

KIC 010747037

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})
010747037-01	OBS	No	2.579800	133.988452	14.2	22.564	7.9	6.2	1.77	6805	0.82	3600.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010747037-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_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.

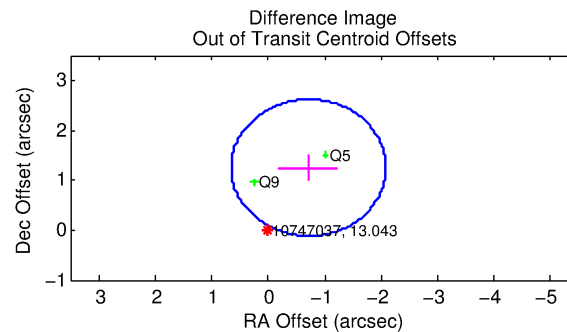
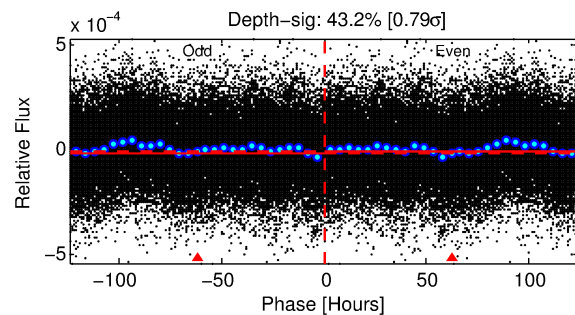
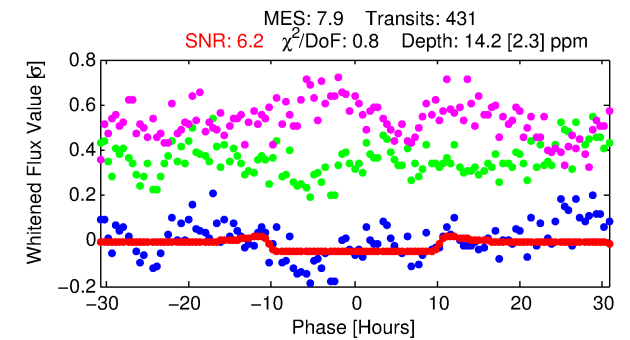
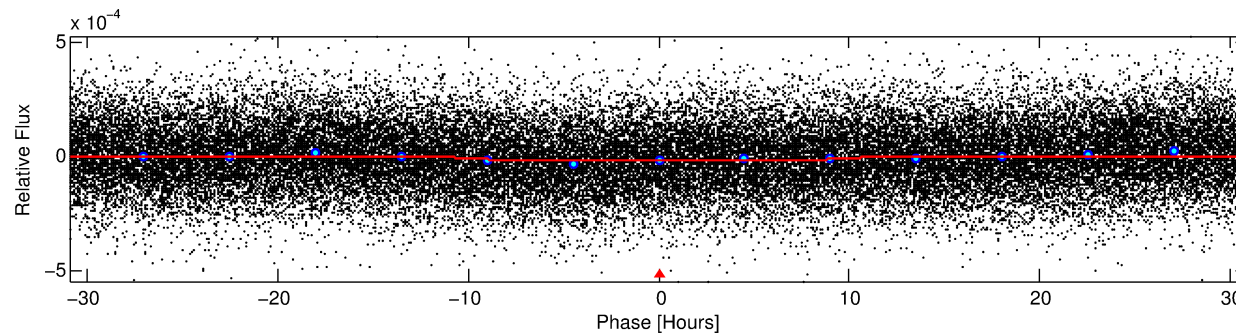
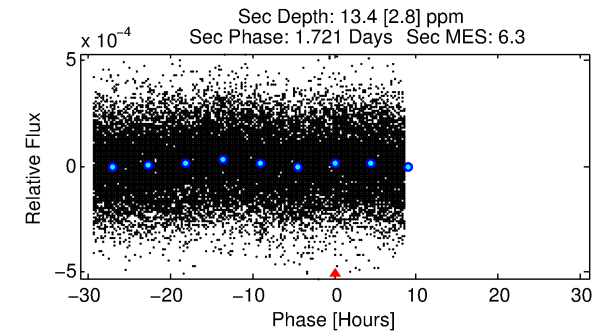
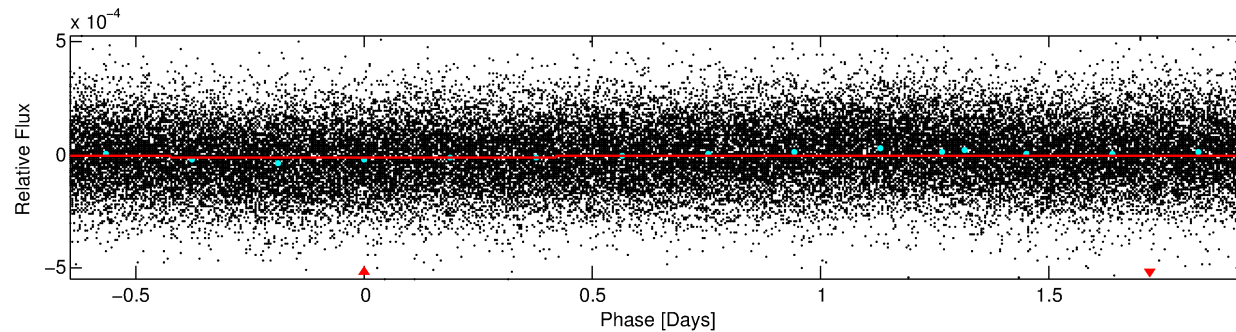
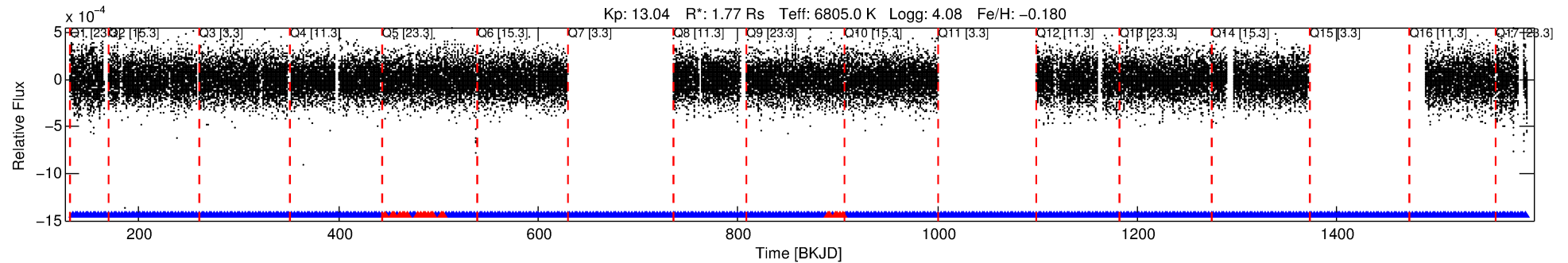
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010747037-01

No Significant Match Found

DV One-Page Summary

KIC: 10747037 Candidate: 1 of 1 Period: 2.580 d



DV Fit Results:

Period = 2.57980 [0.00010] d
Epoch = 133.9885 [0.0260] BKJD
Rp/R* = 0.0042 [0.0005]
a/R* = 1.01 [0.02]
b = 0.95 [0.06]
Seff = 3600.82 [1031.38]
Teq = 1975 [141] K
Rp = 0.82 [0.19] Re
a = 0.0409 [0.0074] AU
Ag = 18.35 [7.95] [2.18σ]
Teffp = 6321 [527] K [7.96σ]

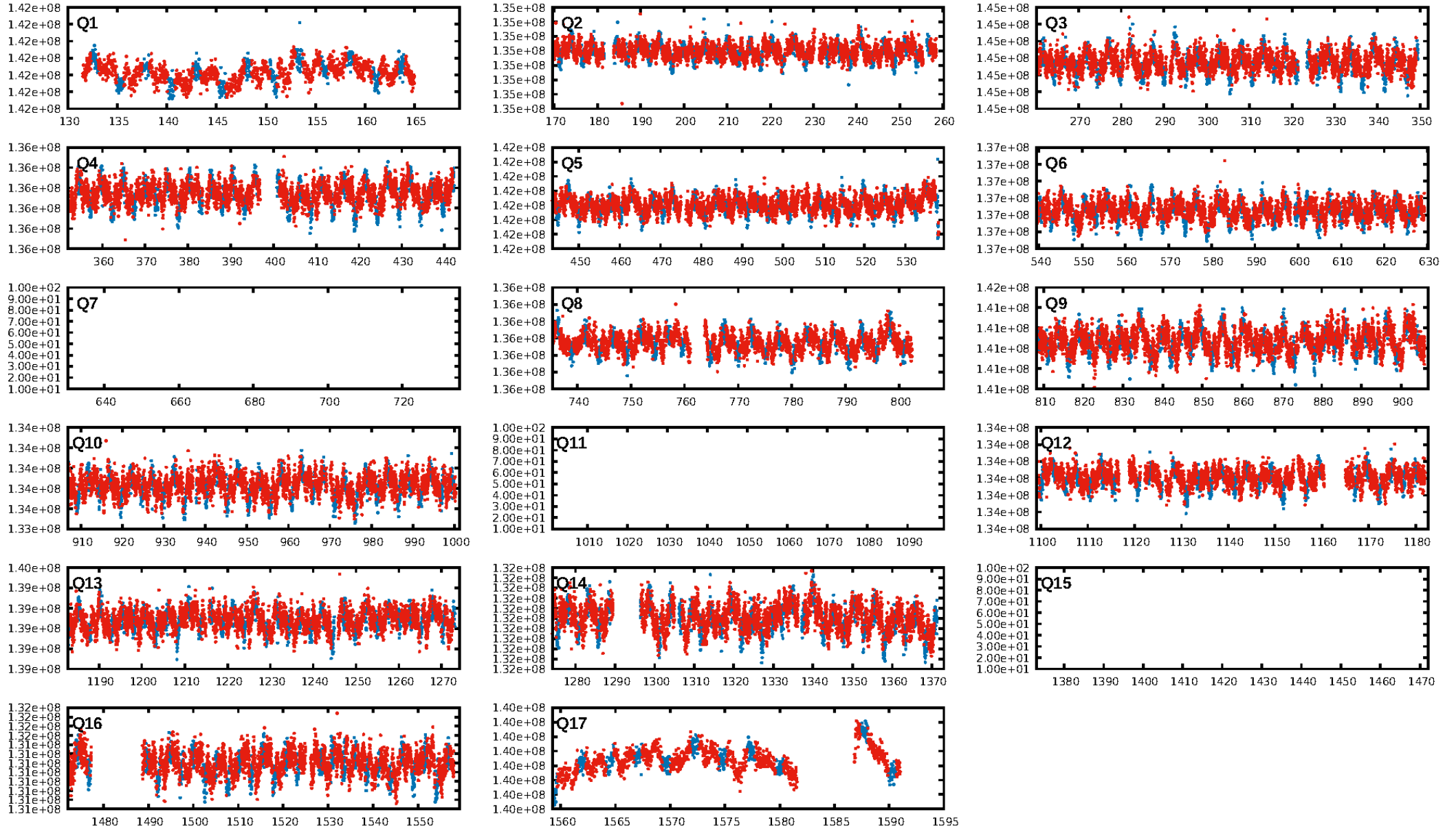
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.95 [384/406]
GhostDiagnostic-chr: 0.8665
Centroid-sig: 54.9%
Centroid-so: 0.640 arcsec [0.58σ]
OotOffset-rm: 1.439 arcsec [3.16σ]
KicOffset-rm: 1.495 arcsec [3.37σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [14/14]

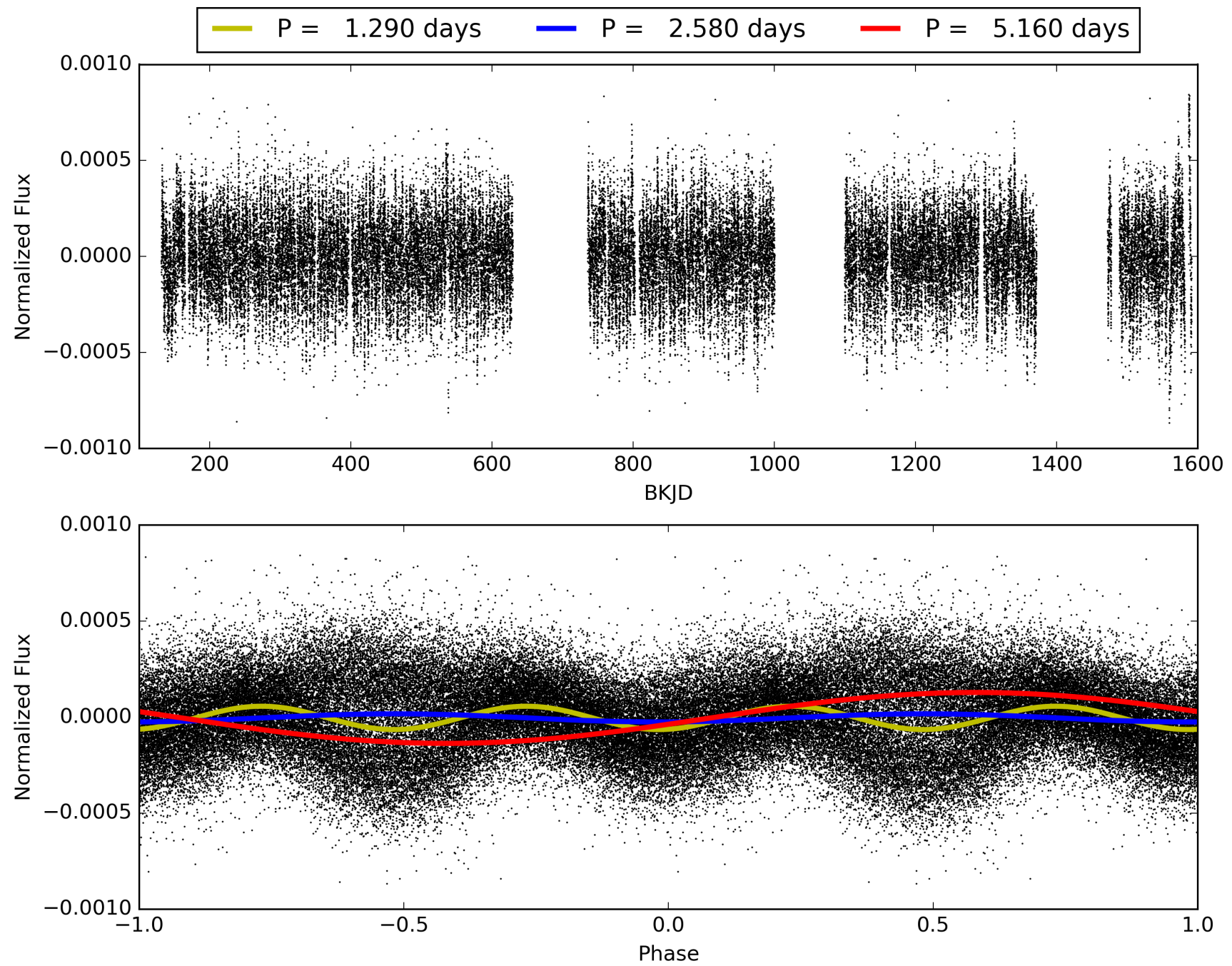
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:12:56 Z

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

TCE 010747037-01, PDC Light Curves

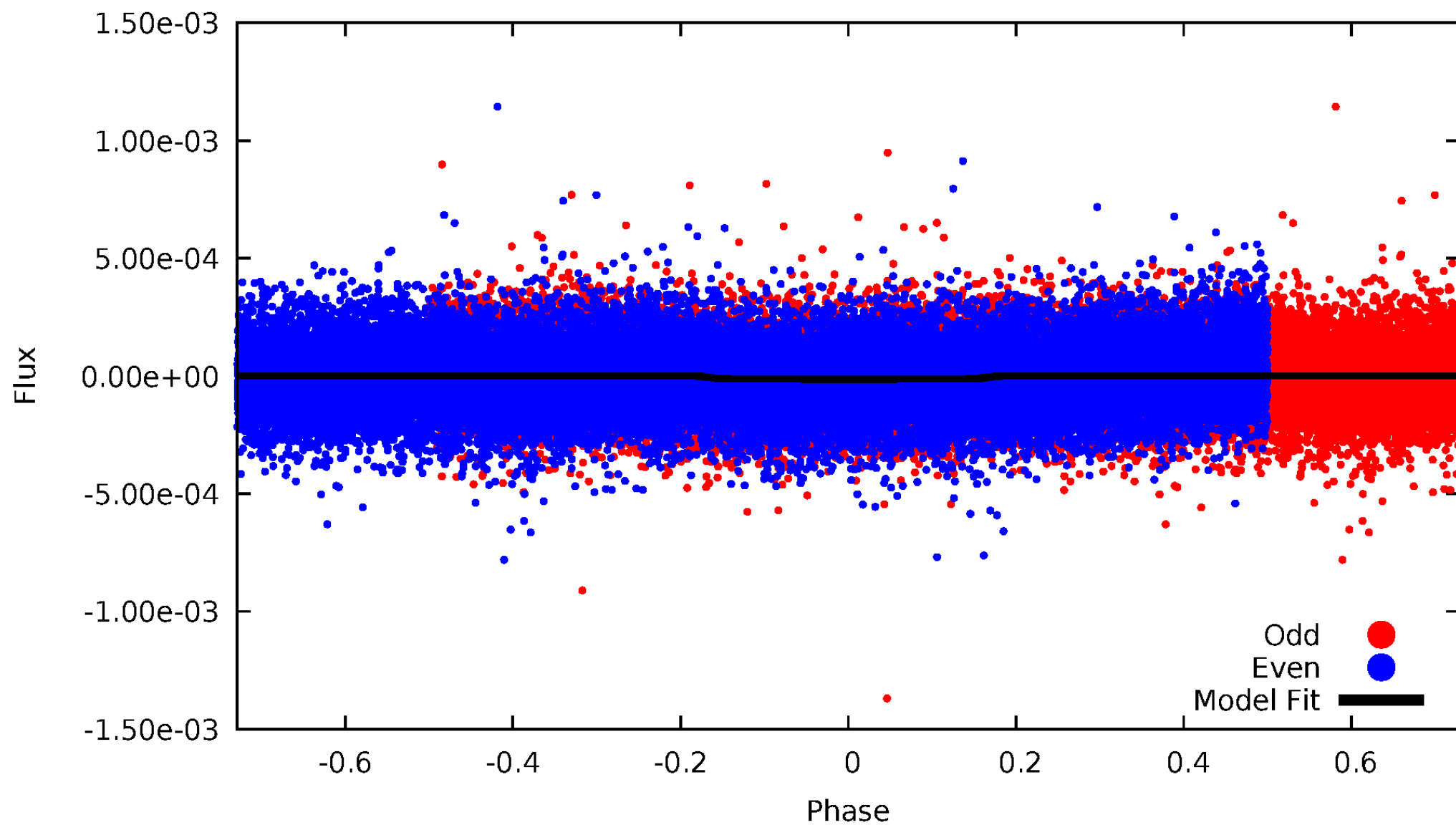


TCE 010747037-01



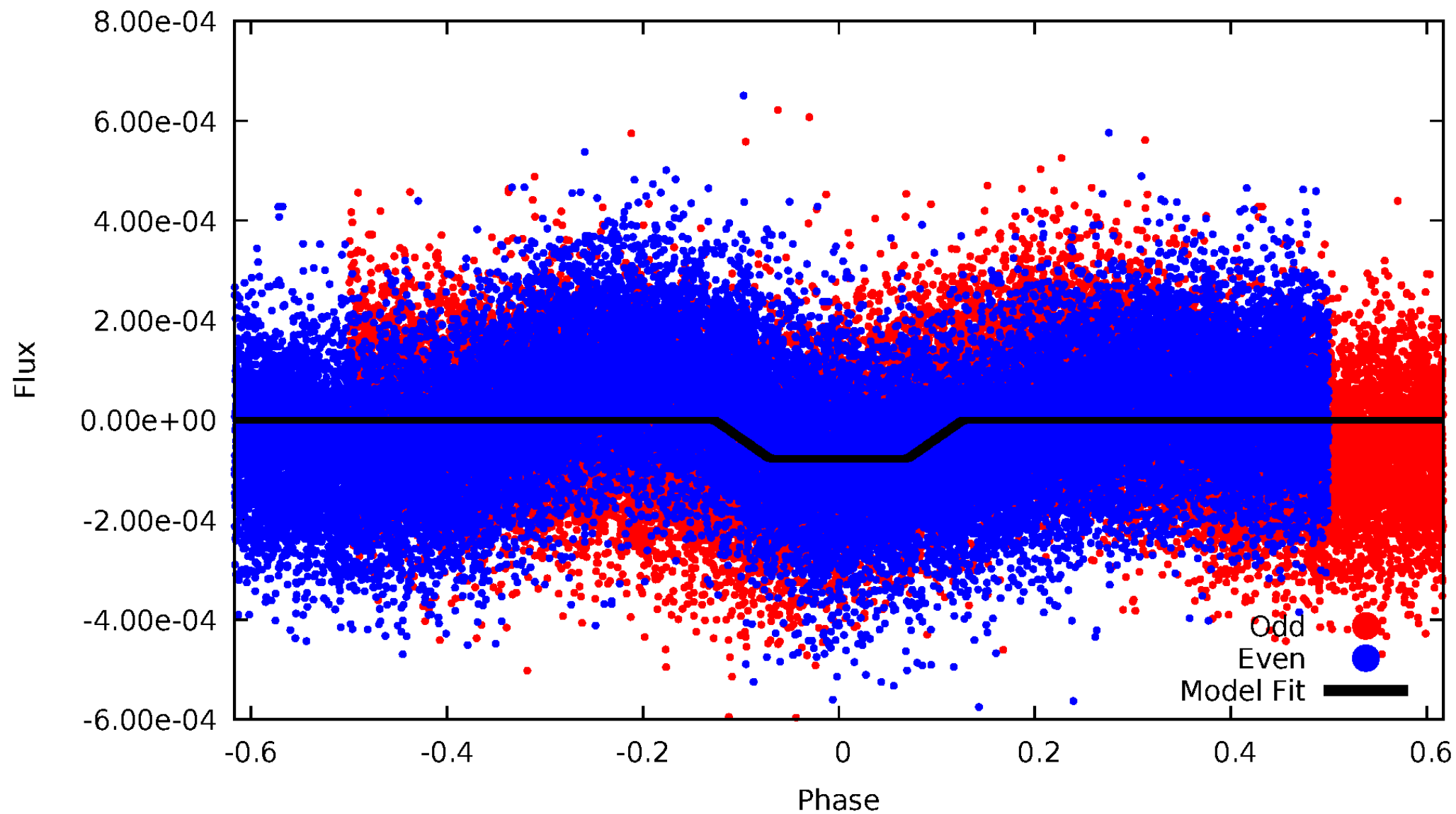
DV Odd/Even

TCE 010747037-01



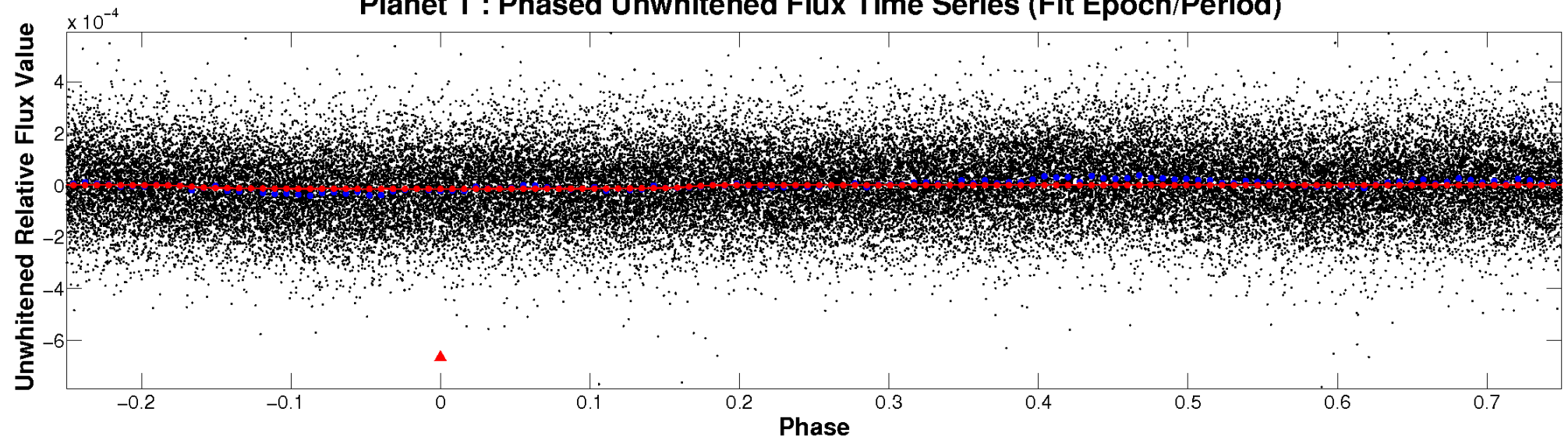
ALT Odd/Even

TCE 010747037-01

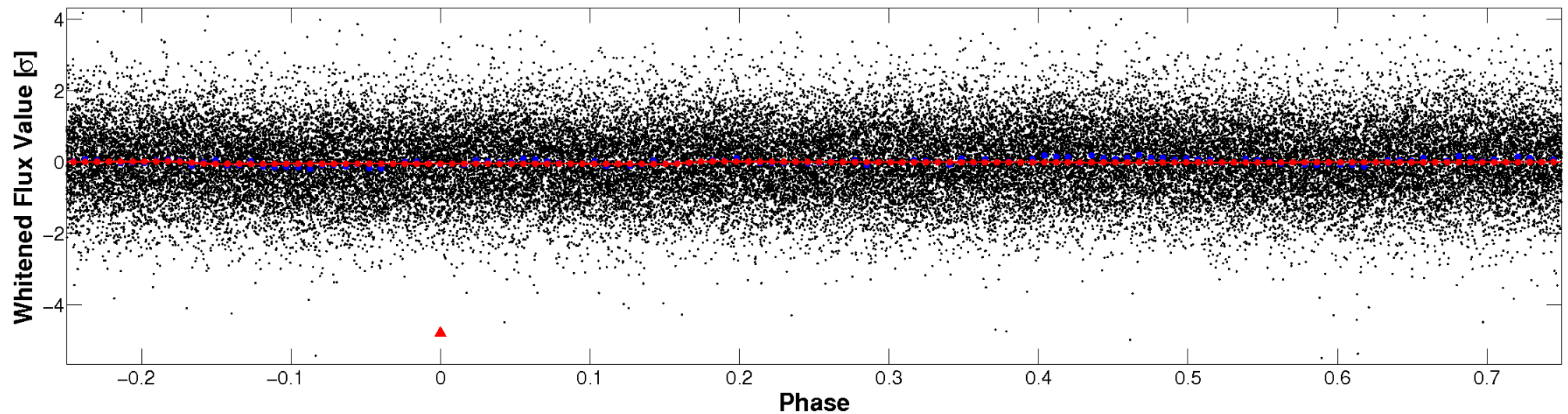


Non-Whitened Vs. Whitened Light Curve

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

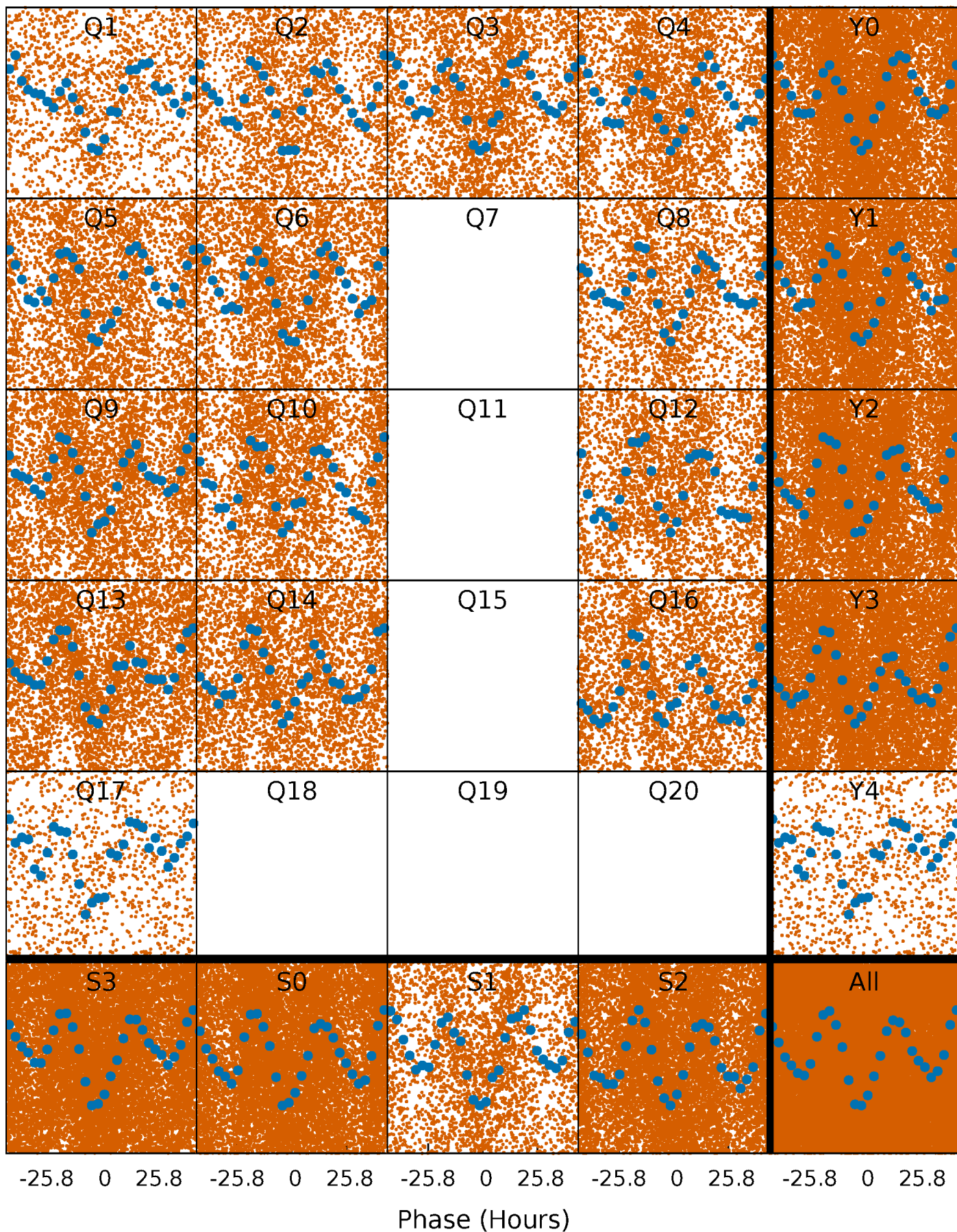


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



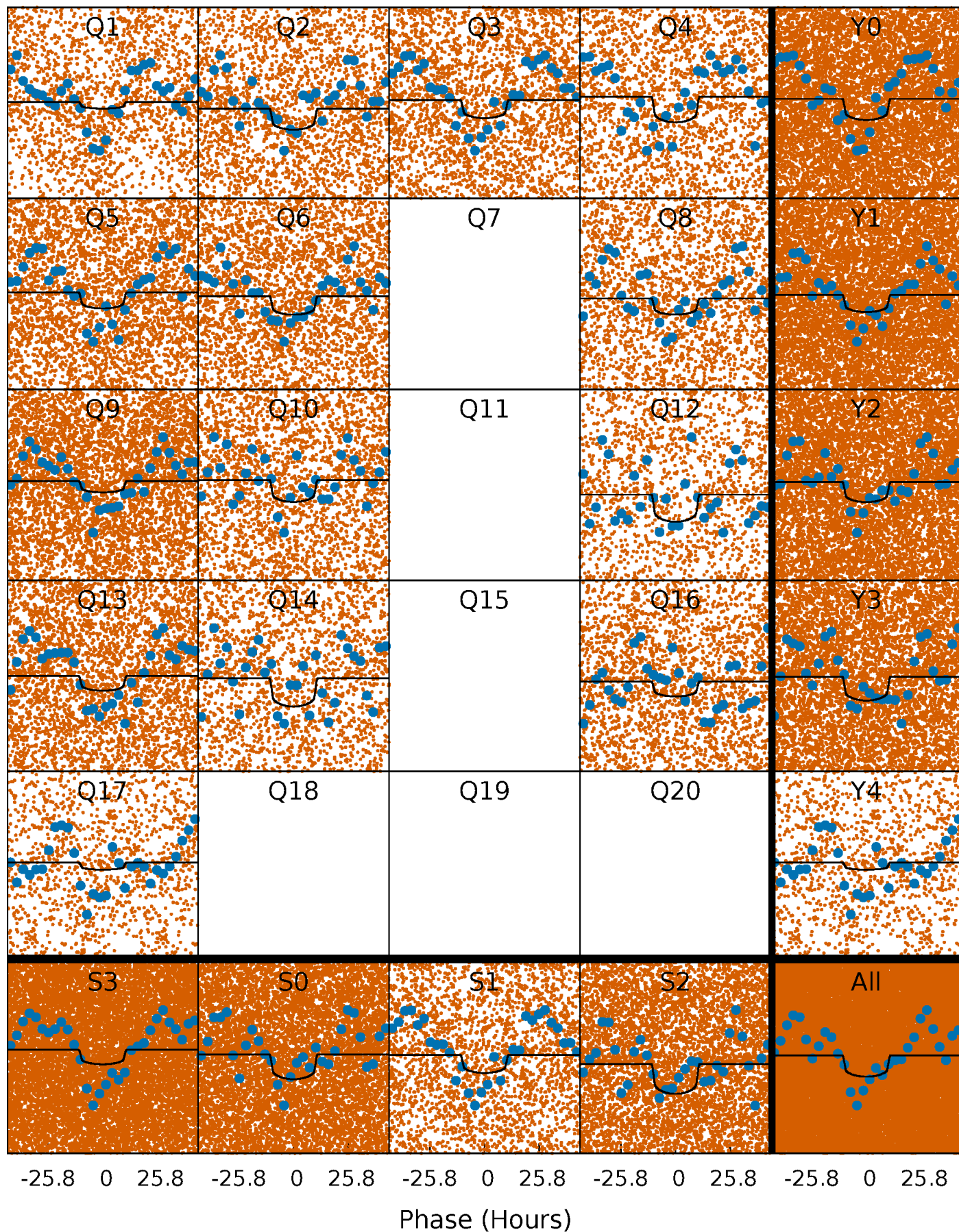
PDC Quarter-Phased Transit Curves

TCE 010747037-01 P= 2.579800 Days $T_0=133.988452$ (BKJD)



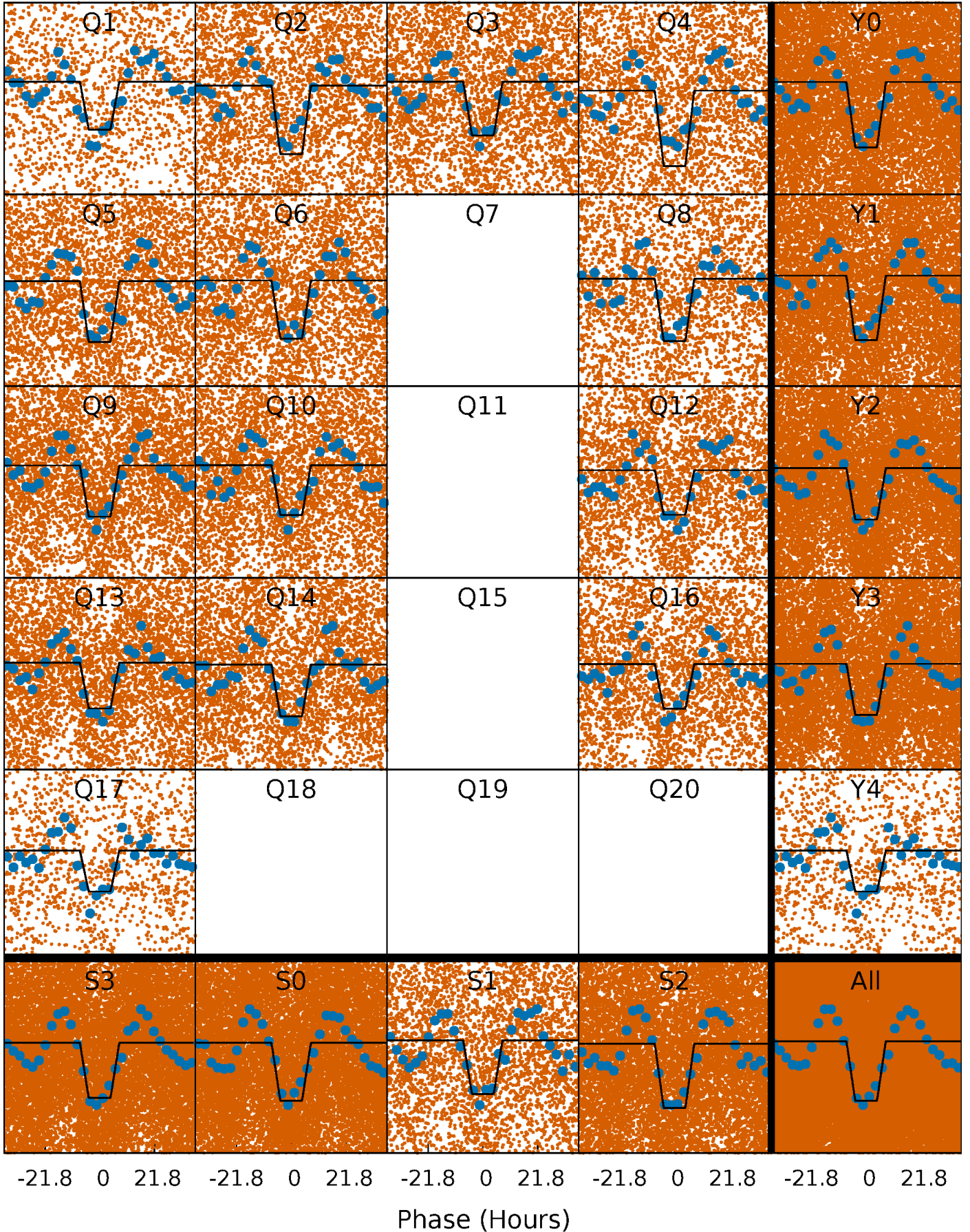
DV Quarter-Phased Transit Curves

TCE 010747037-01 P= 2.579800 Days $T_0=133.988452$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

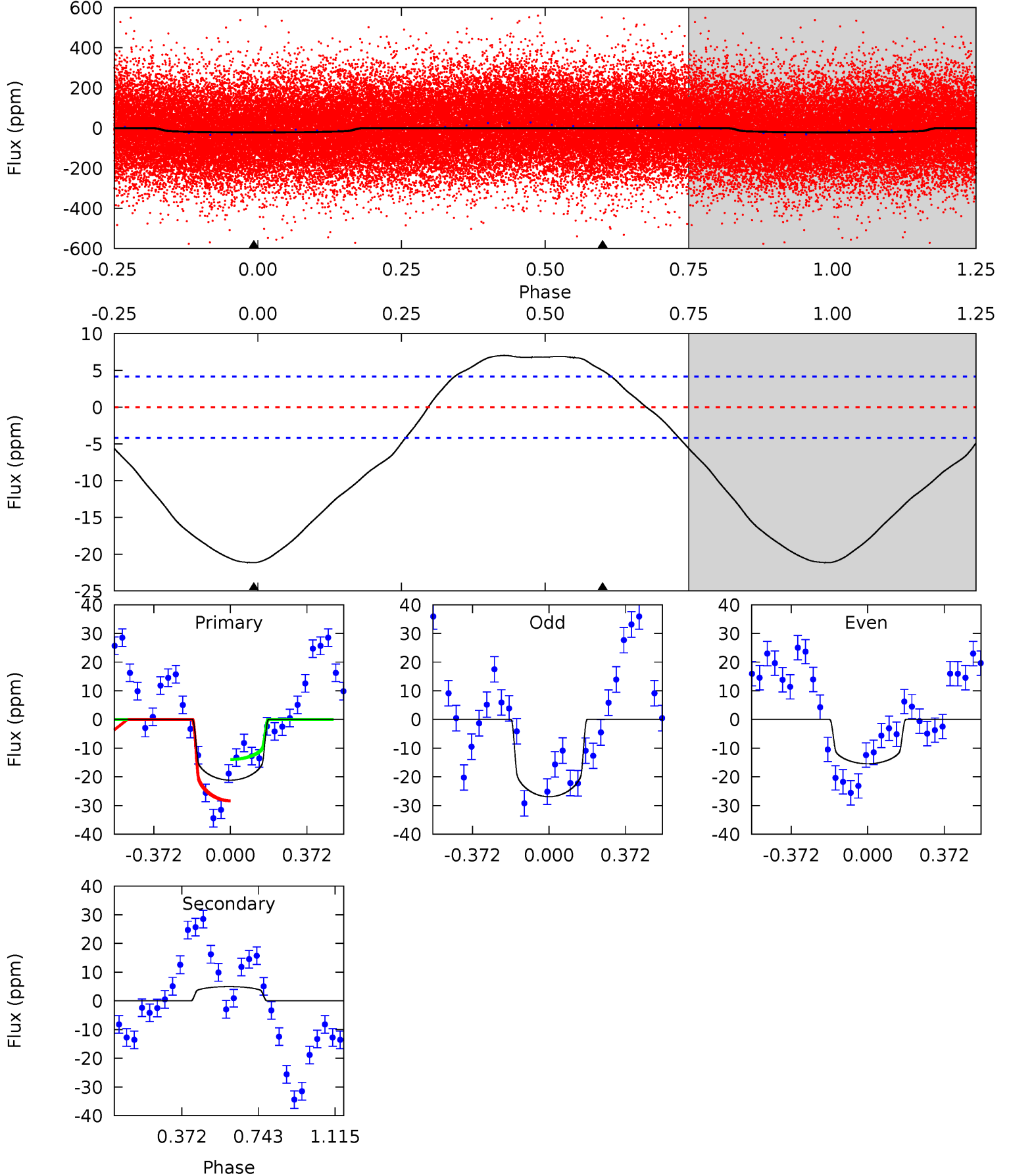
TCE 010747037-01 P= 2.579527 Days $T_0=133.961609$ (BKJD)



DV Model-Shift Uniqueness Test

010747037-01, P = 2.579800 Days, E = 131.408652 Days

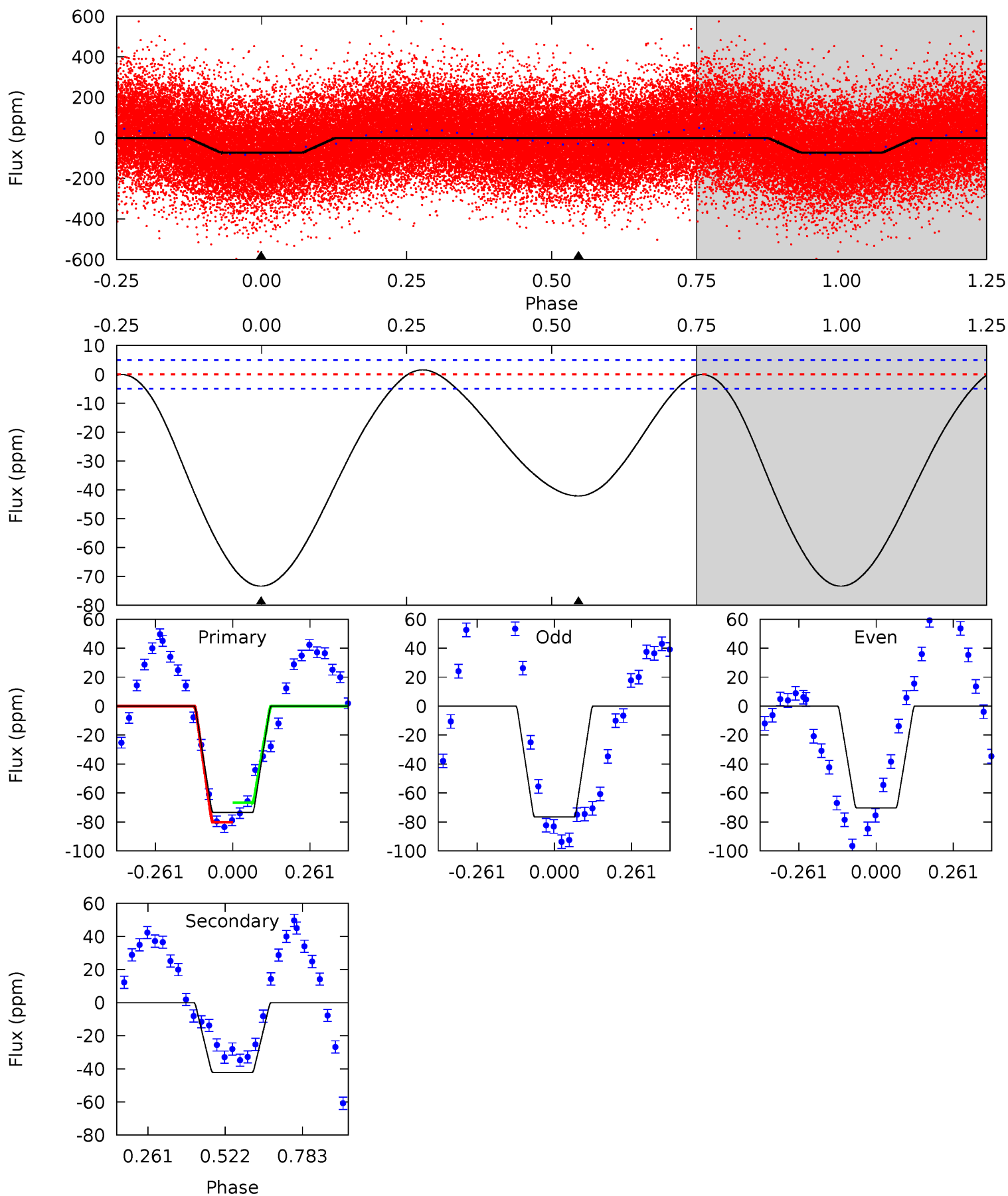
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.7	-5.13	0	0	4.28	0.89	3.04	21.7	21.7	-5.13	-5.13	5.84	1.31	0.25	7.42



Alt Model-Shift Uniqueness Test

010747037-01, P = 2.579527 Days, E = 131.382082 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
64.7	37.2	0	0	4.36	1.12	1.58	64.7	64.7	37.2	37.2	2.80	1.05	0.02	5.86



Stellar Parameters For KIC 010747037

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6805^{+71}_{-91}	$4.079^{+0.162}_{-0.108}$	$-0.180^{+0.150}_{-0.150}$	$1.772^{+0.286}_{-0.350}$	$1.380^{+0.098}_{-0.118}$	$0.349^{+0.290}_{-0.115}$
	+1%/-1%	+4%/-3%	+83%/-83%	+16%/-20%	+7%/-9%	+83%/-33%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 010747037-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	5 ± 1	$0.81^{+0.14}_{-0.12}$	2752^{+118}_{-143}	-5036^{+304}_{-327}	$-6.924^{+2.196}_{-3.313}$
Alt.	-42 ± 1	$1.68^{+0.21}_{-0.19}$	2744^{+132}_{-143}	5797^{+189}_{-181}	14^{+4}_{-3}

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

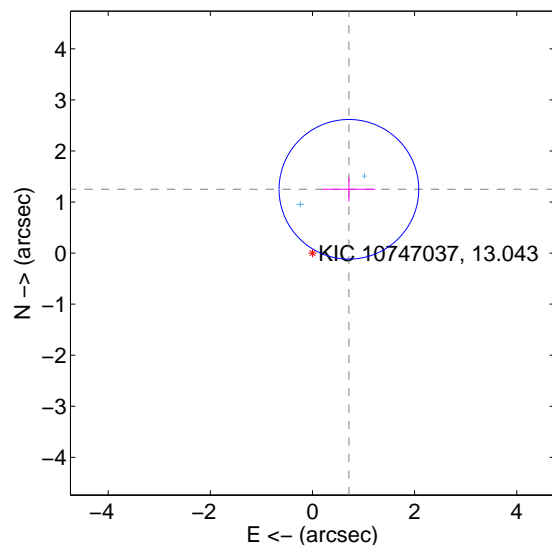
Supplemental centroid analysis for 010747037-01. Kepler magnitude: 13.04. Transit SNR 6.21

There are 2 quarters with good PRF difference image offsets

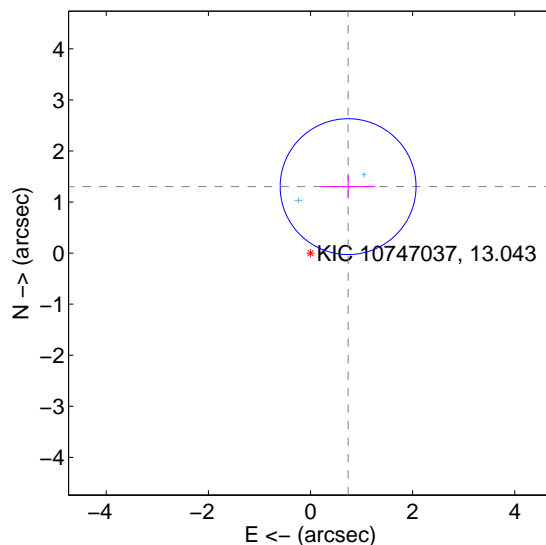
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.439 ± 0.456	3.16	-0.714 ± 0.517	1.249 ± 0.236
PRF-fit source offset from KIC position	1.495 ± 0.443	3.37	-0.736 ± 0.530	1.302 ± 0.217
photometric centroid source offset	0.64 ± 1.10	0.58	0.14 ± 1.26	0.63 ± 1.09

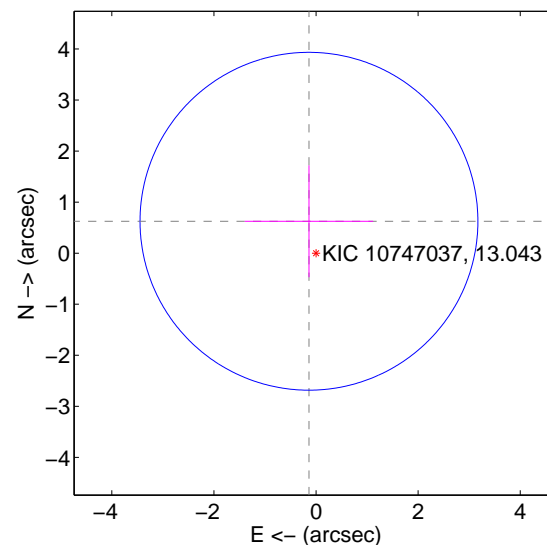
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

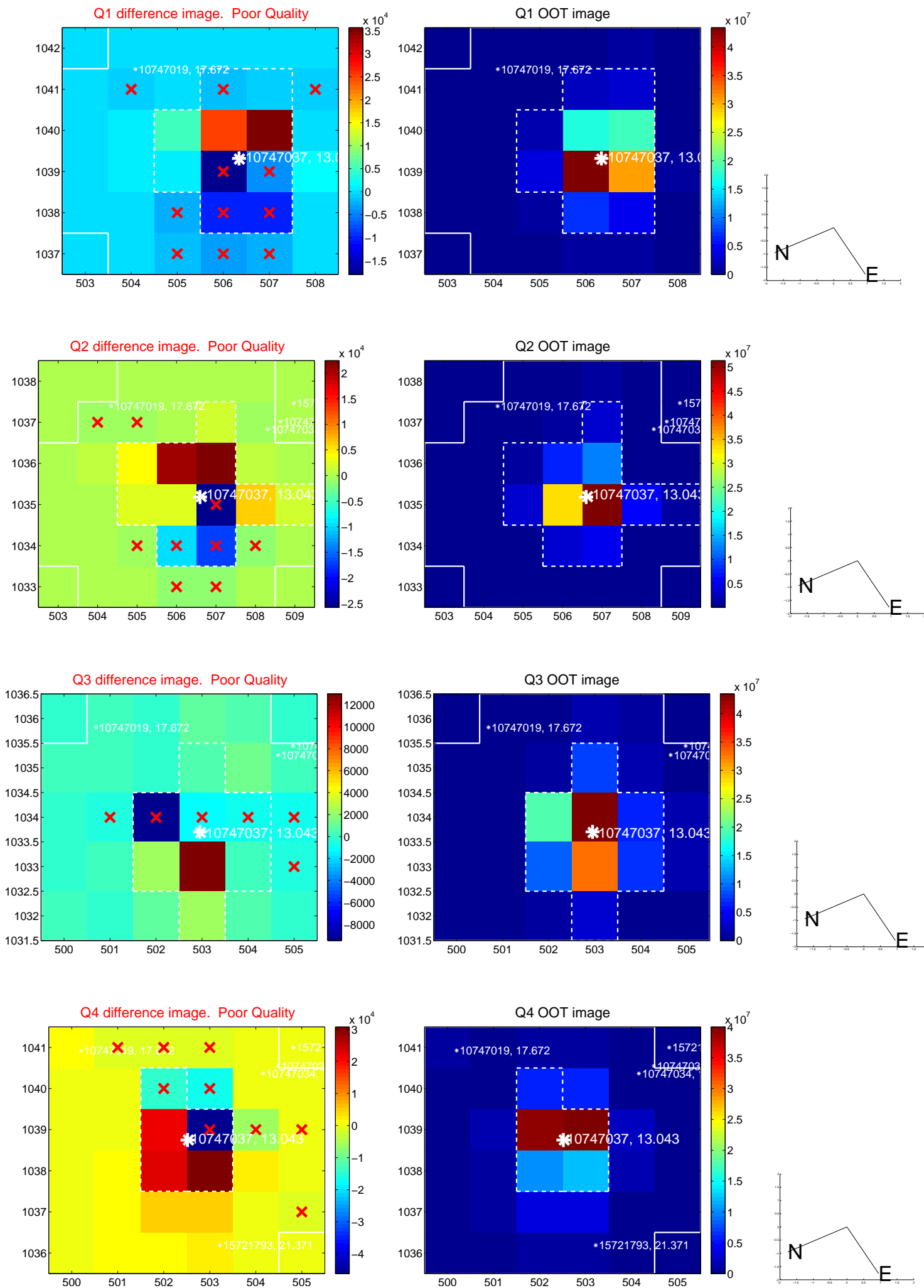


offset from photometric centroids

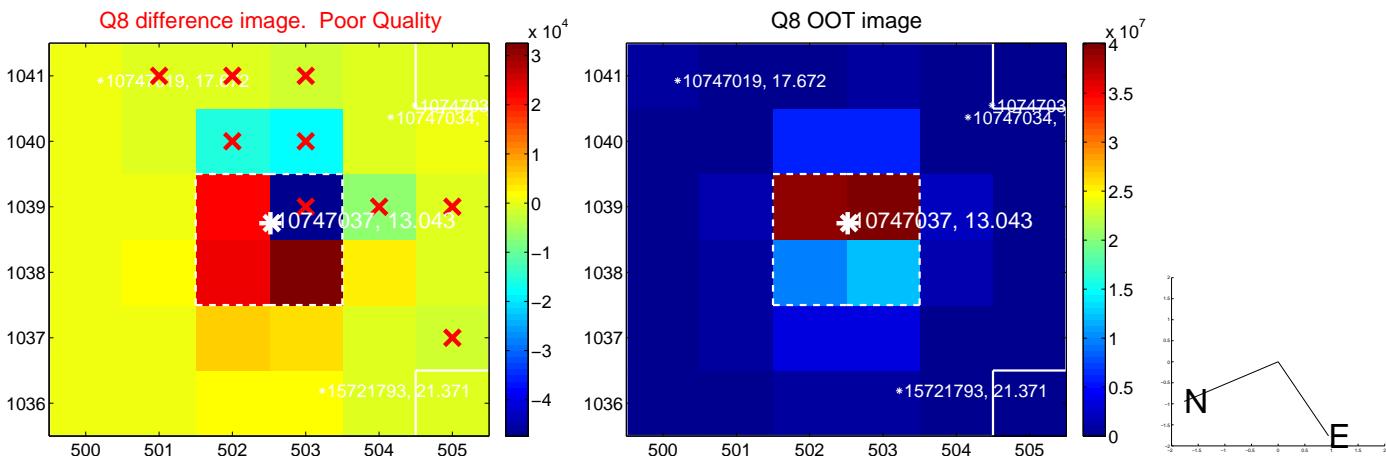
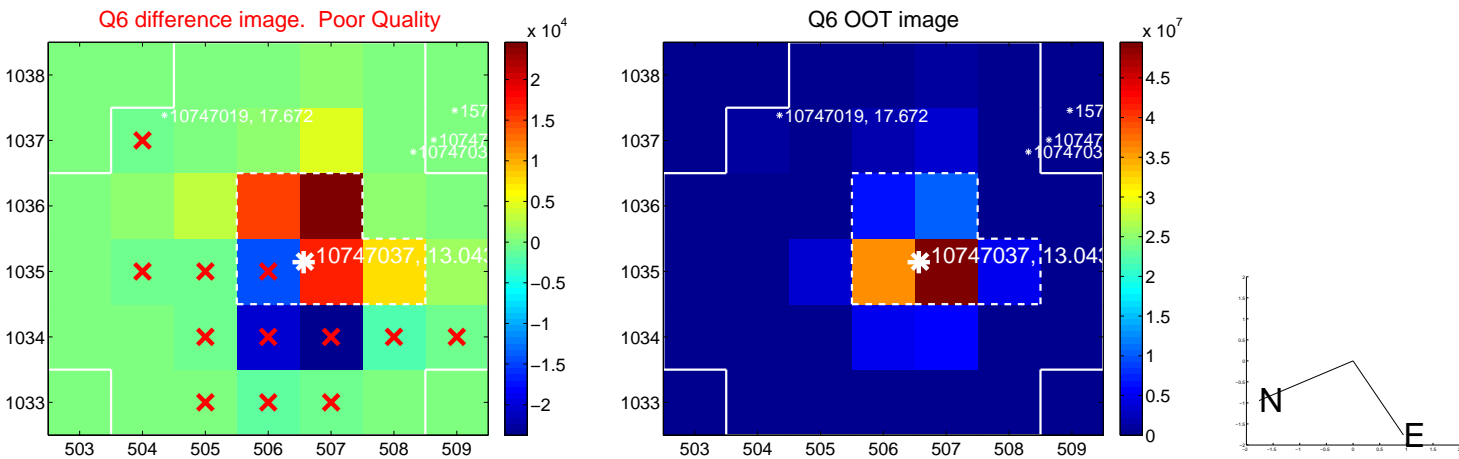
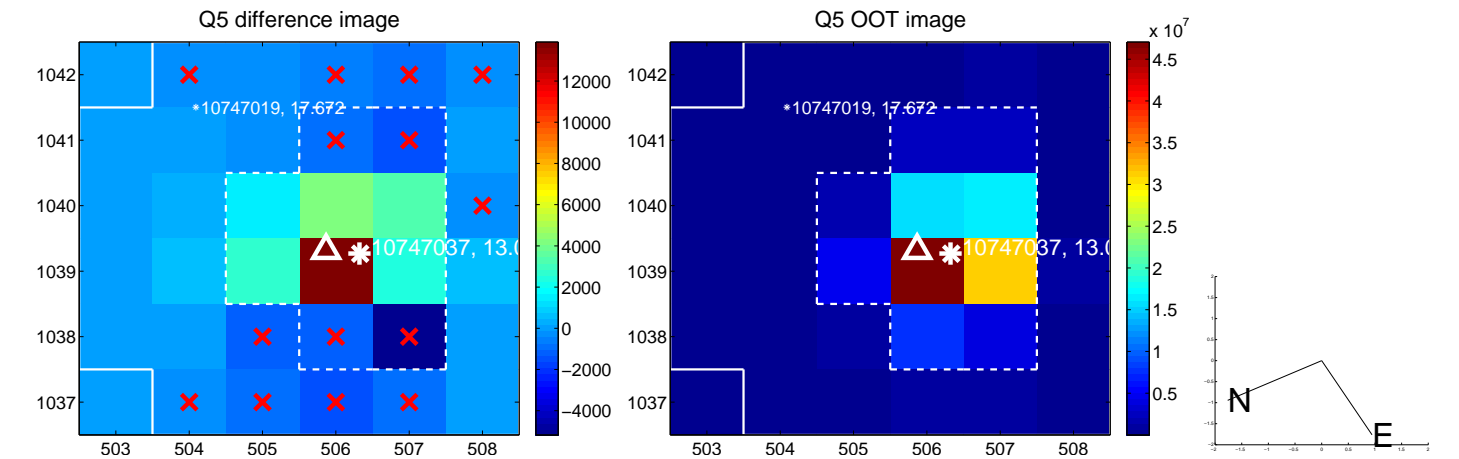


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

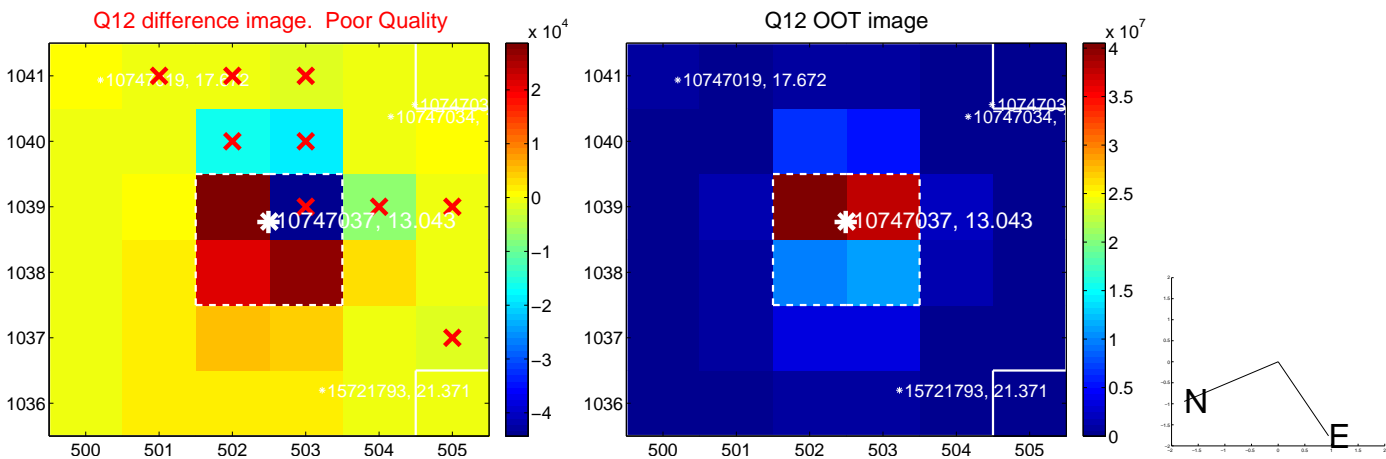
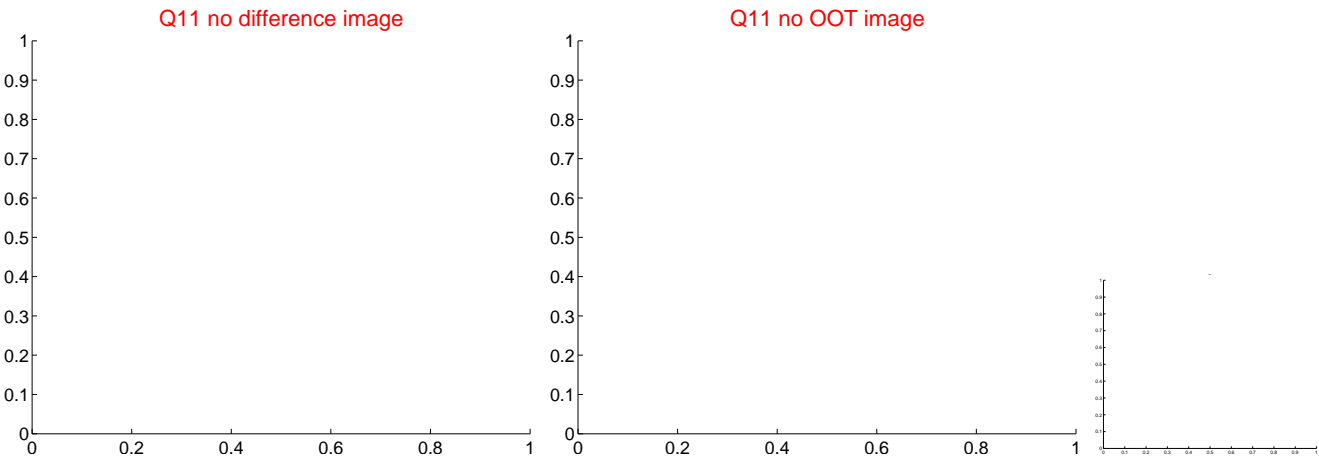
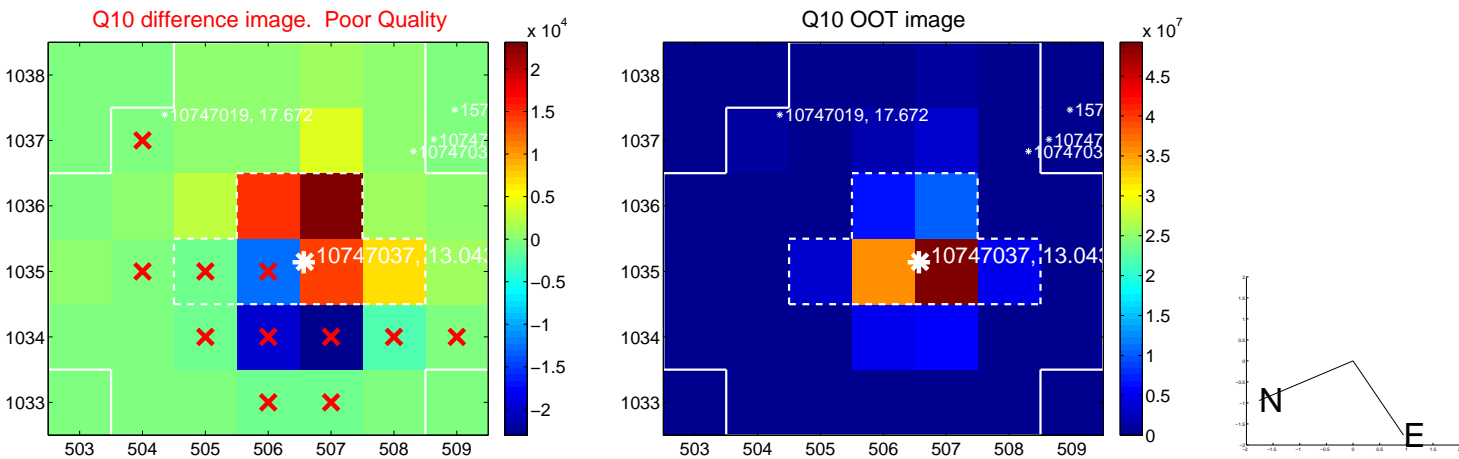
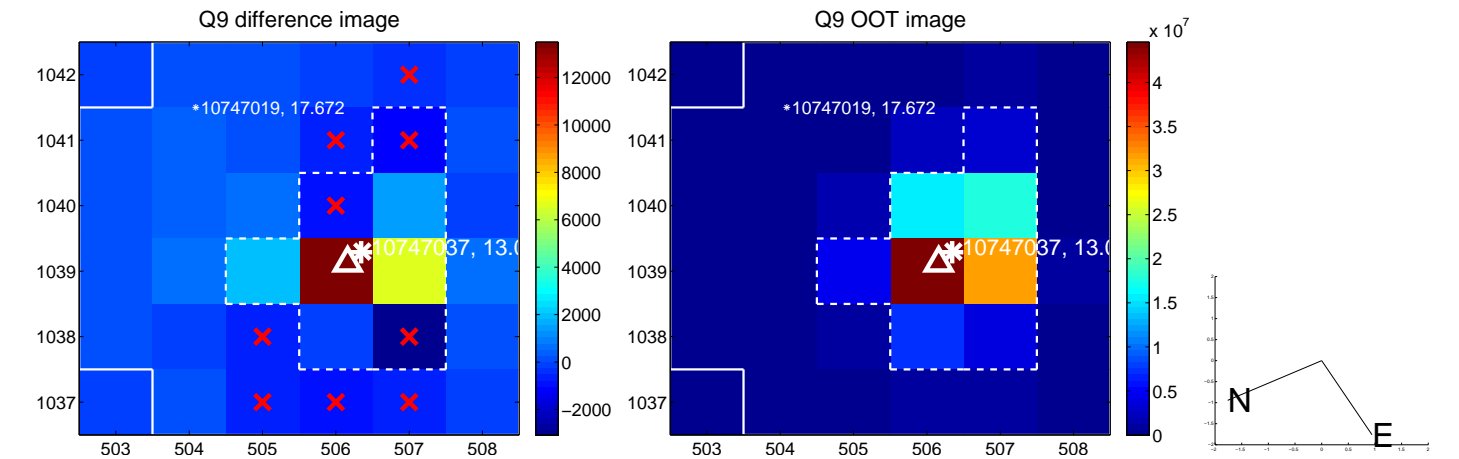
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



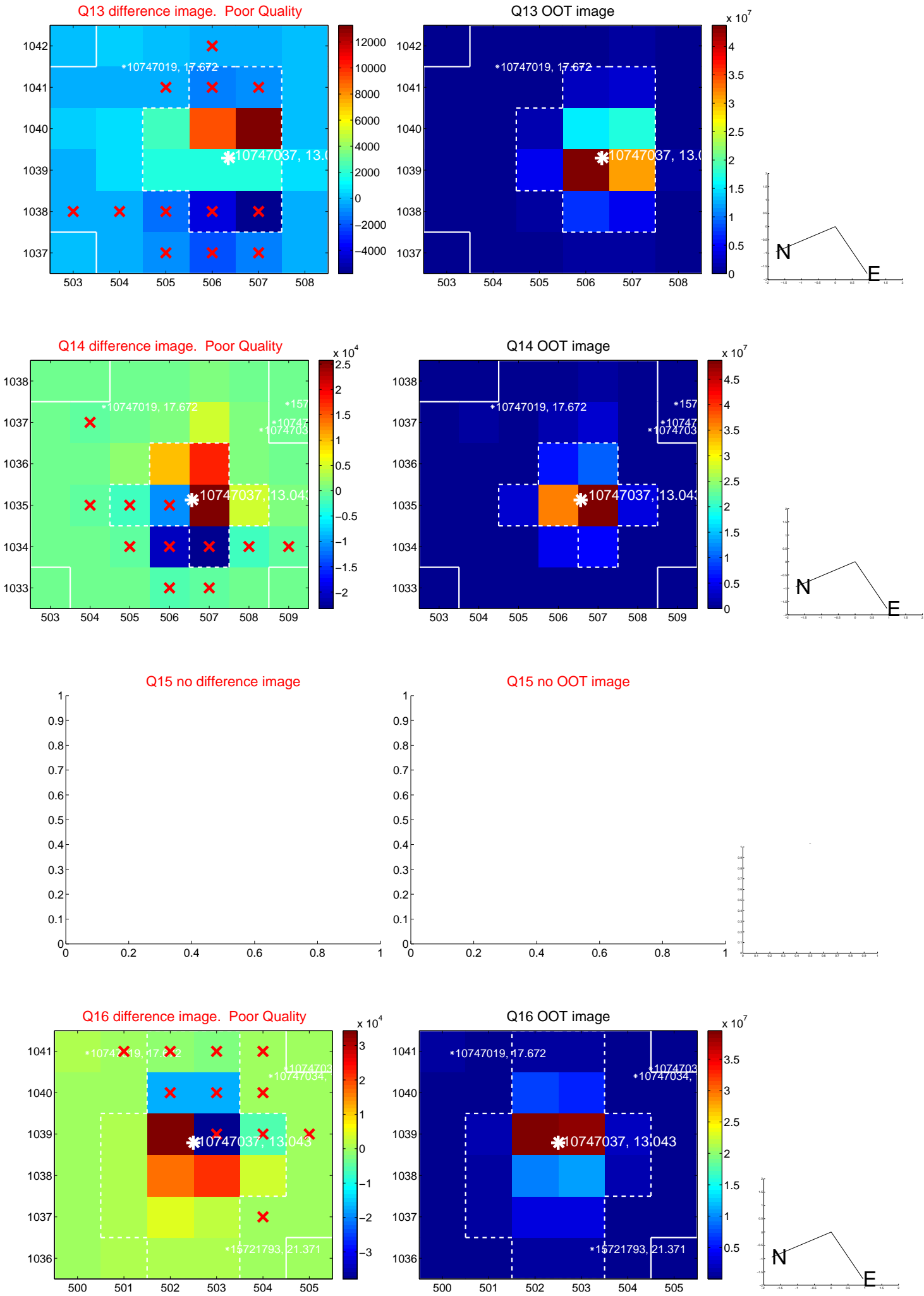
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



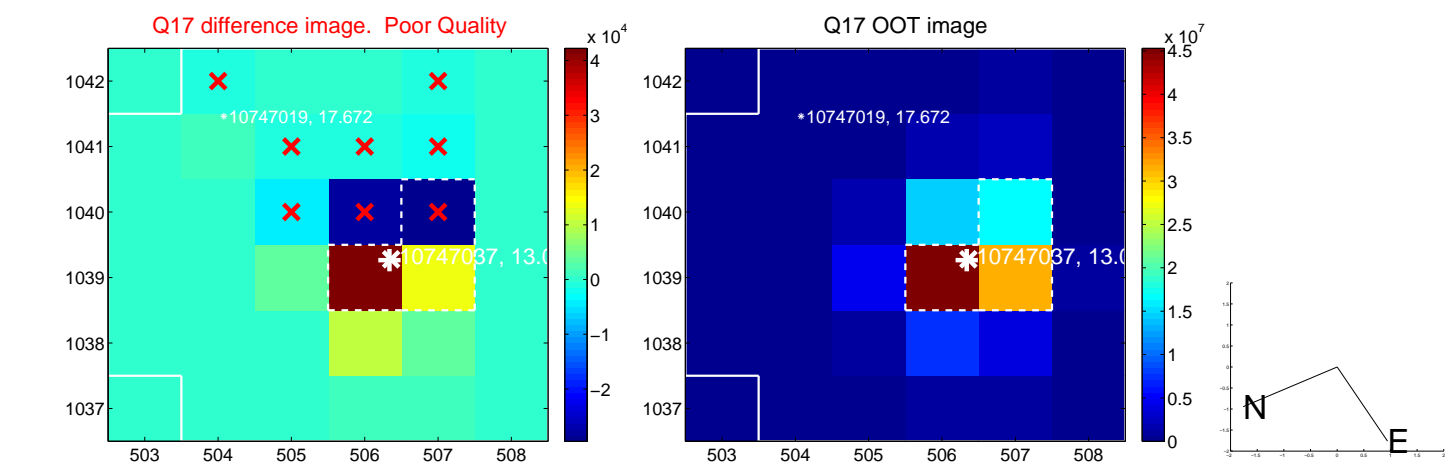
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



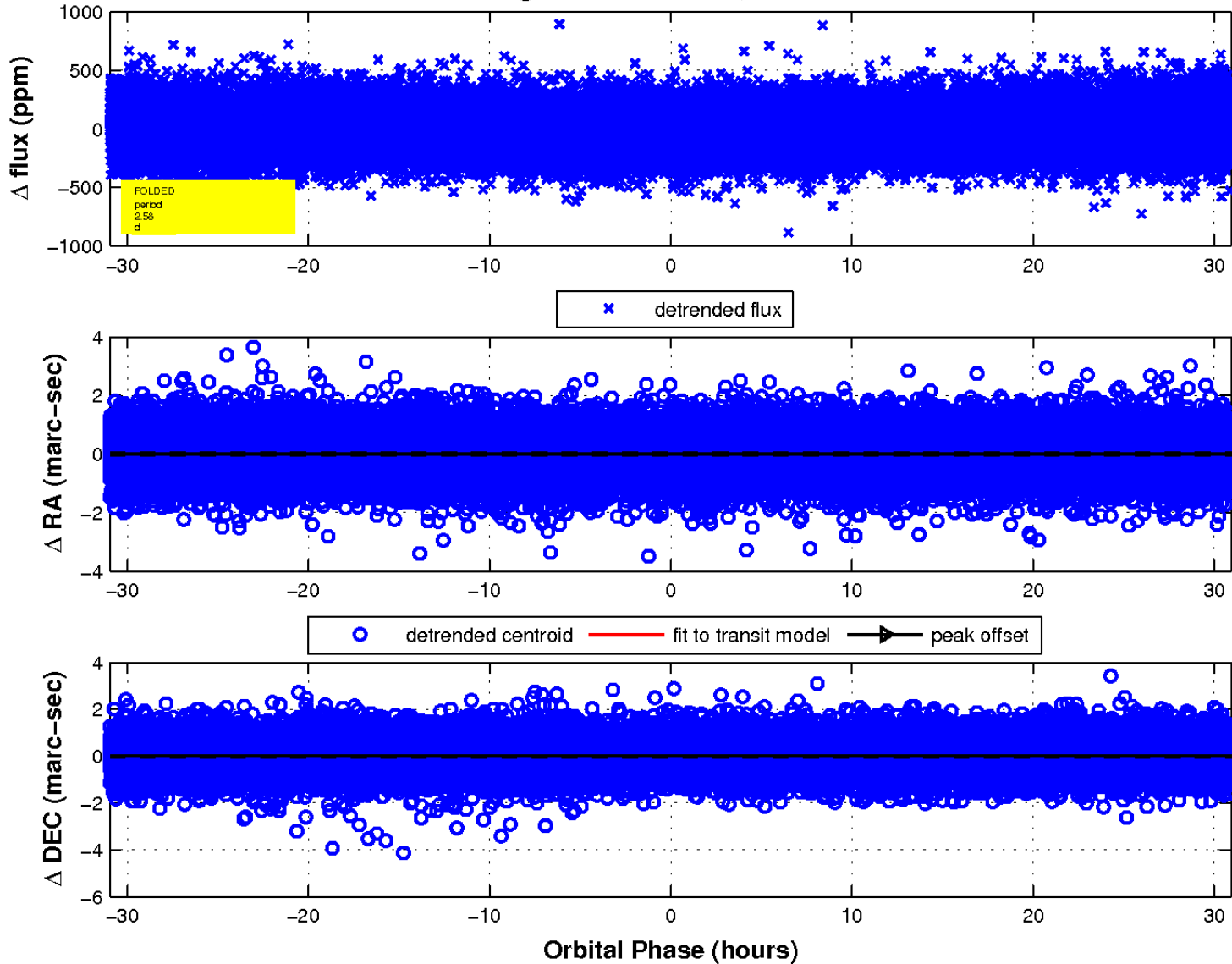
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

