

KIC 012458437

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})
012458437-01	OBS	No	4.164091	132.668240	0.0	28.322	10.5	0.0	3.29	6556	0.00	4704.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012458437-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—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.

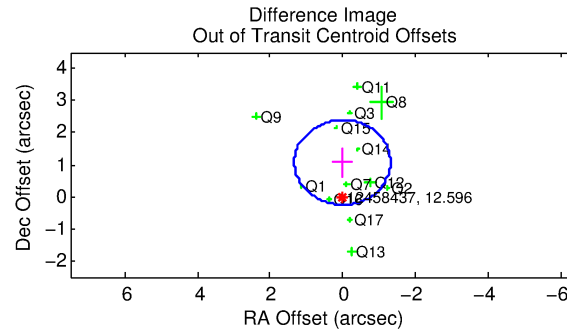
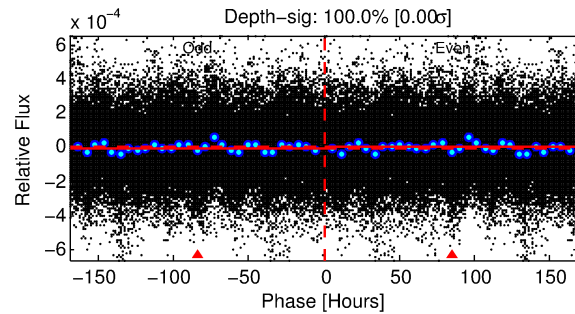
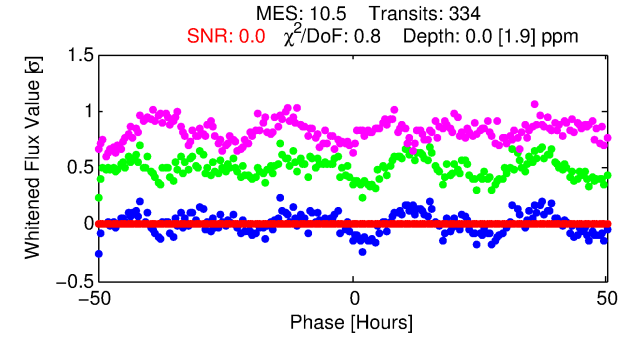
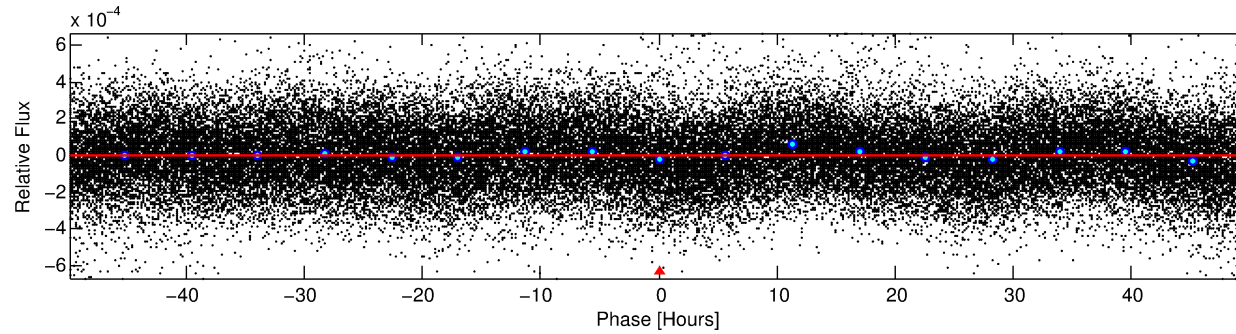
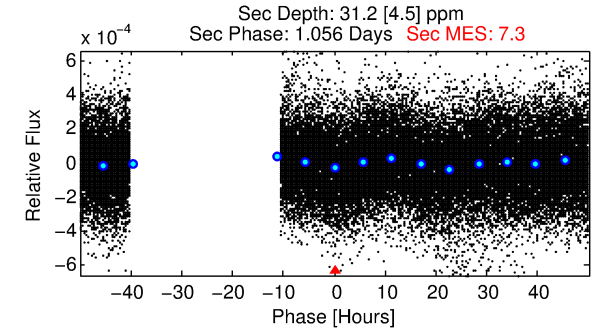
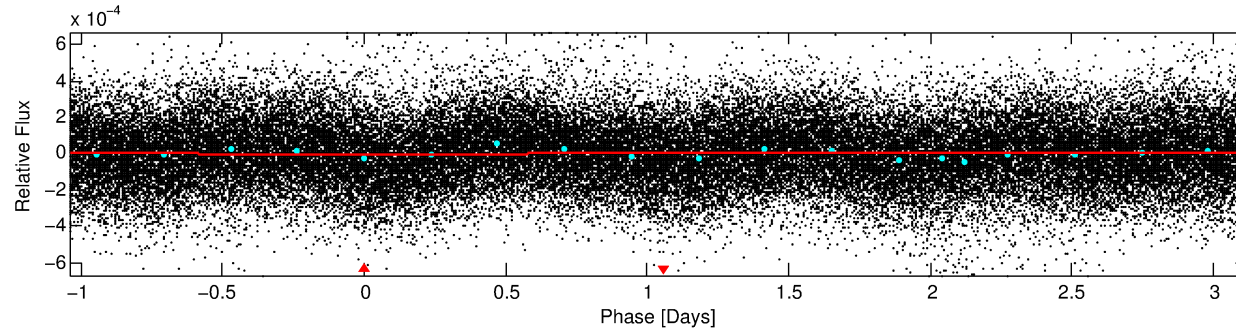
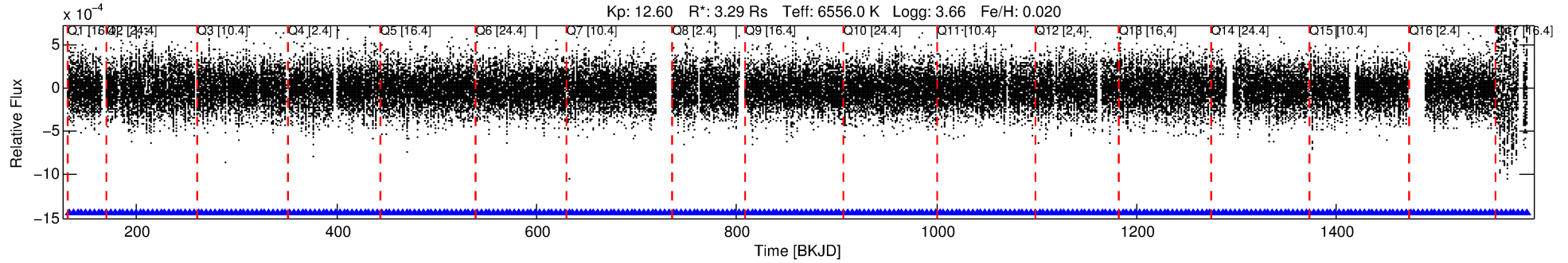
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012458437-01

No Significant Match Found

DV One-Page Summary

KIC: 12458437 Candidate: 1 of 1 Period: 4.164 d



DV Fit Results:

Period = 4.16409 [246.24630] d
Epoch = 132.6682 [38008.4616] BKJD
Rp/R* = 0.0000 [0.3502]
a/R* = 1.24 [4677.77]
b = 0.41 [53805.43]
Seff = 4704.73 [370965.45]
Teq = 2112 [41629] K
Rp = 0.00 [125.57] Re
a = 0.0616 [2.4299] AU
Ag = 86200168.32 [24872493626130.72101000]
Teff = 314614 [22695386495] K [0.00]

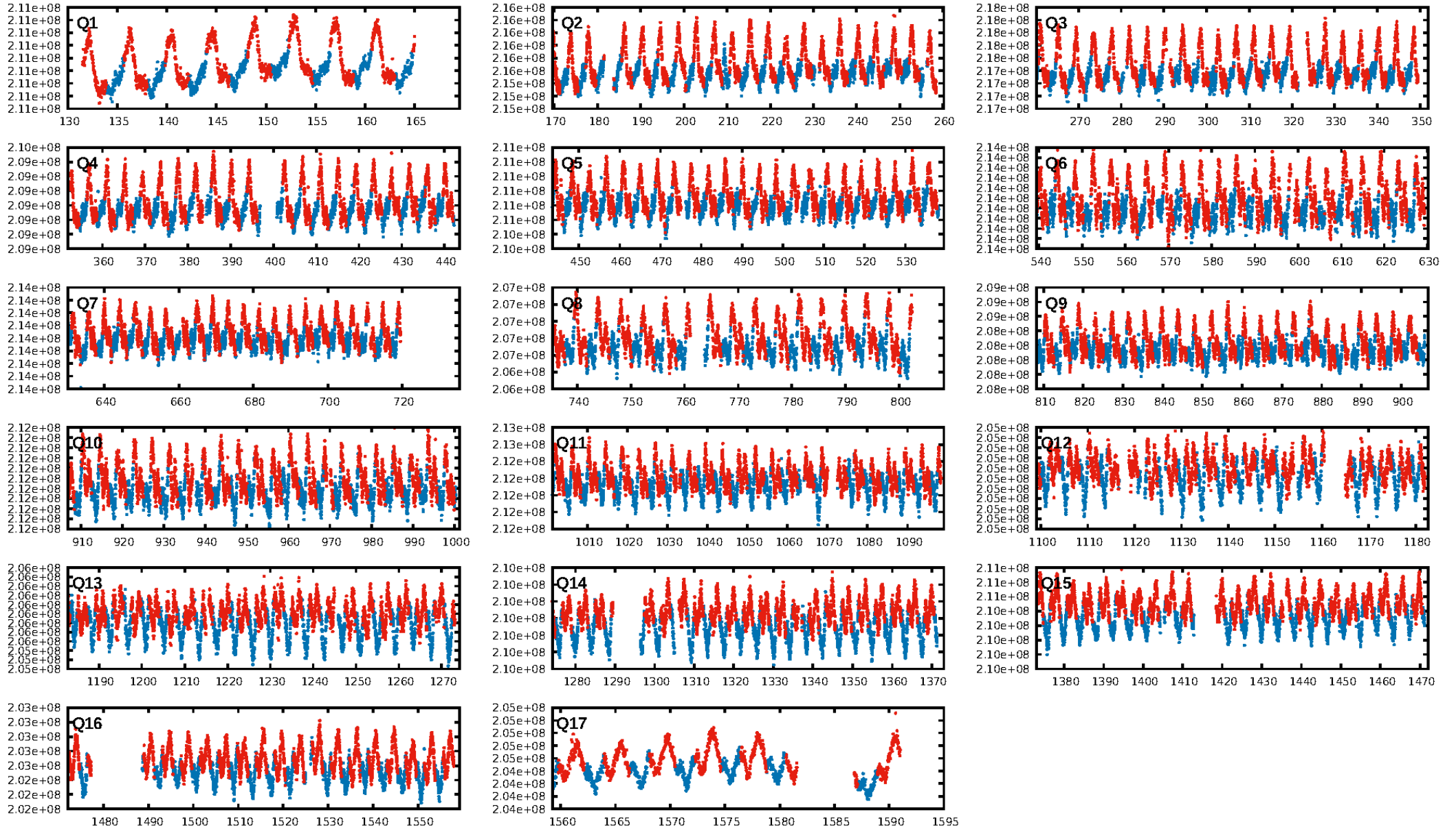
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [319/319]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
QotOffset-rm: 1.071 arcsec [2.43σ]
QotOffset-rm: 1.115 arcsec [2.96σ]
QotOffset-st: 2/4/3/4 [13]
KicOffset-st: 2/4/3/4 [13]
DiffImageQuality-fgm: 0.15 [2/13]
DiffImageOverlap-fno: 1.00 [17/17]

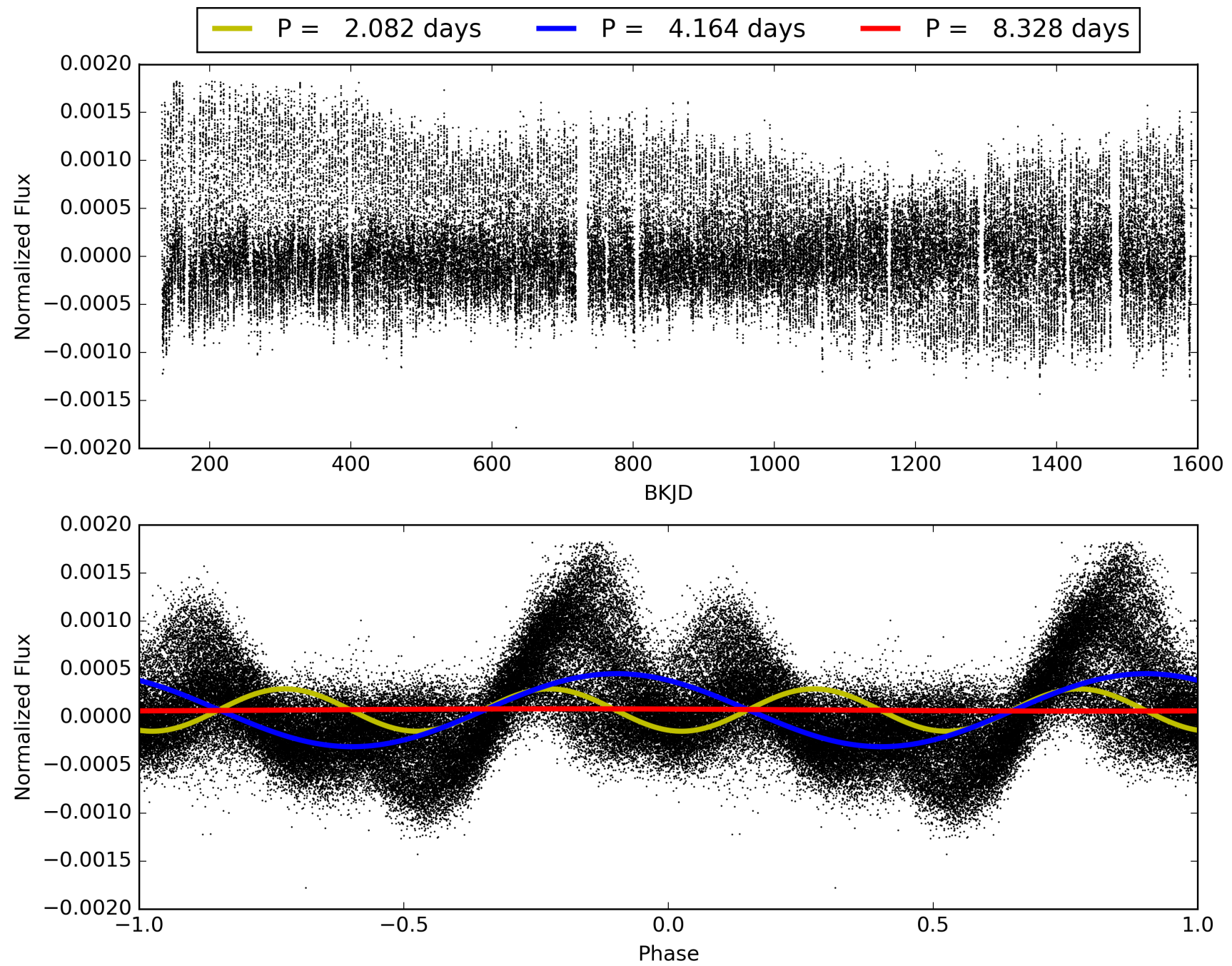
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:22:32 Z

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

TCE 012458437-01, PDC Light Curves

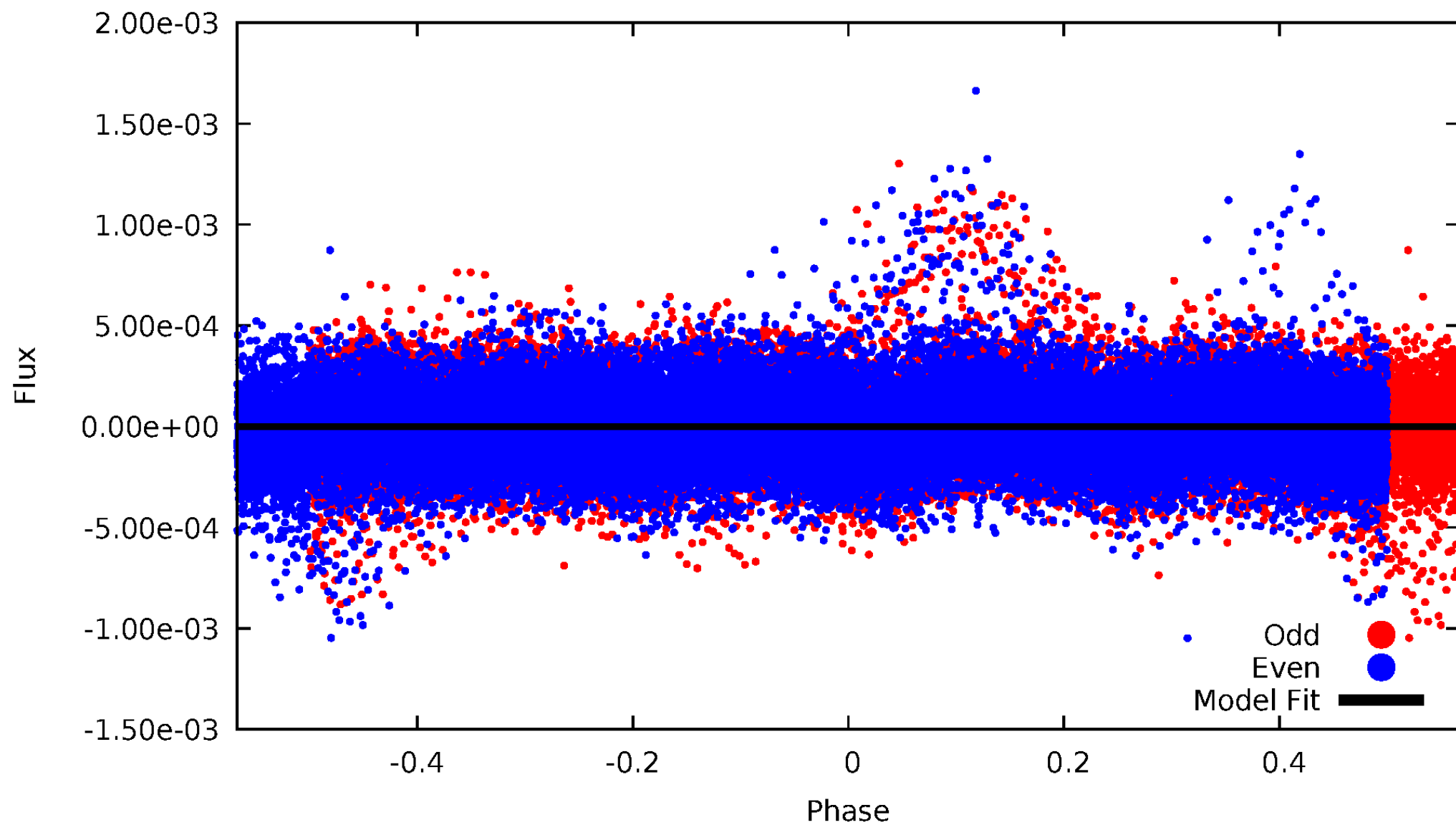


TCE 012458437-01



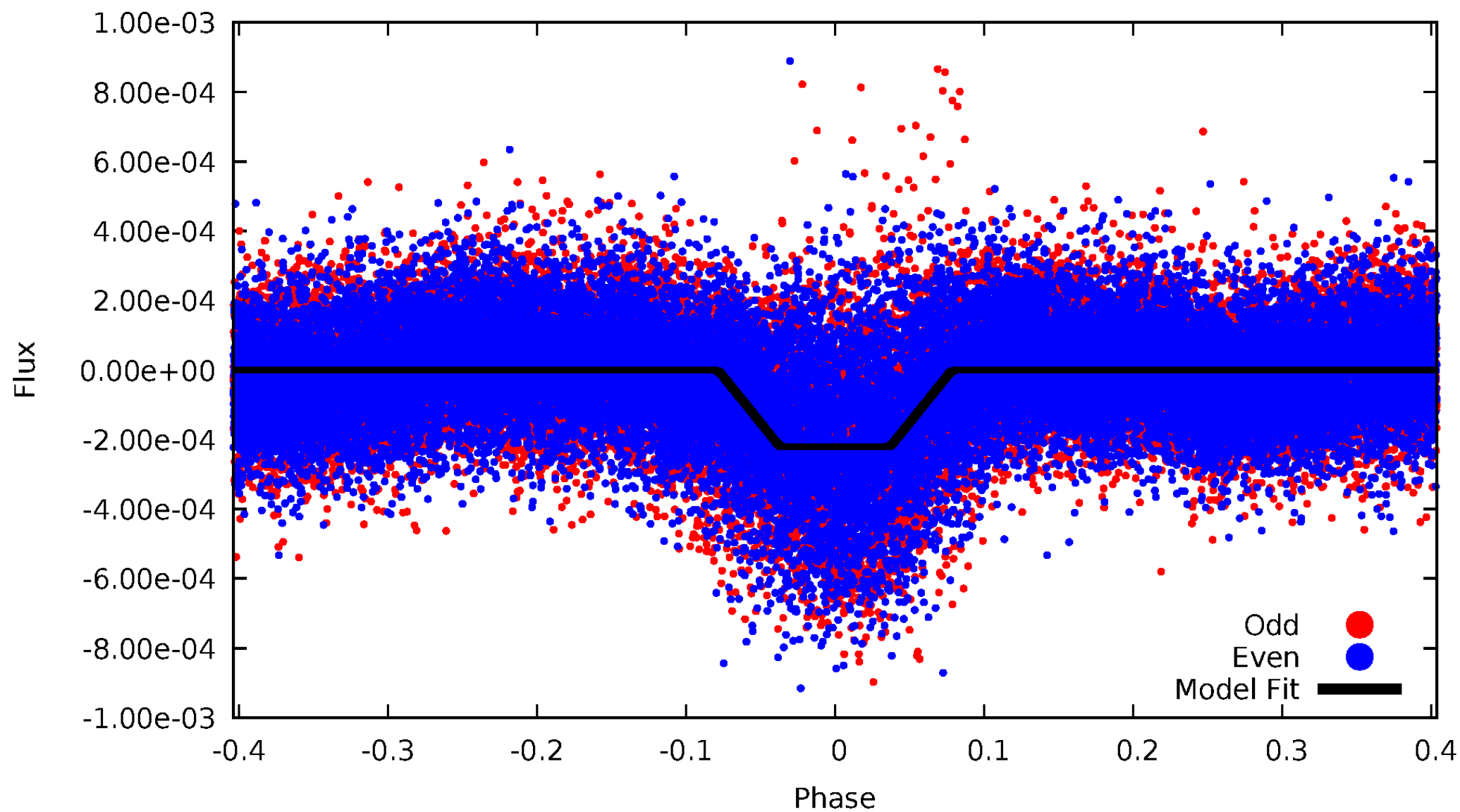
DV Odd/Even

TCE 012458437-01

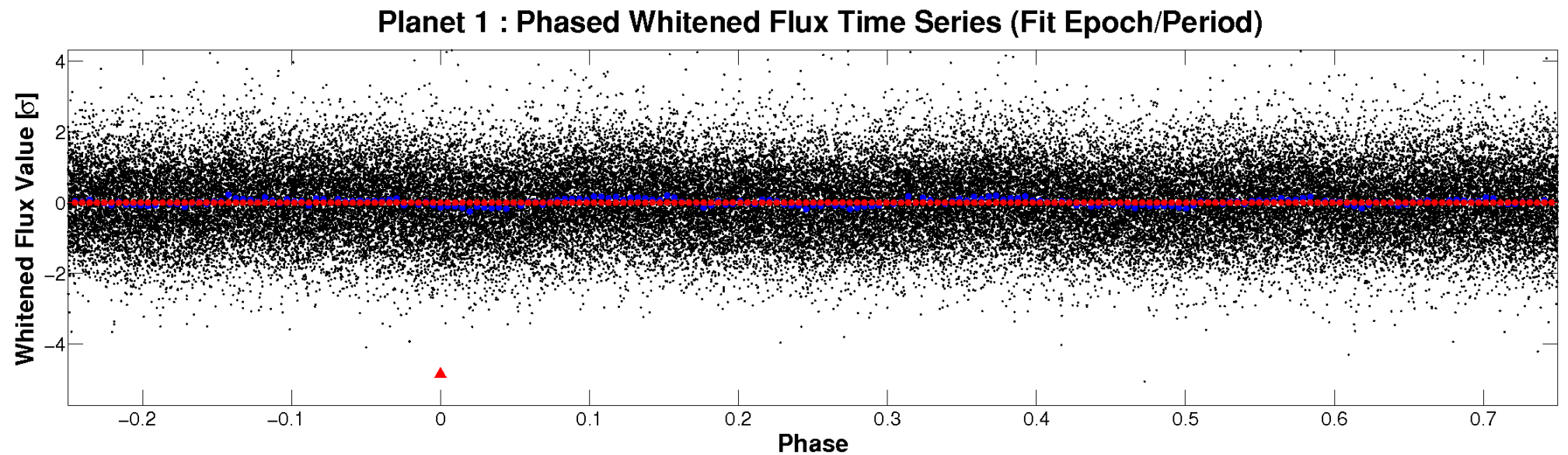
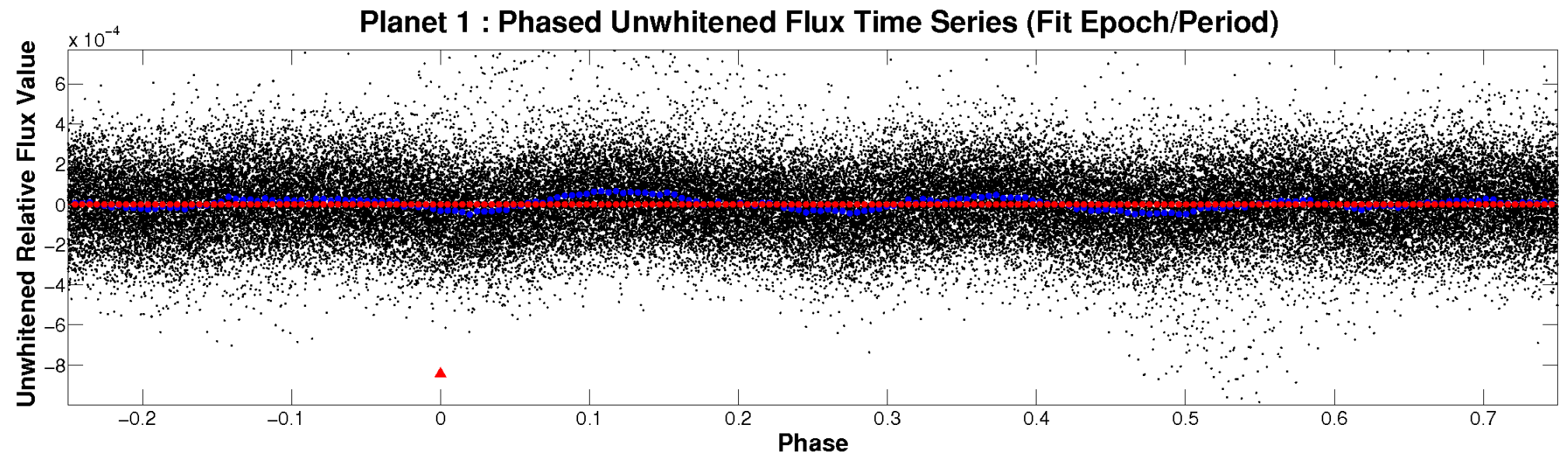


ALT Odd/Even

TCE 012458437-01

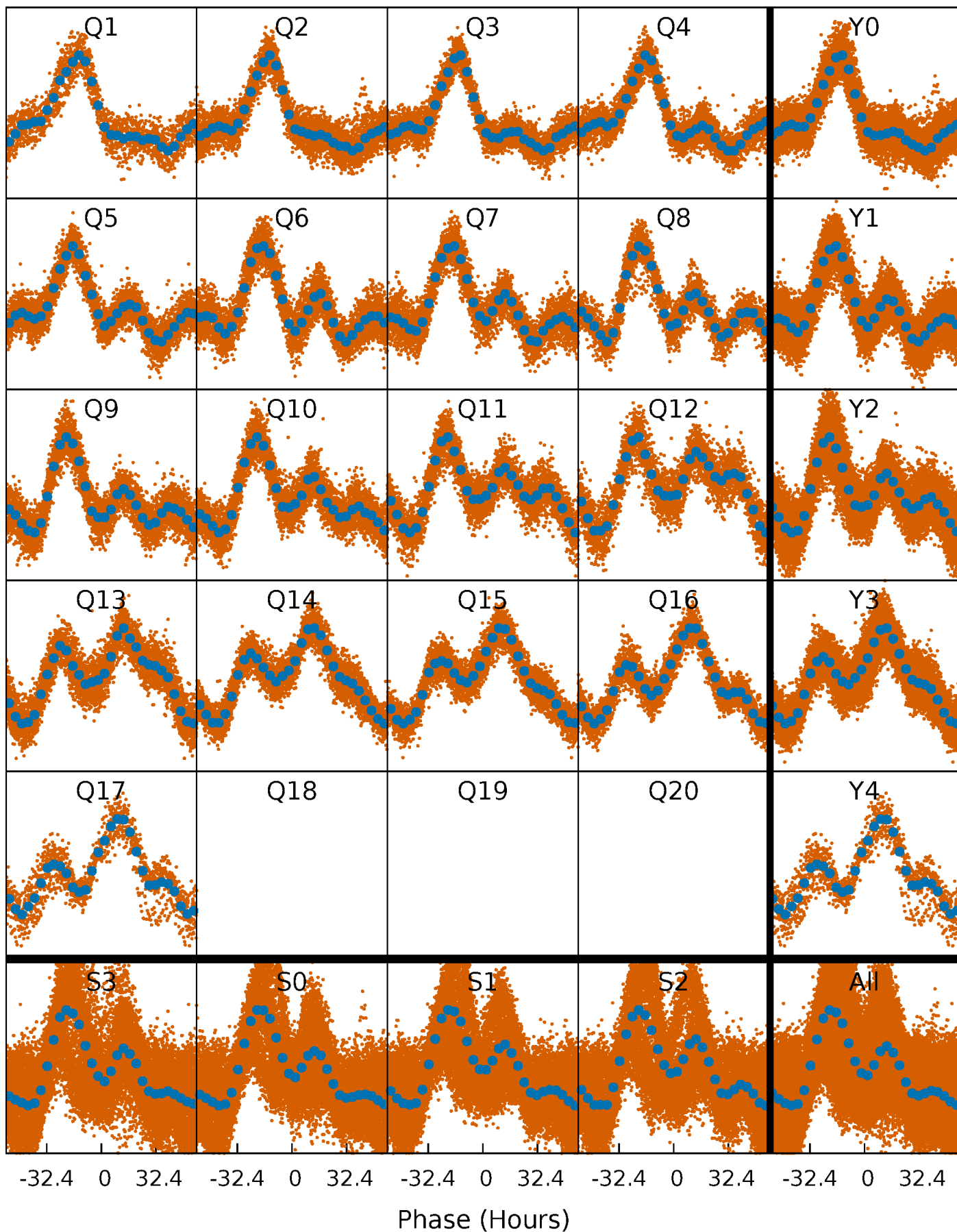


Non-Whitened Vs. Whitened Light Curve



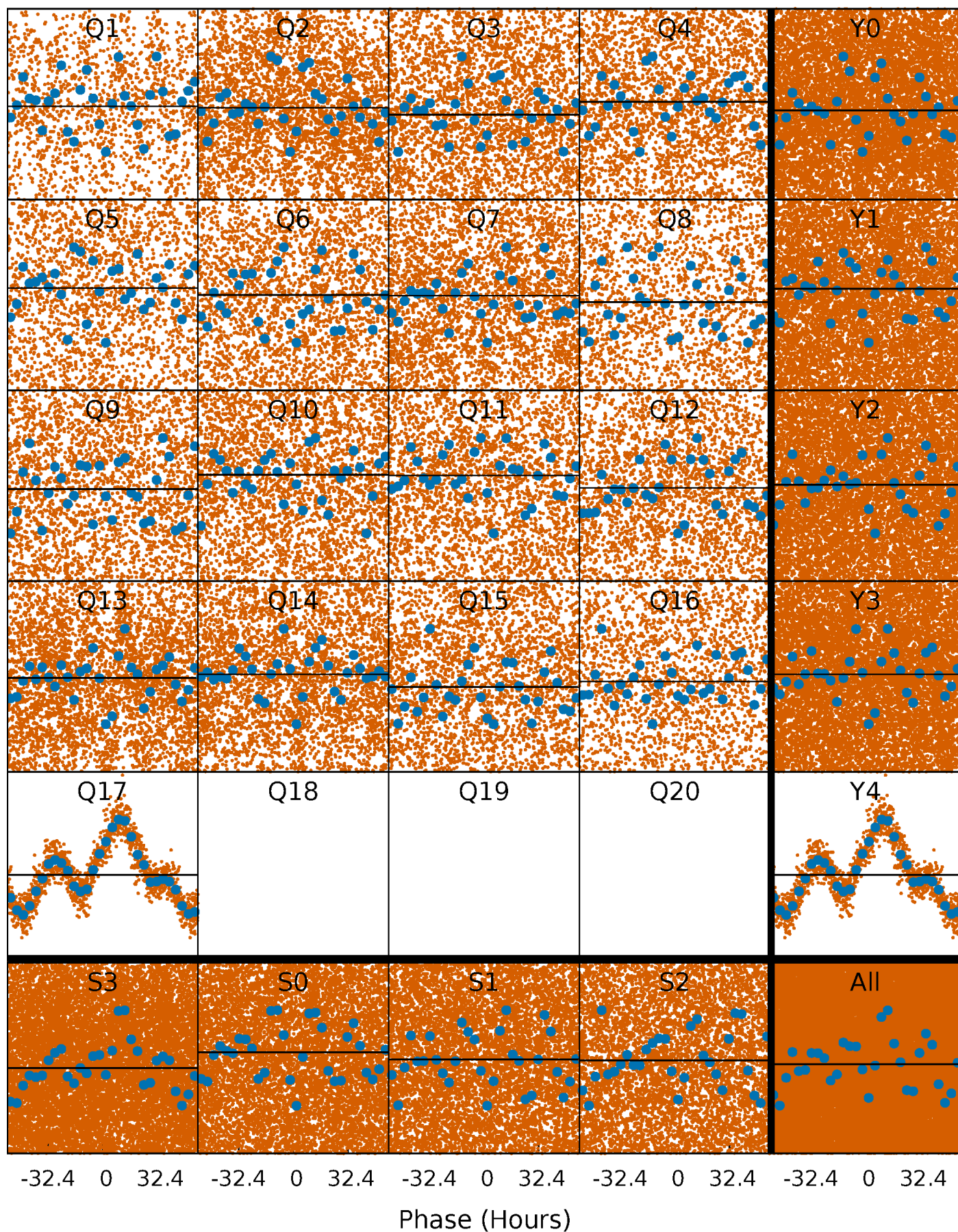
PDC Quarter-Phased Transit Curves

TCE 012458437-01 P= 4.164091 Days $T_0=132.668240$ (BKJD)



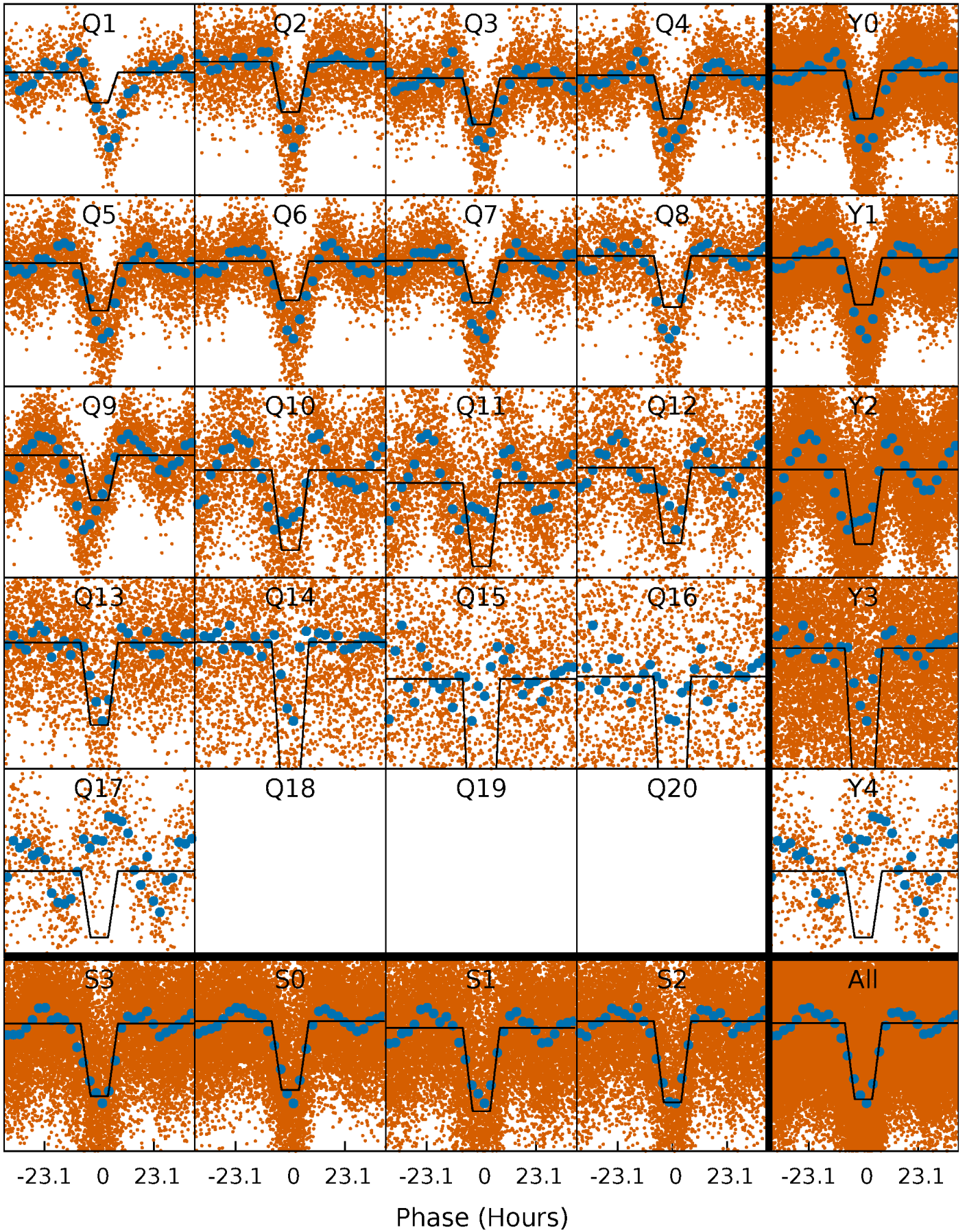
DV Quarter-Phased Transit Curves

TCE 012458437-01 P= 4.164091 Days $T_0=132.668240$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

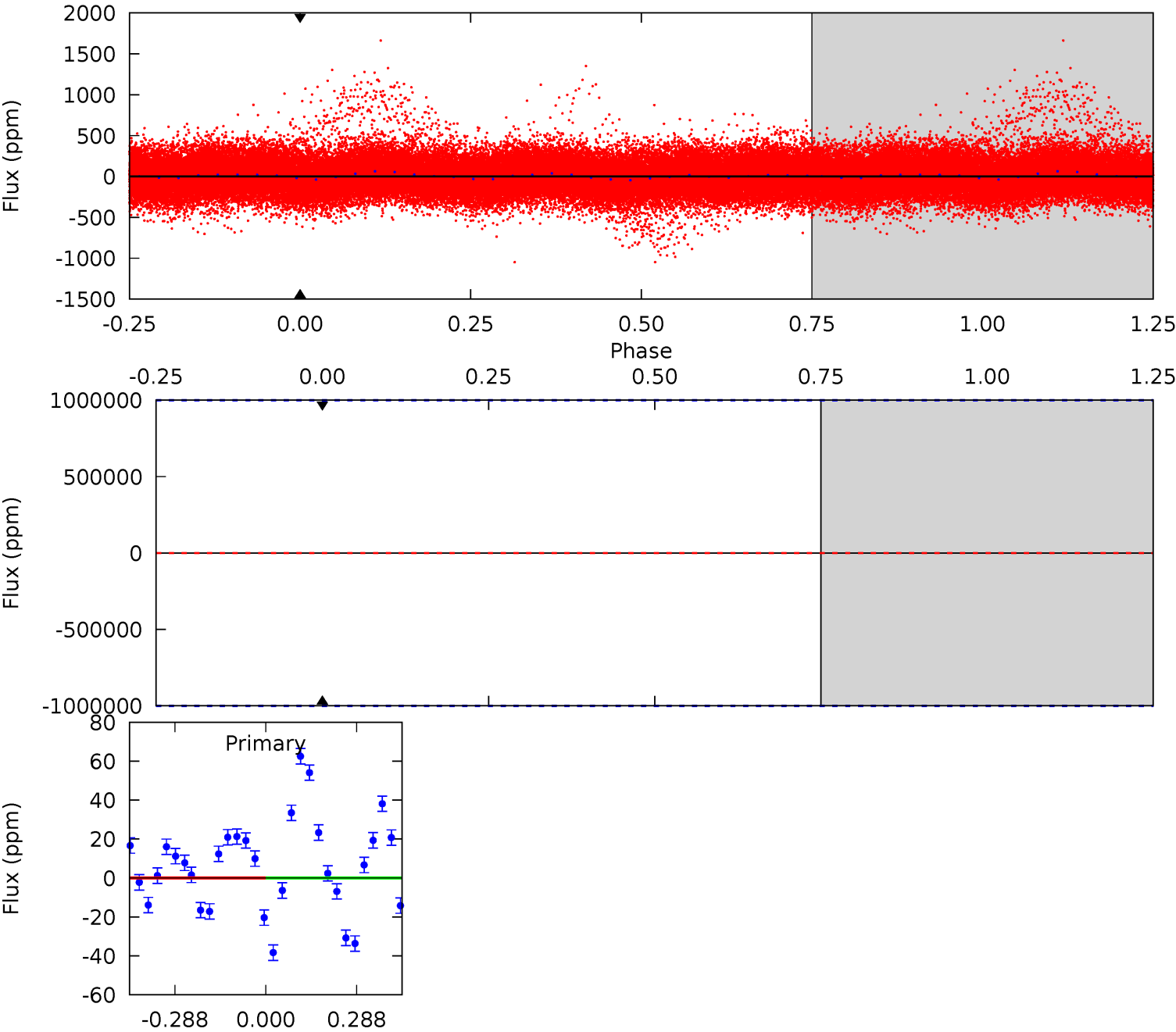
TCE 012458437-01 P= 4.164724 Days $T_0=132.574382$ (BKJD)



DV Model-Shift Uniqueness Test

012458437-01, P = 4.164091 Days, E = 128.504149 Days

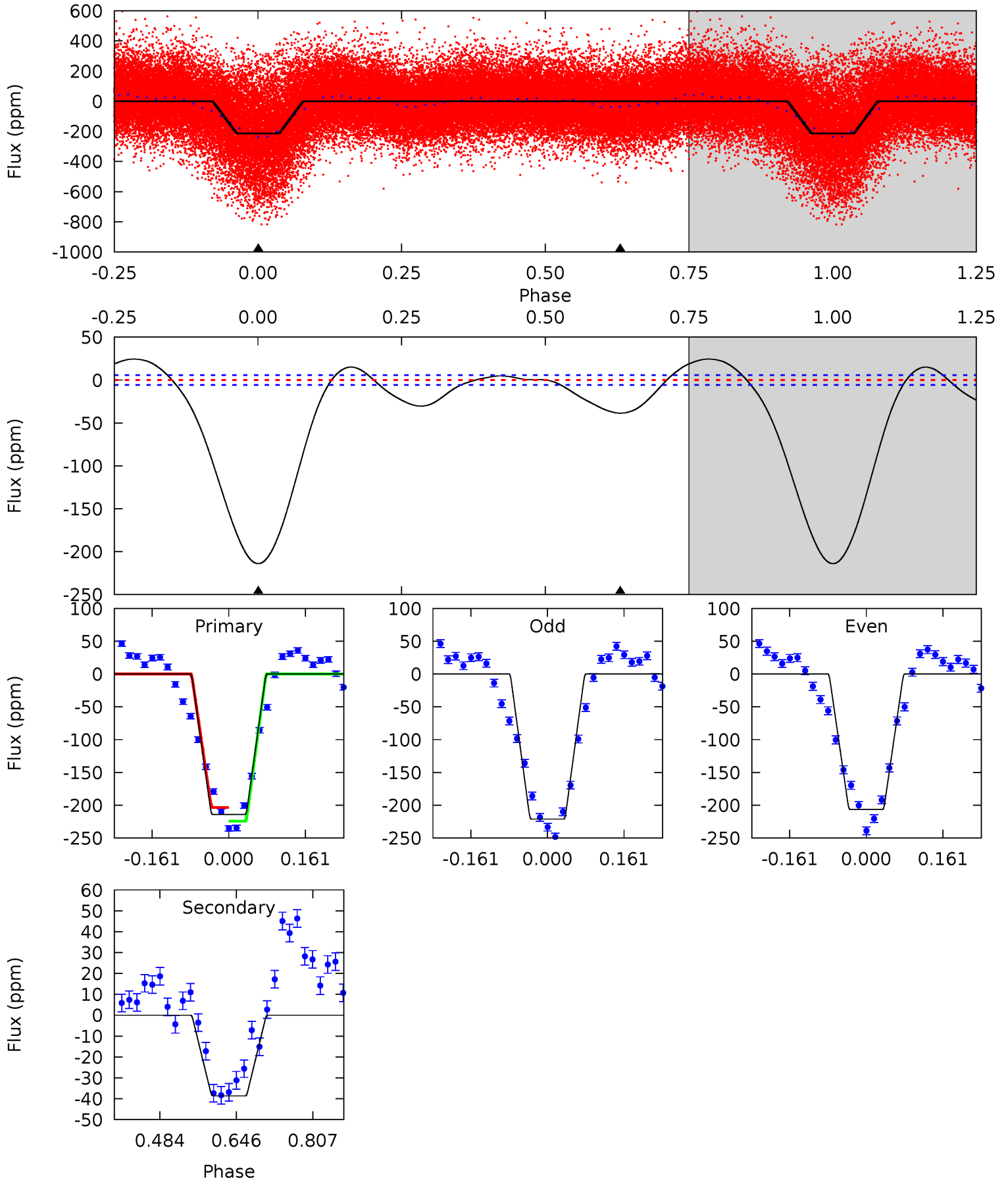
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

012458437-01, P = 4.164724 Days, E = 128.409658 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
168.1	30.4	0	0	4.46	1.40	12.2	168.1	168.1	30.4	30.4	5.81	1.01	0.10	7.96



Stellar Parameters For KIC 012458437

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6556^{+158}_{-177}	$3.660^{+0.306}_{-0.072}$	$0.020^{+0.250}_{-0.250}$	$3.286^{+0.405}_{-1.216}$	$1.802^{+0.162}_{-0.379}$	$0.071^{+0.153}_{-0.018}$
	+2%/-3%	+8%/-2%	+1250%/-1250%	+12%/-37%	+9%/-21%	+214%/-25%
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 012458437-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$74.01^{+88.96}_{-48.91}$	840^{+427}_{-197}	-2746^{+12397}_{-6311}	$-2.016^{+10140.098}_{-8711.245}$
Alt.	-39 ± 1	$81.93^{+85.53}_{-58.52}$	822^{+466}_{-176}	1941^{+716}_{-3636}	$1.657^{+19.551}_{-1.463}$

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 $A_{\text{obs}} \gg 1.0$

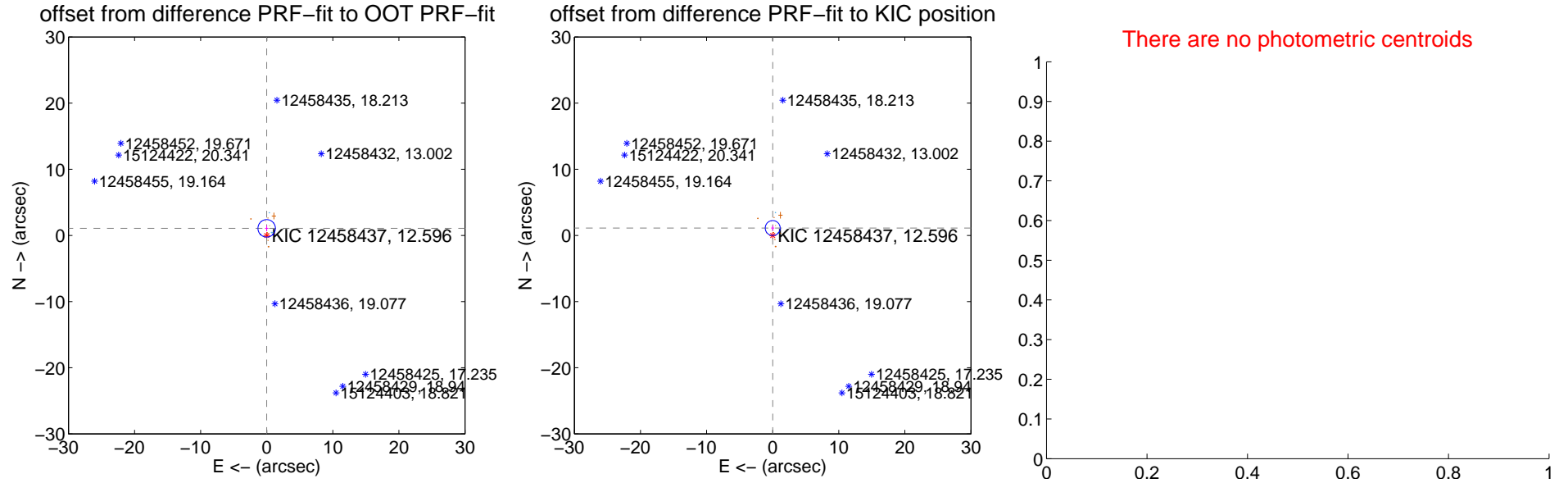
DV Centroid Data

Supplemental centroid analysis for 012458437-01. Kepler magnitude: 12.60. Transit SNR 0.00

There are 2 quarters with good PRF difference image offsets

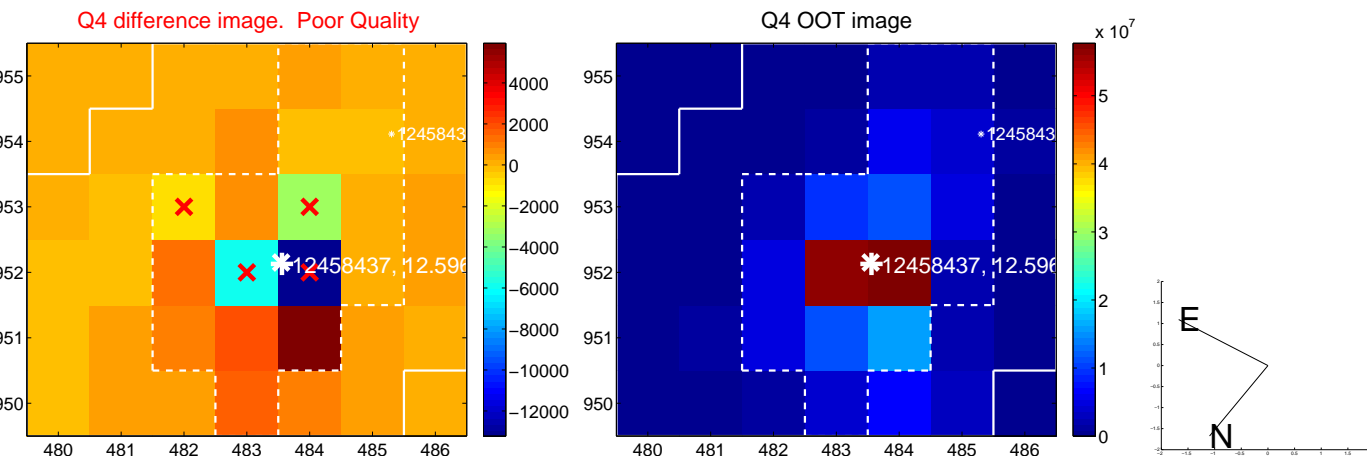
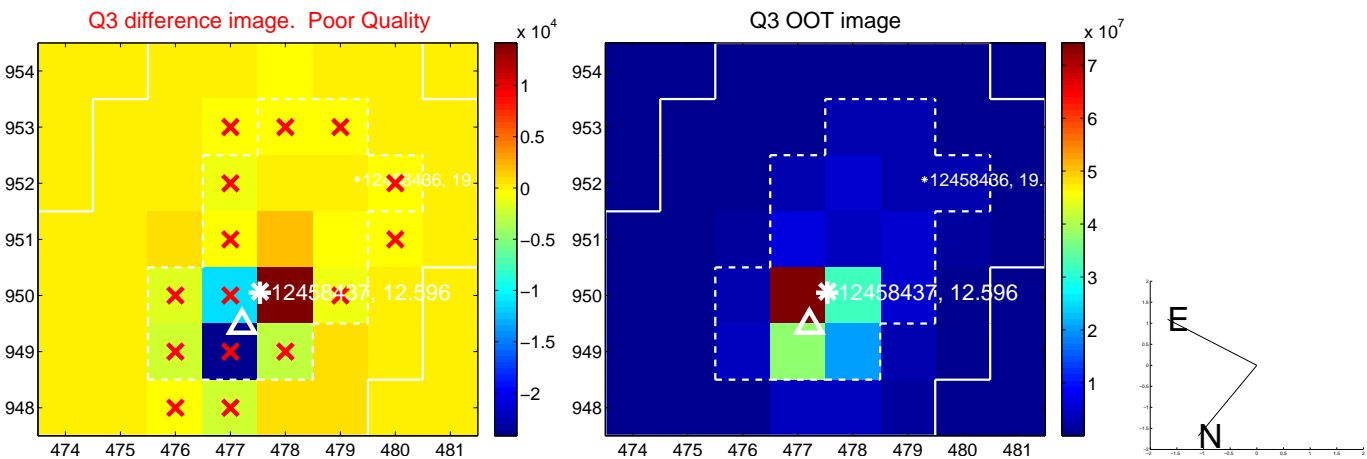
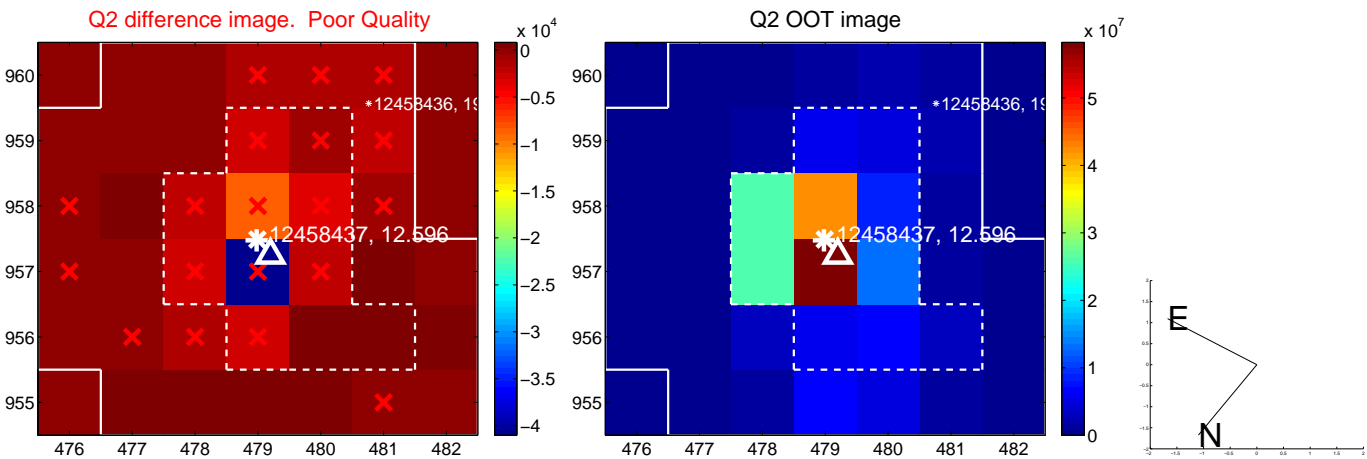
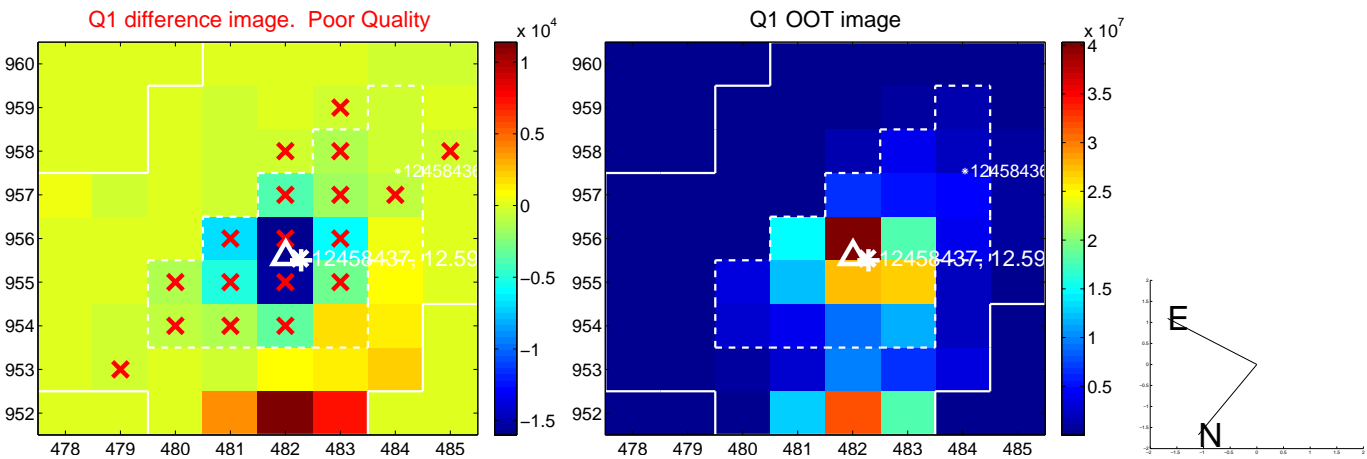
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.071 ± 0.440	2.43	0.011 ± 0.253	1.071 ± 0.440
PRF-fit source offset from KIC position	1.115 ± 0.377	2.96	-0.005 ± 0.237	1.115 ± 0.377
photometric centroid source offset	—	—	—	—

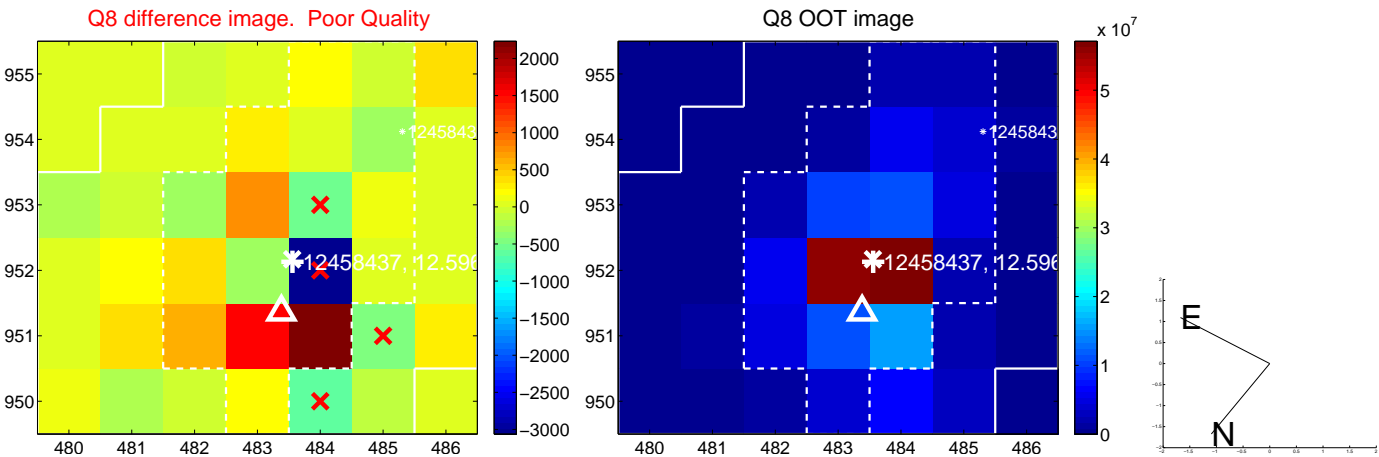
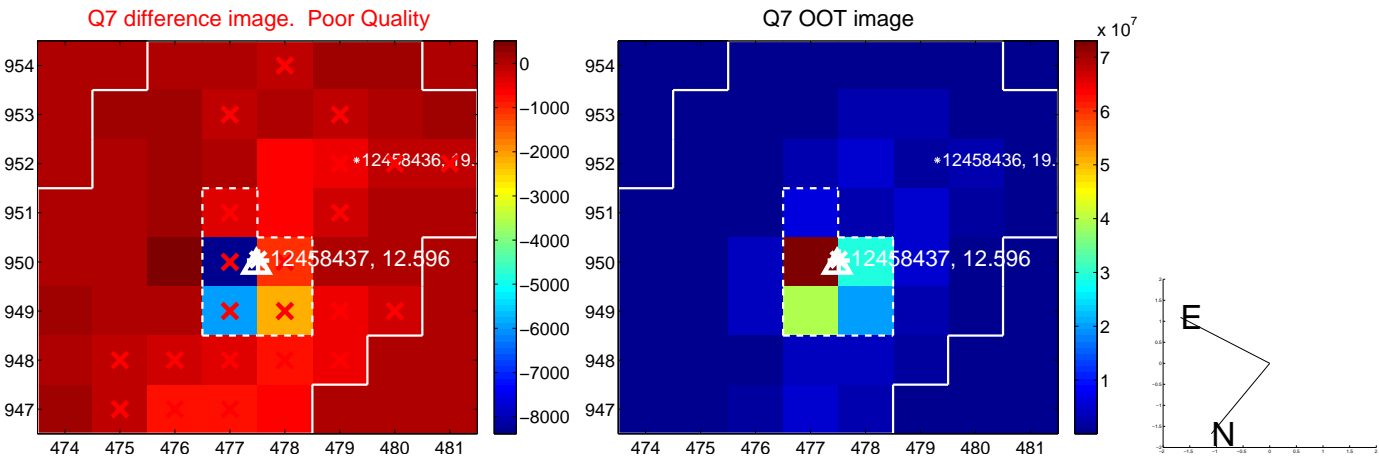
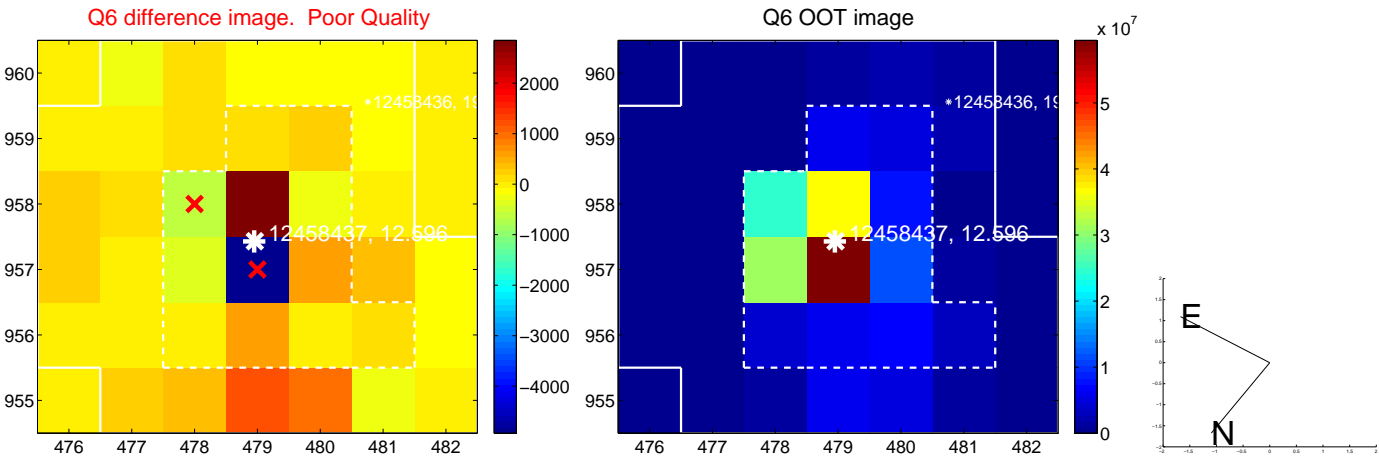
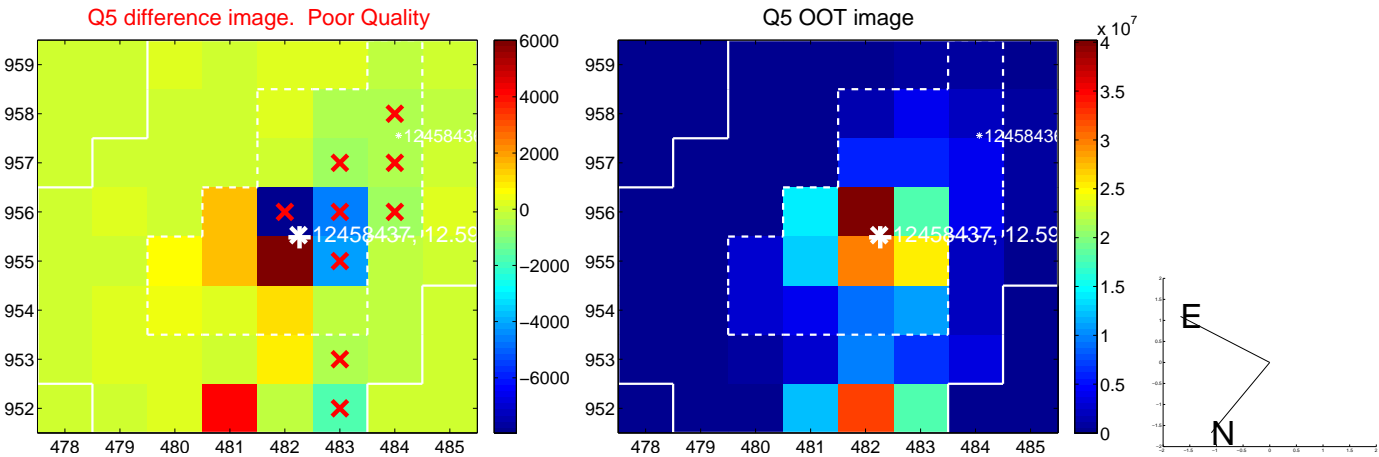


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

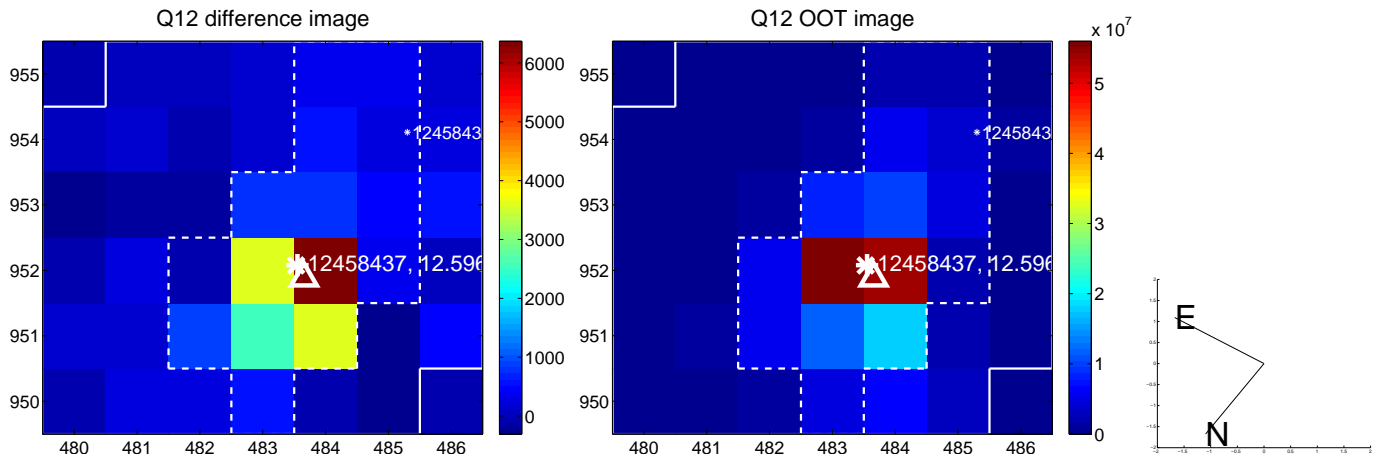
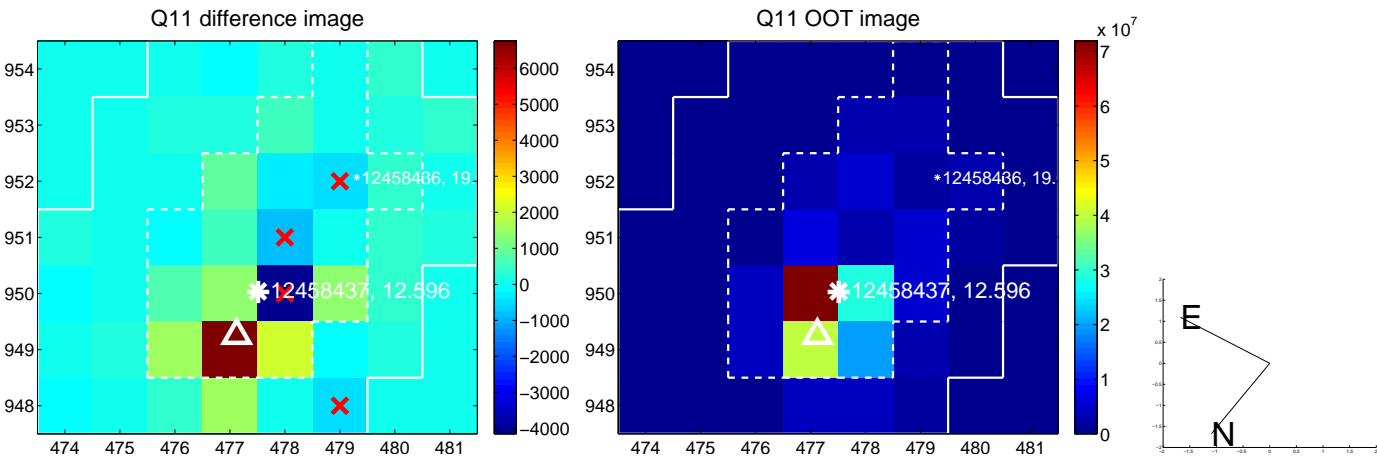
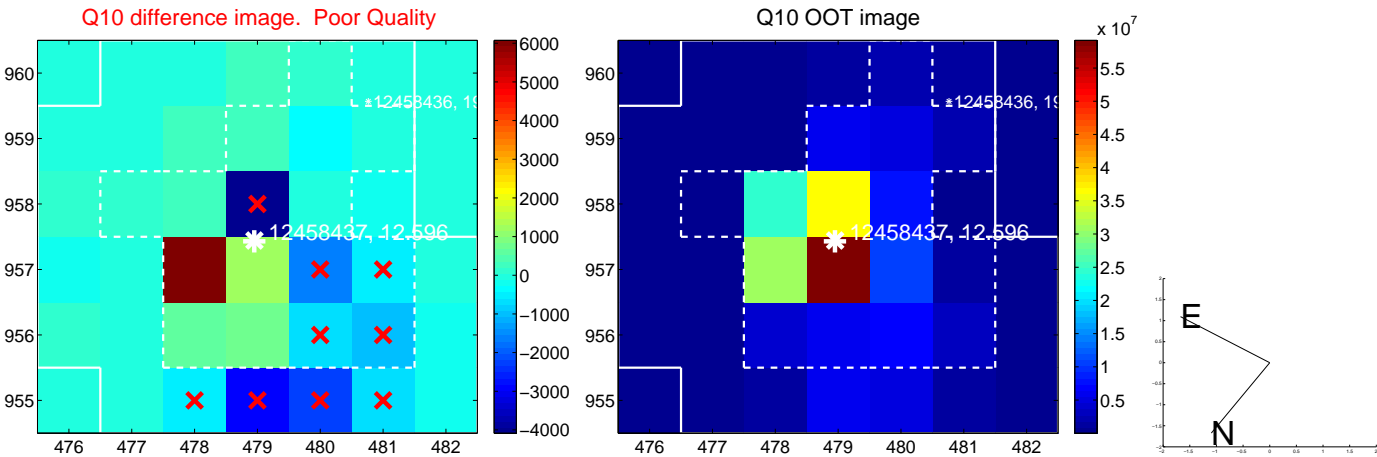
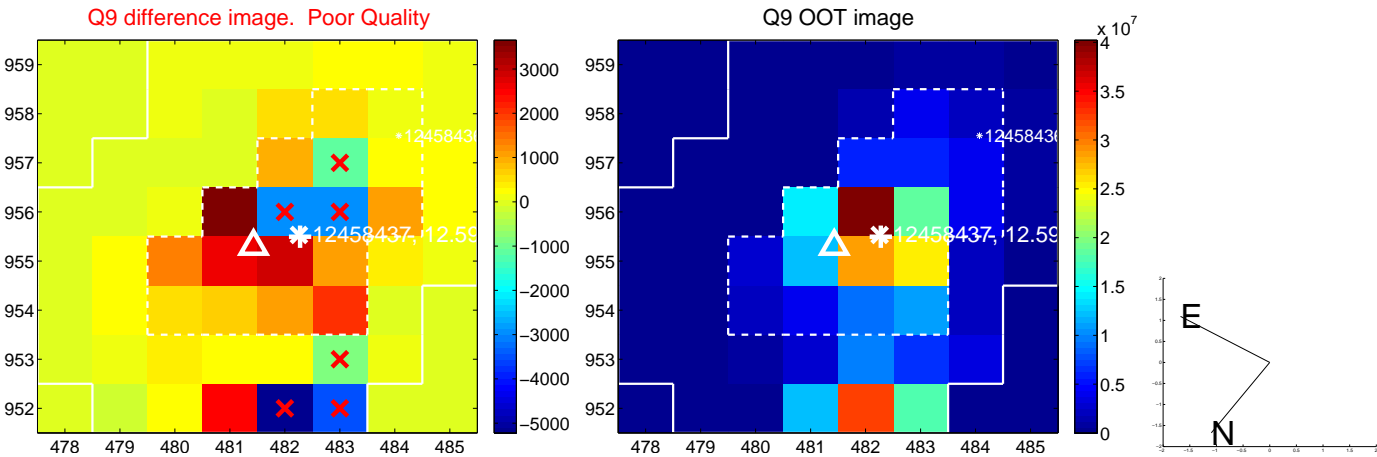
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



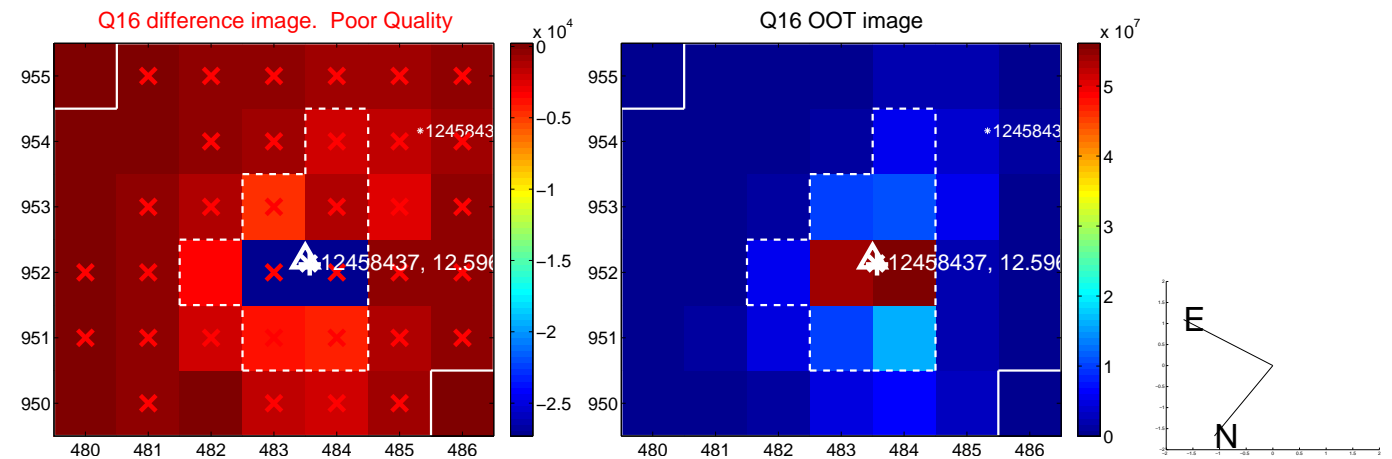
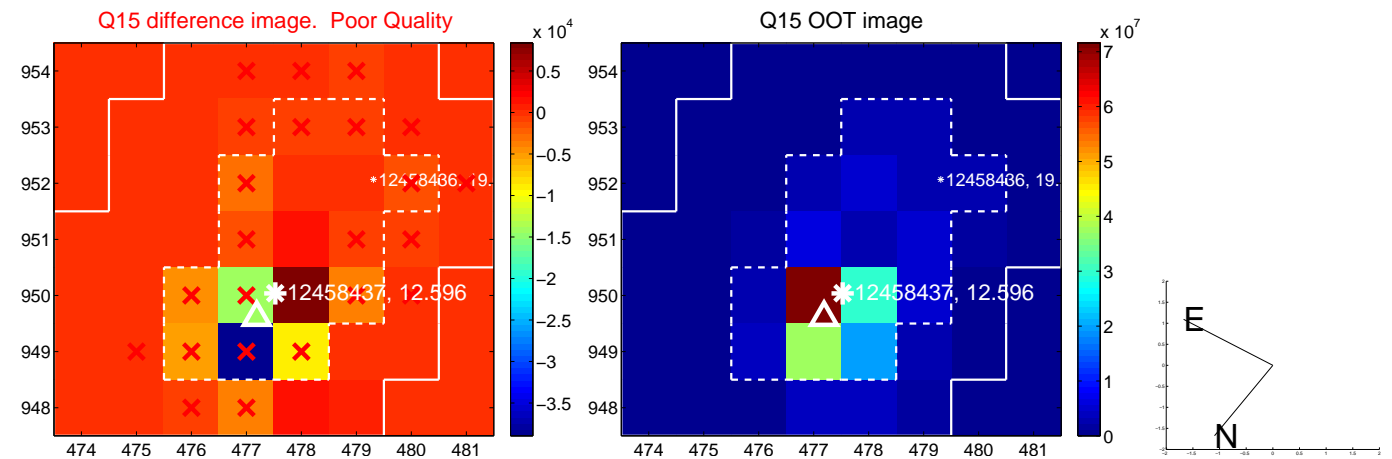
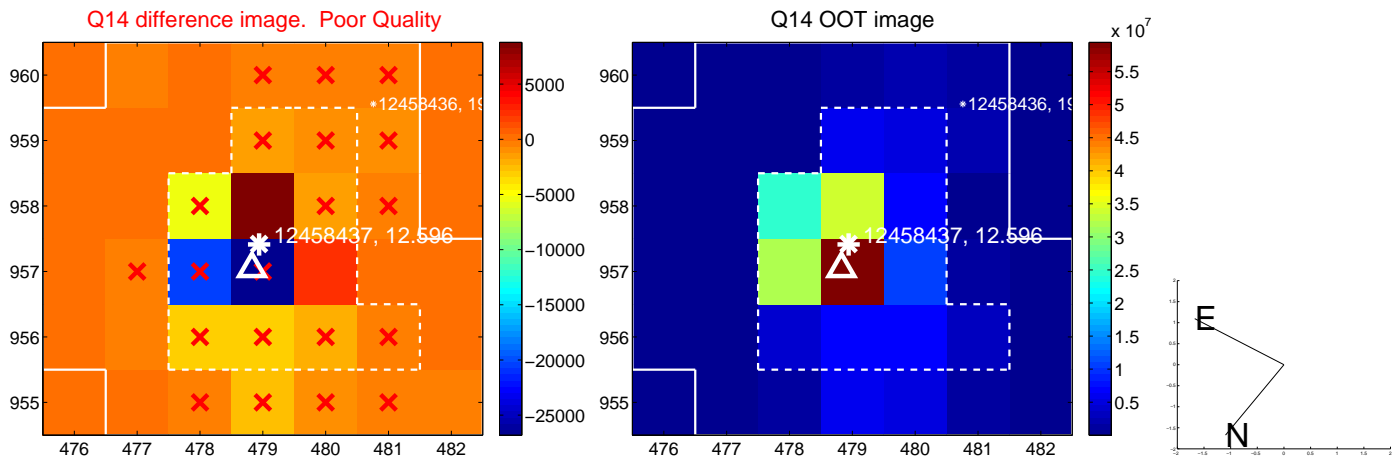
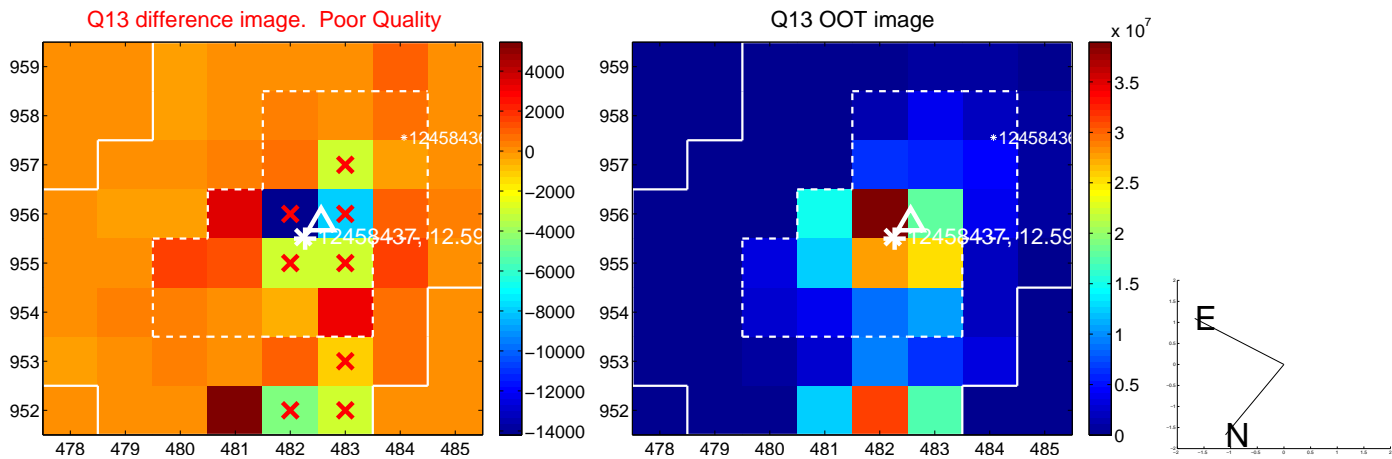
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



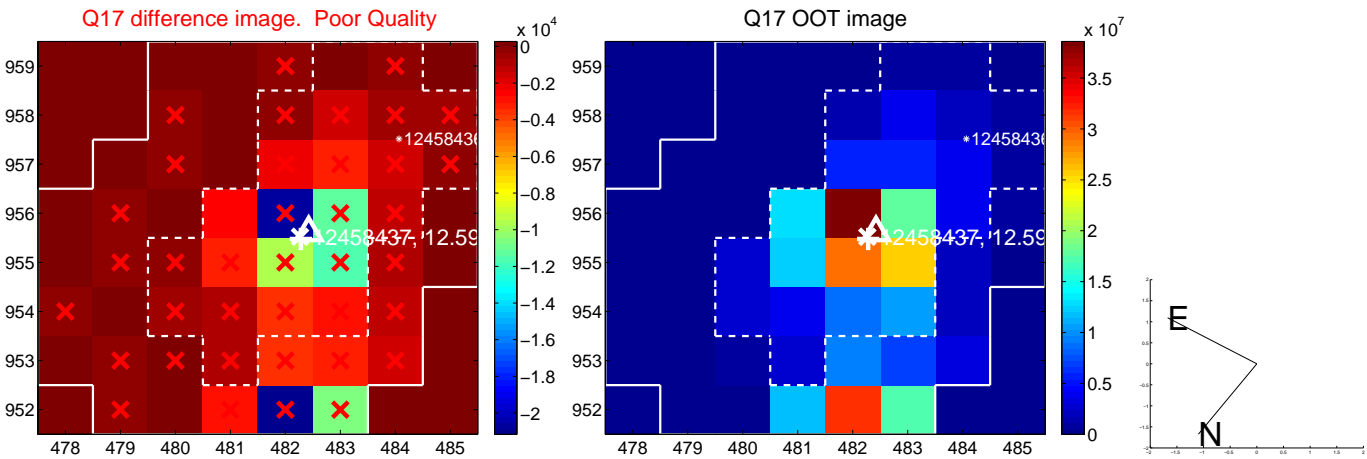
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

