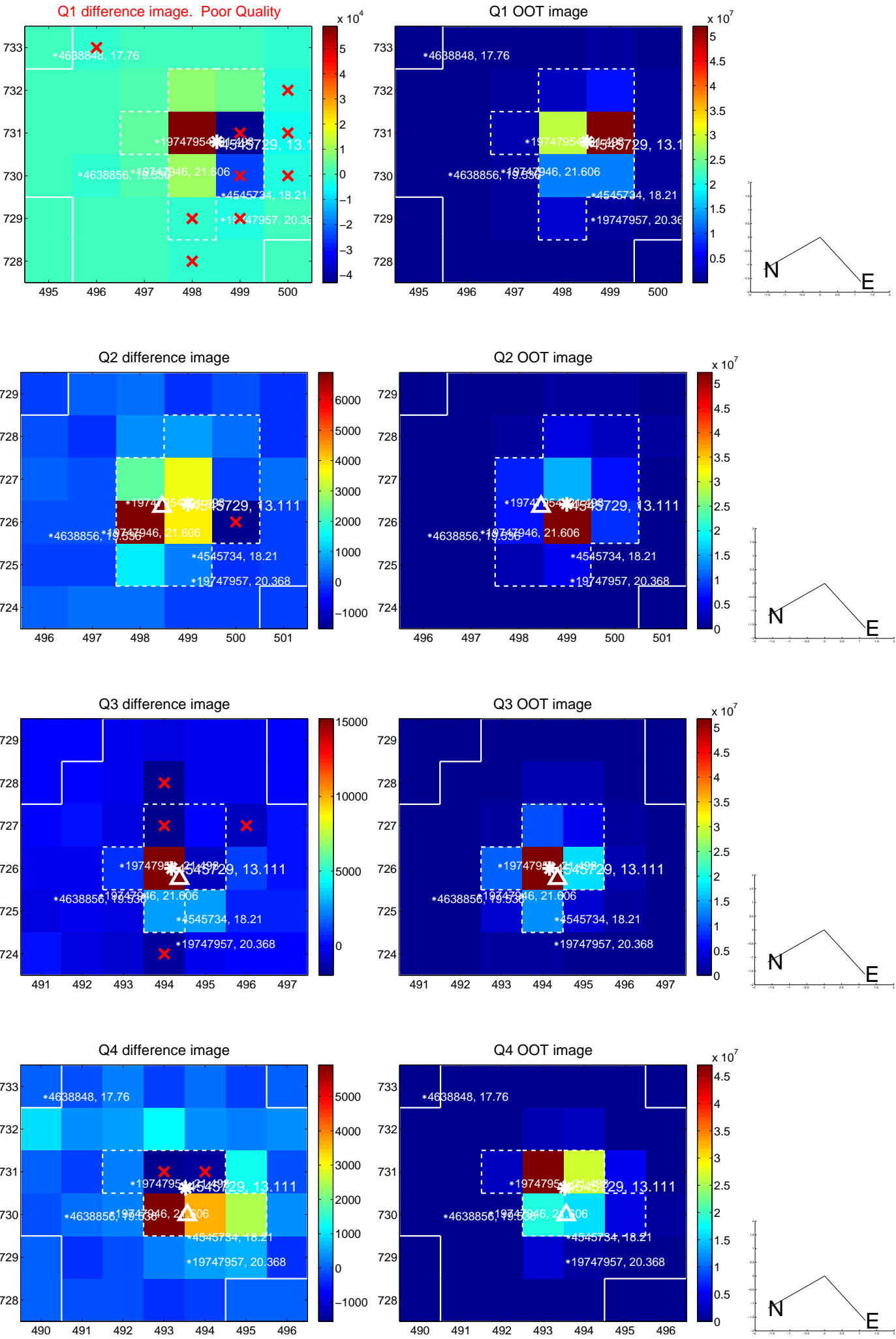
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.136 ± 0.554	0.24	0.028 ± 0.423	-0.133 ± 0.559
PRF-fit source offset from KIC position	0.126 ± 0.534	0.24	0.059 ± 0.419	-0.111 ± 0.561
photometric centroid source offset	0.10 ± 0.27	0.37	0.09 ± 0.27	0.04 ± 0.28

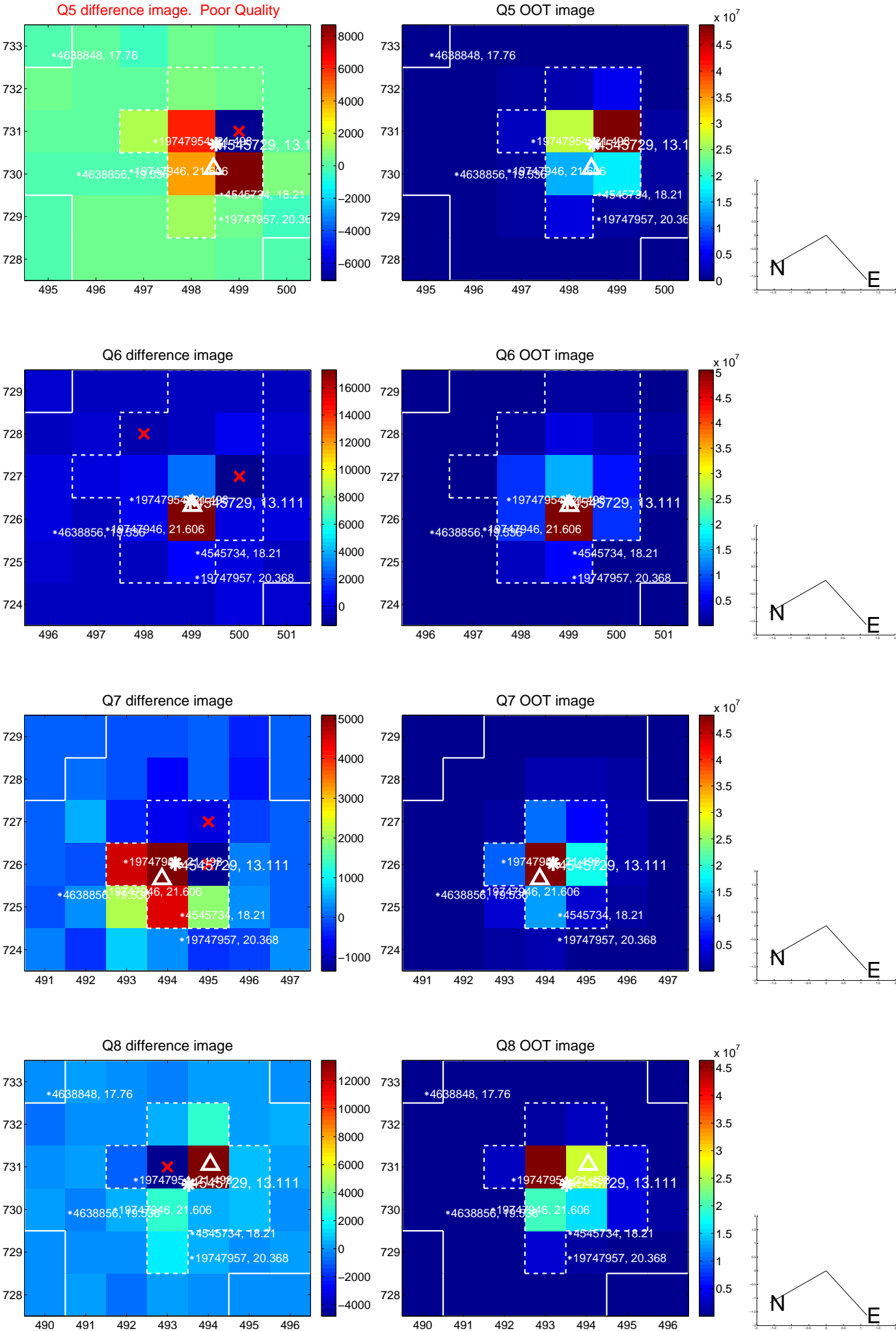


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

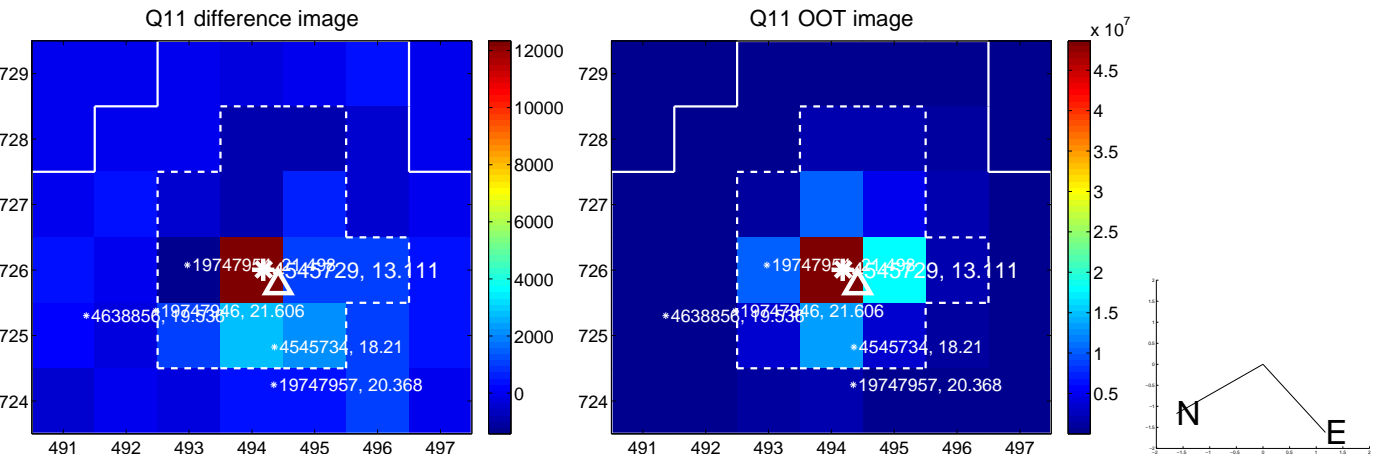
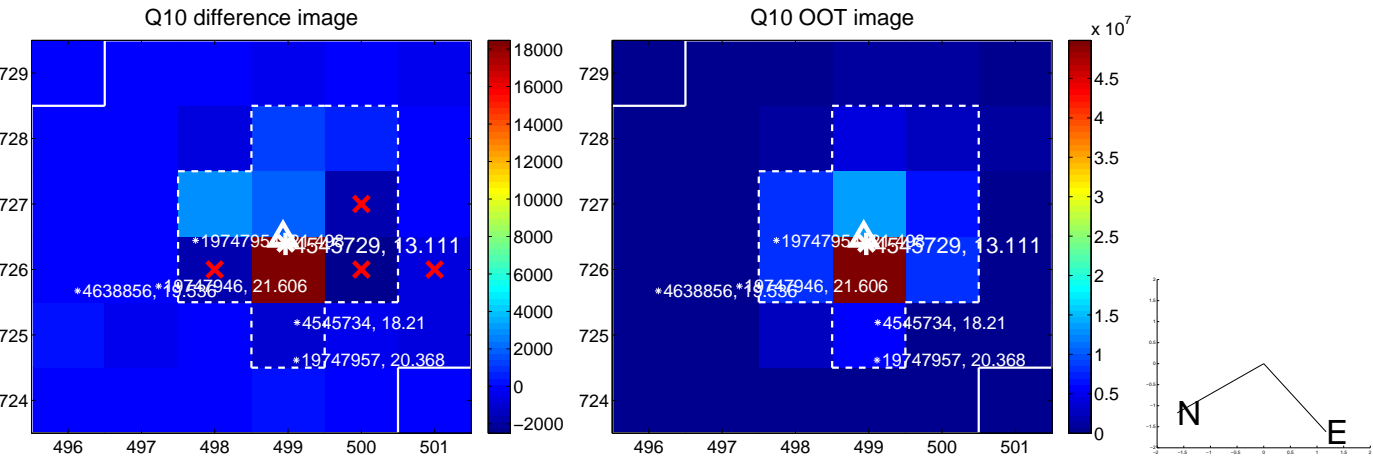
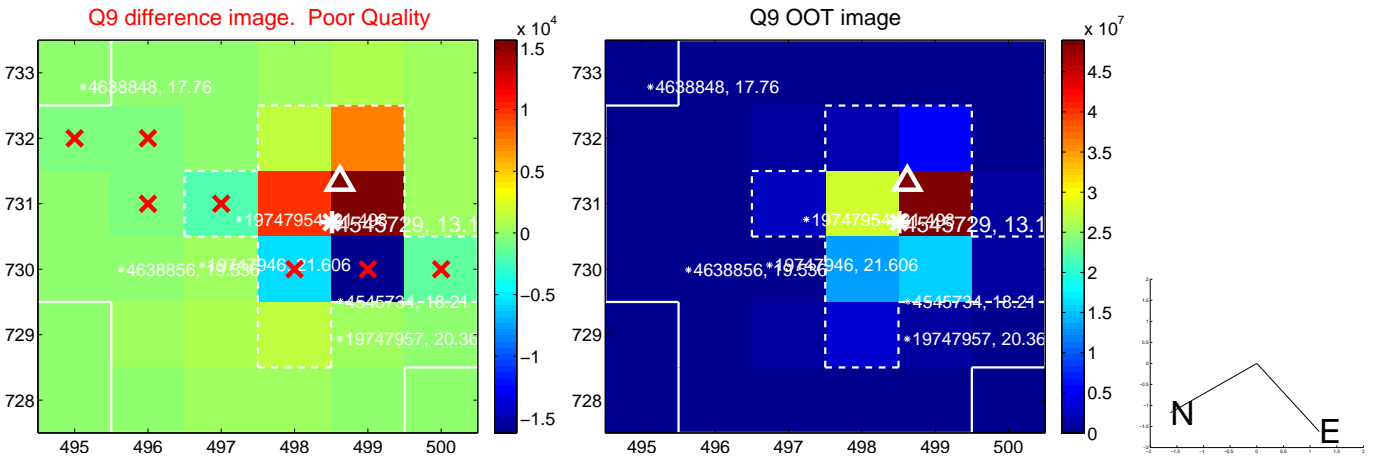
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



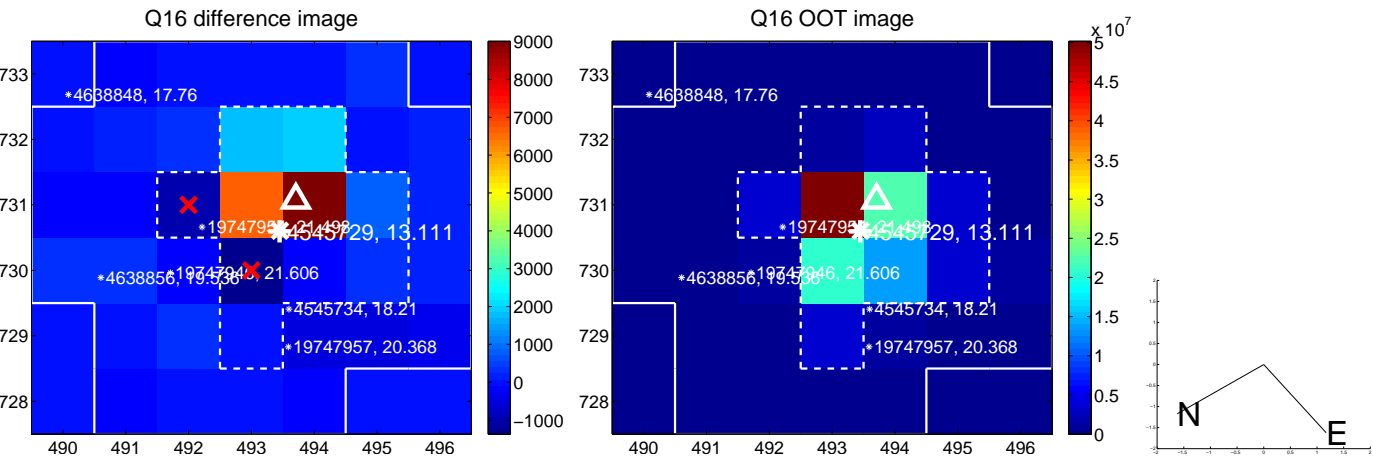
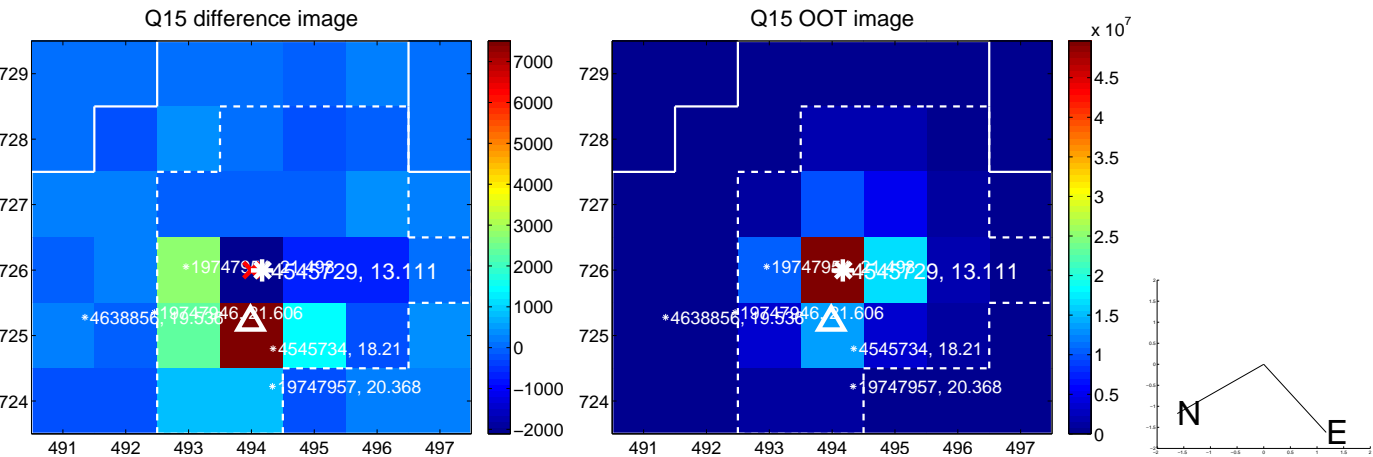
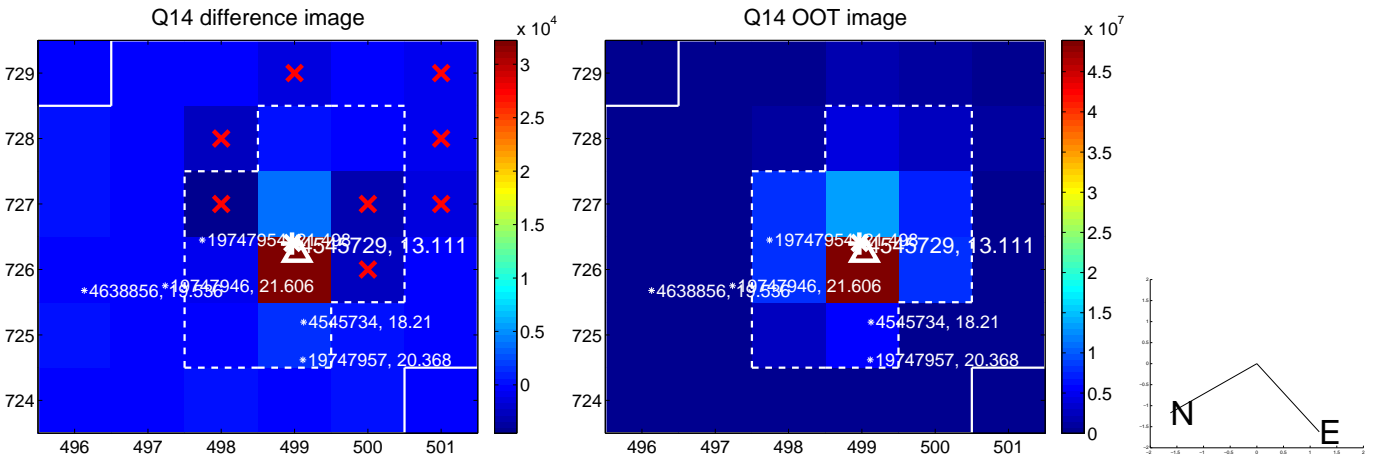
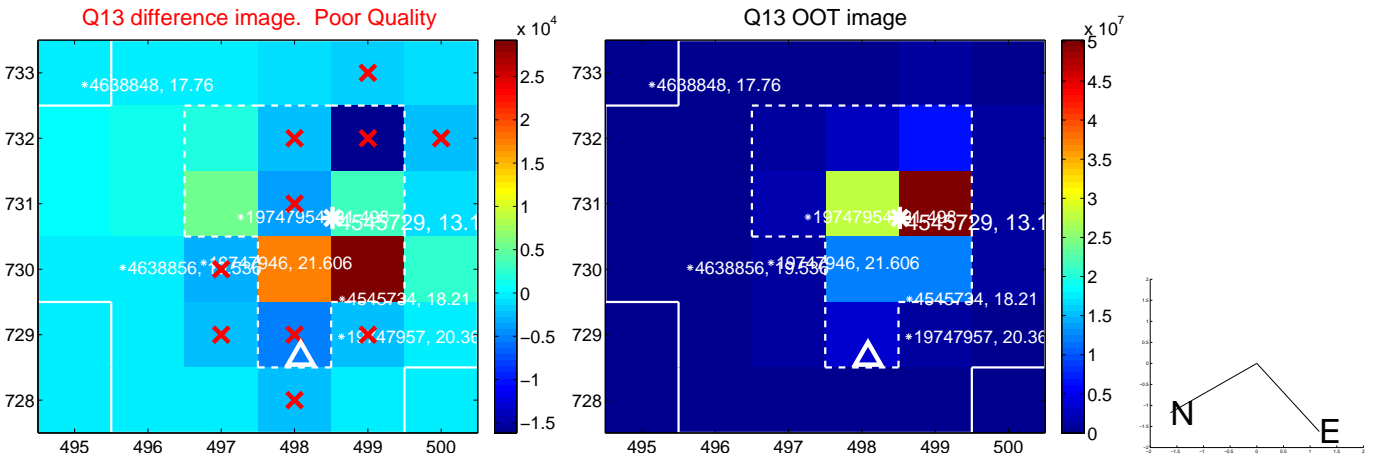
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



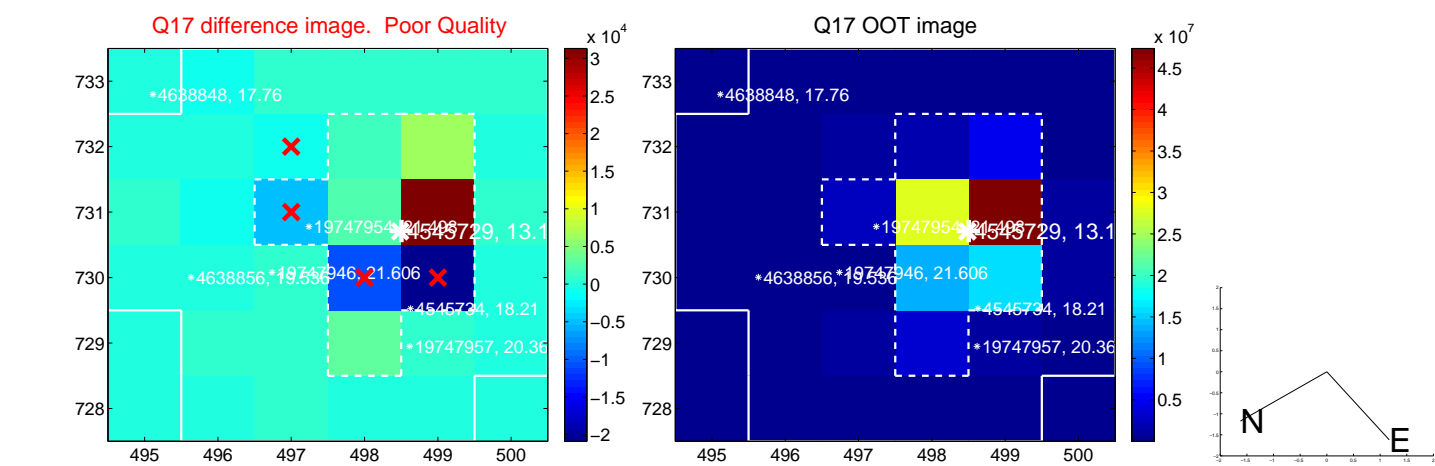
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



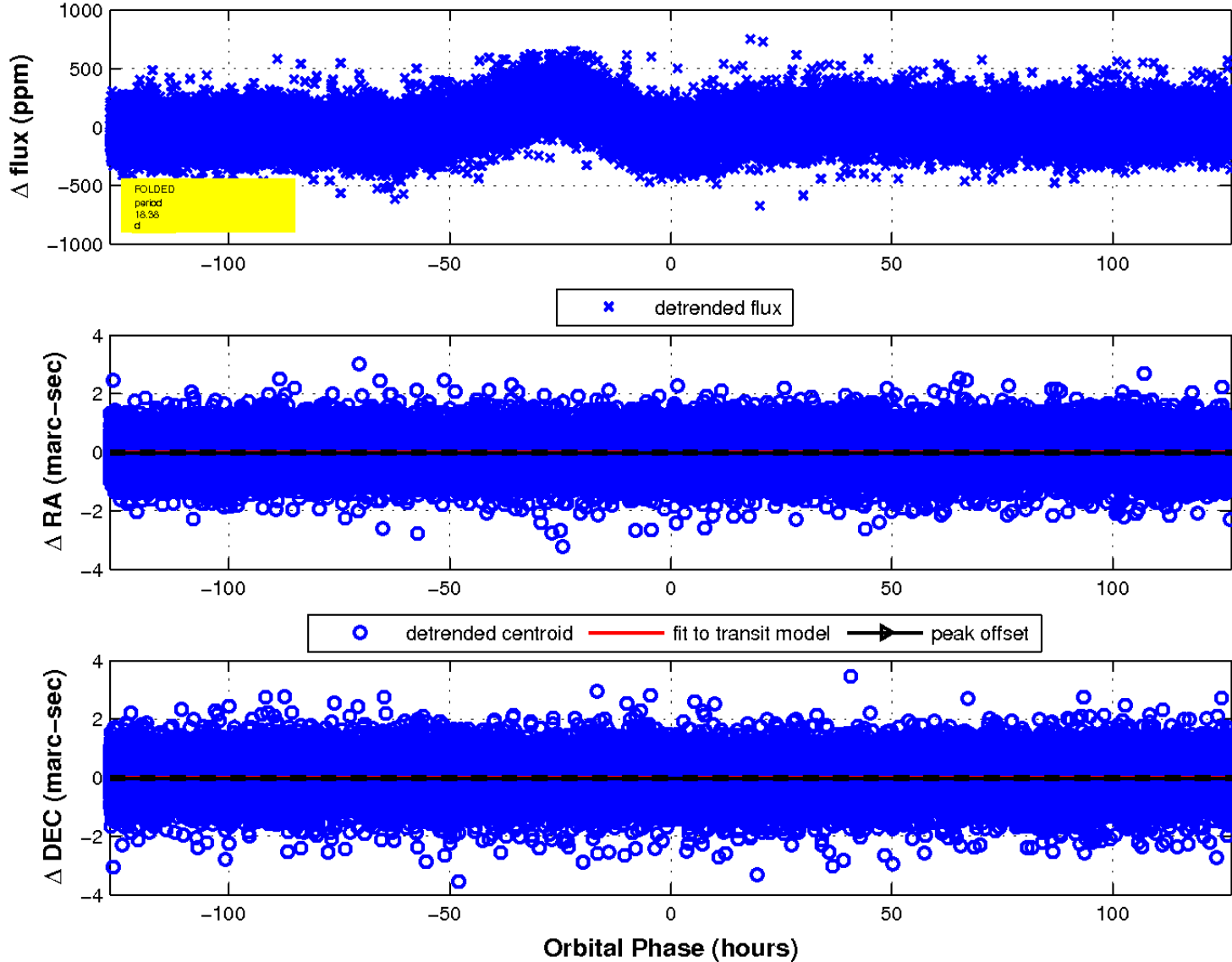
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

