

KIC 010490558

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})
010490558-01	OBS	No	4.042711	133.771096	22.2	10.318	7.1	7.4	1.70	6740	0.96	1720.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010490558-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL —LPP_DV —MOD_NONUNIQ_DV —CENT_SATURATED

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

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

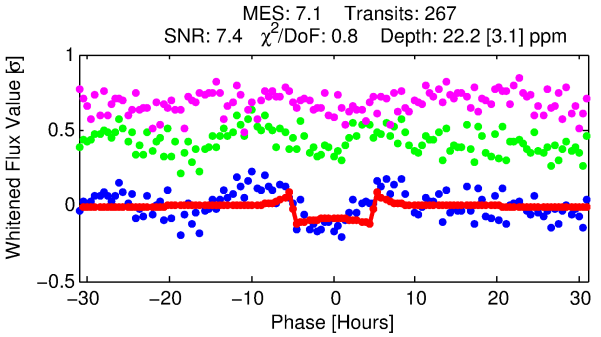
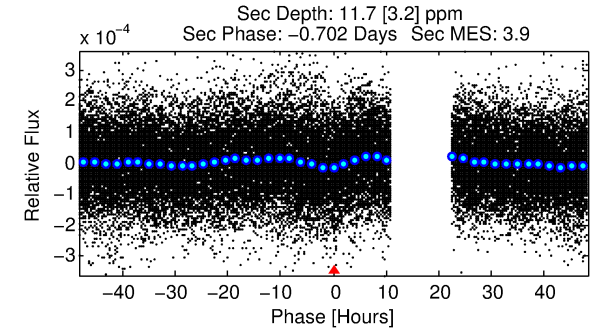
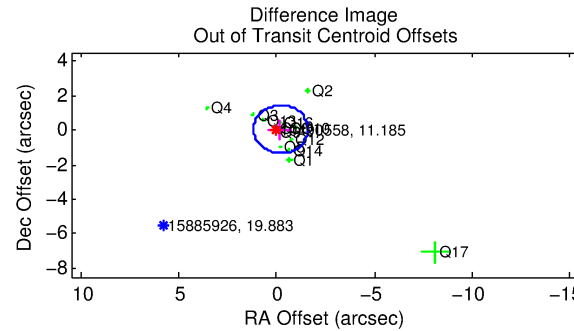
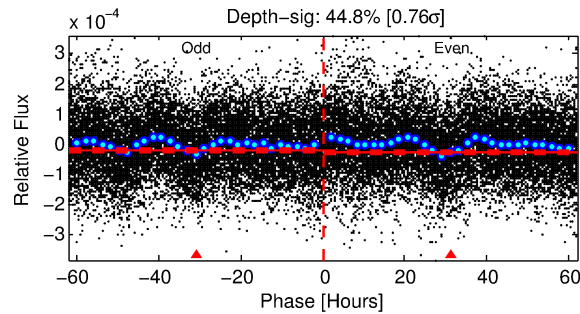
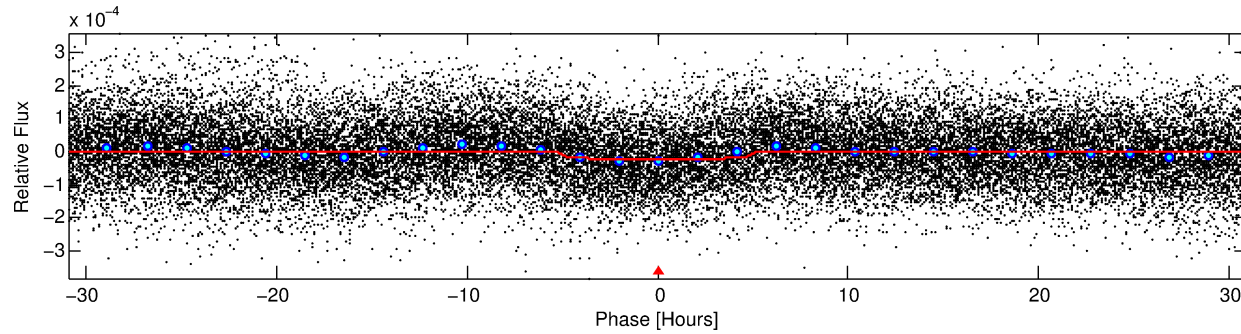
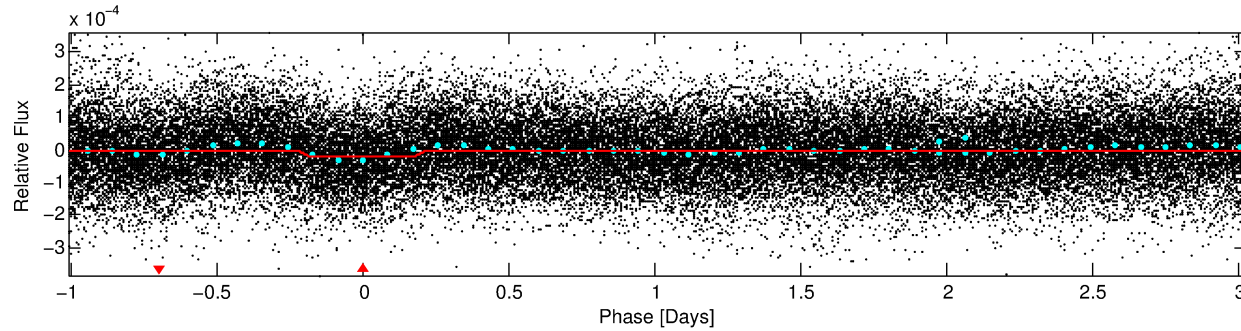
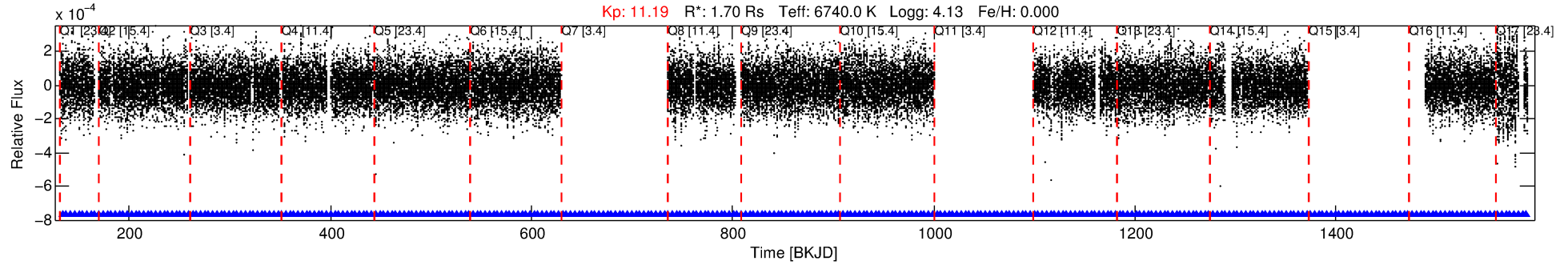
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010490558-01

No Significant Match Found

DV One-Page Summary

KIC: 10490558 Candidate: 1 of 1 Period: 4.043 d



DV Fit Results:

Period = 4.04271 [0.00004] d
Epoch = 133.7711 [0.0057] BKJD
Rp/R* = 0.0052 [0.0006]
a/R* = 1.46 [0.40]
b = 0.93 [0.07]
Seff = 1720.23 [383.71]
Teq = 1642 [92] K
Rp = 0.96 [0.20] Re
a = 0.0556 [0.0081] AU
Ag = 21.52 [8.95] [2.29 σ]
Teffp = 5469 [491] K [7.66 σ]

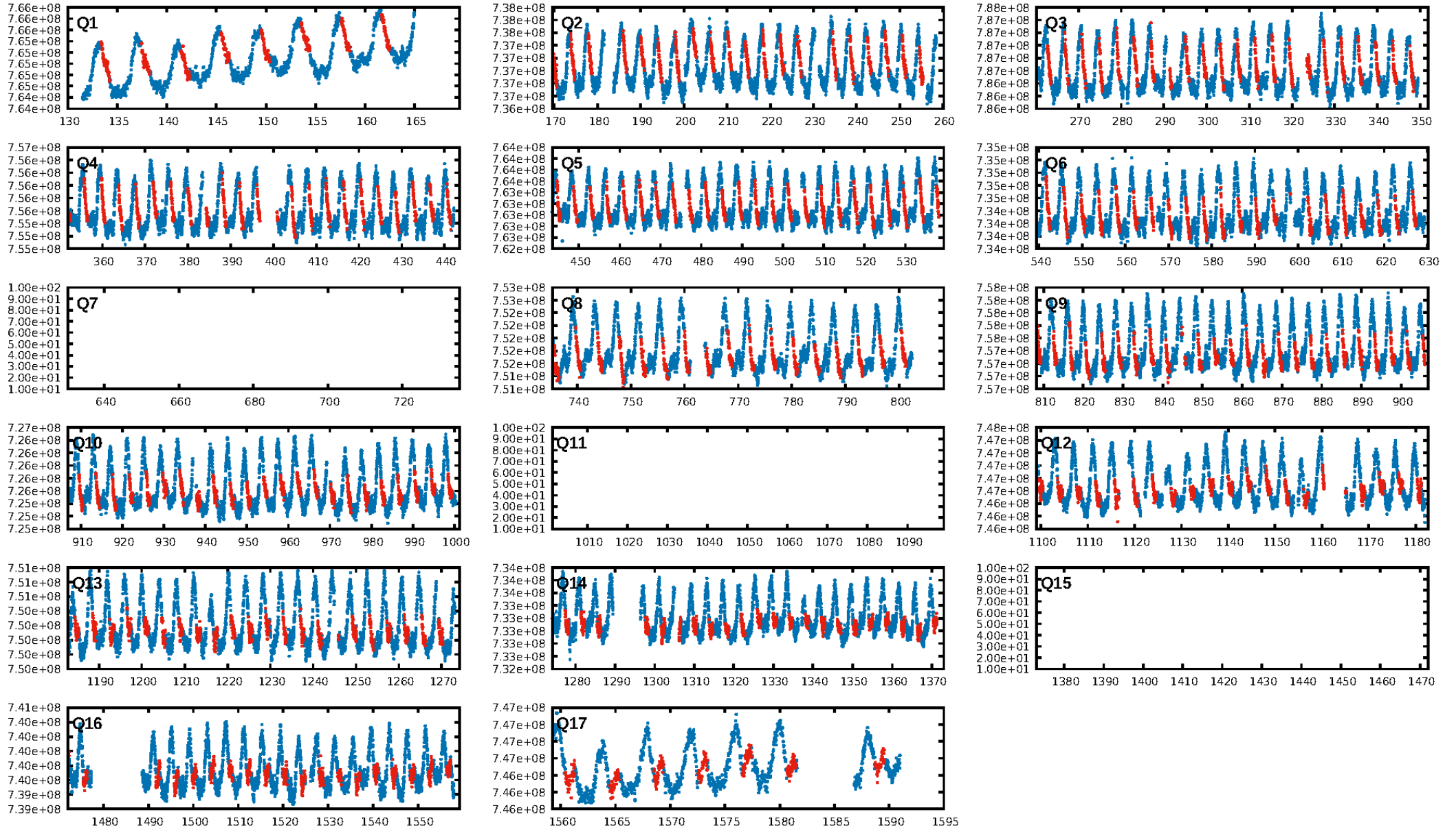
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.22e-09
RollingBand-fgt: 1.00 [252/252]
GhostDiagnostic-chr: 5.908
Centroid-sig: 0.3%
Centroid-so: 1.316 arcsec [1.70 σ]
OotOffset-rm: 0.206 arcsec [0.45 σ]
KicOffset-rm: 0.316 arcsec [1.26 σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.93 [13/14]
DiffImageOverlap-fno: 1.00 [14/14]

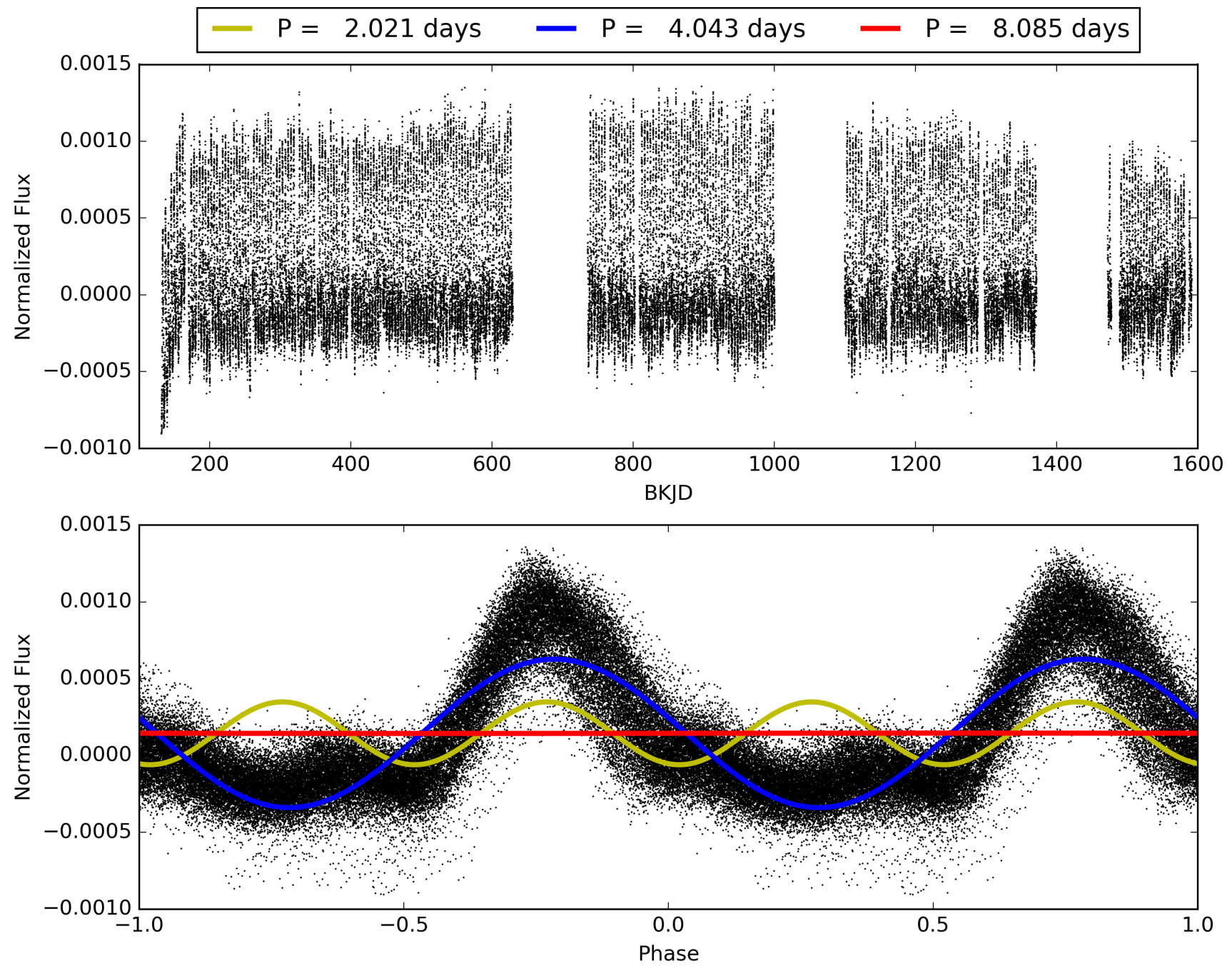
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:36:55 Z

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

TCE 010490558-01, PDC Light Curves

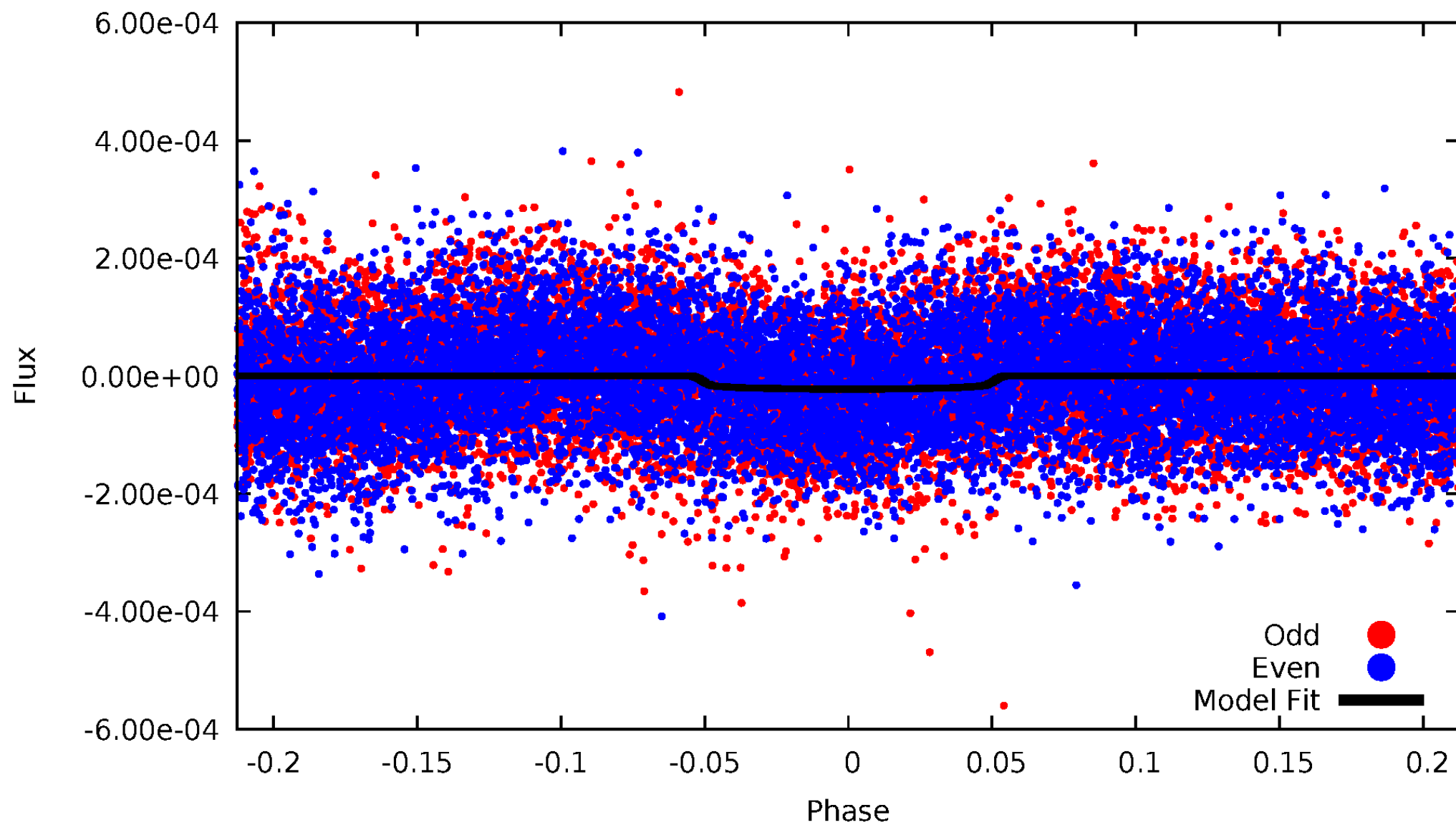


TCE 010490558-01



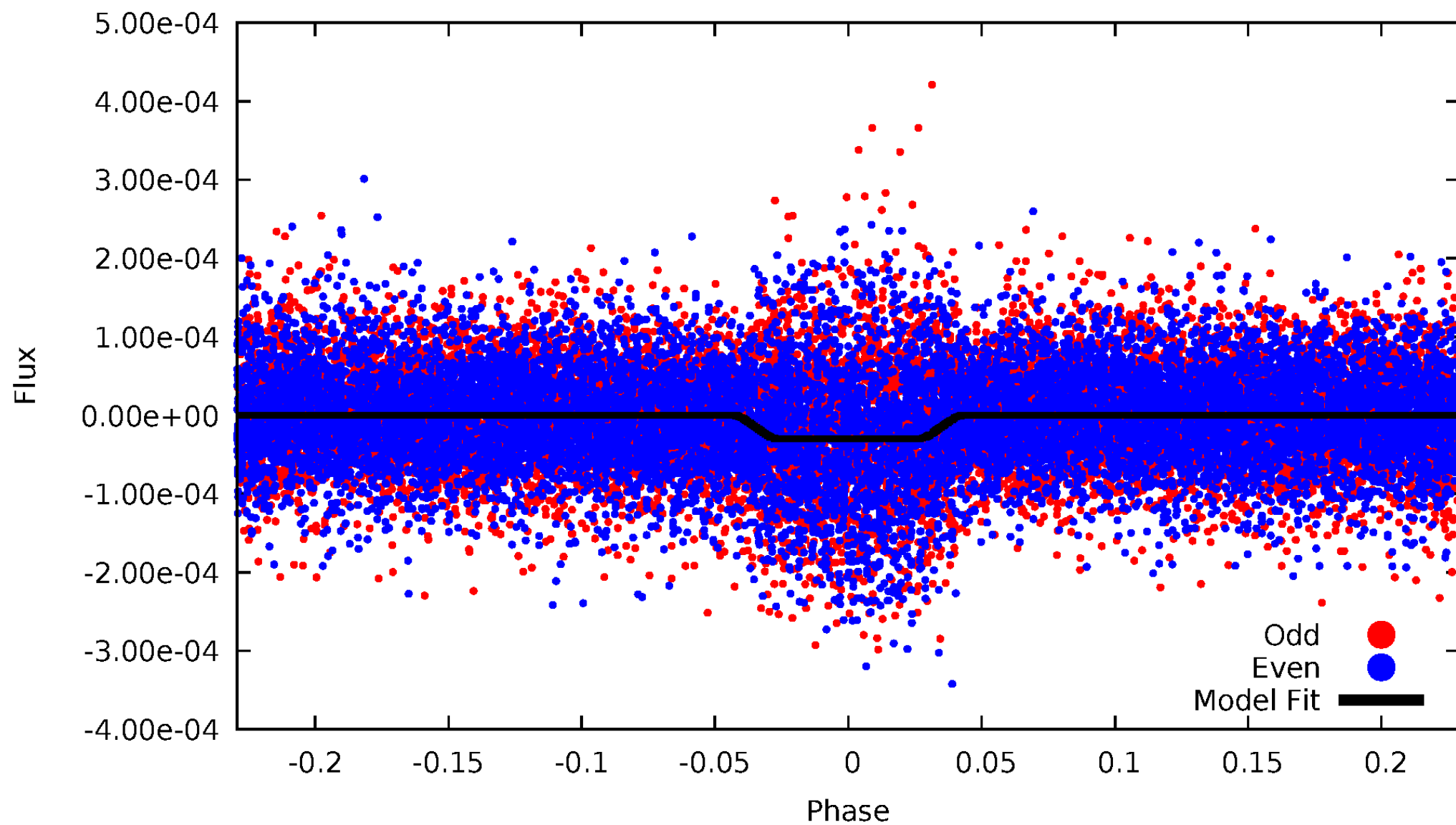
DV Odd/Even

TCE 010490558-01



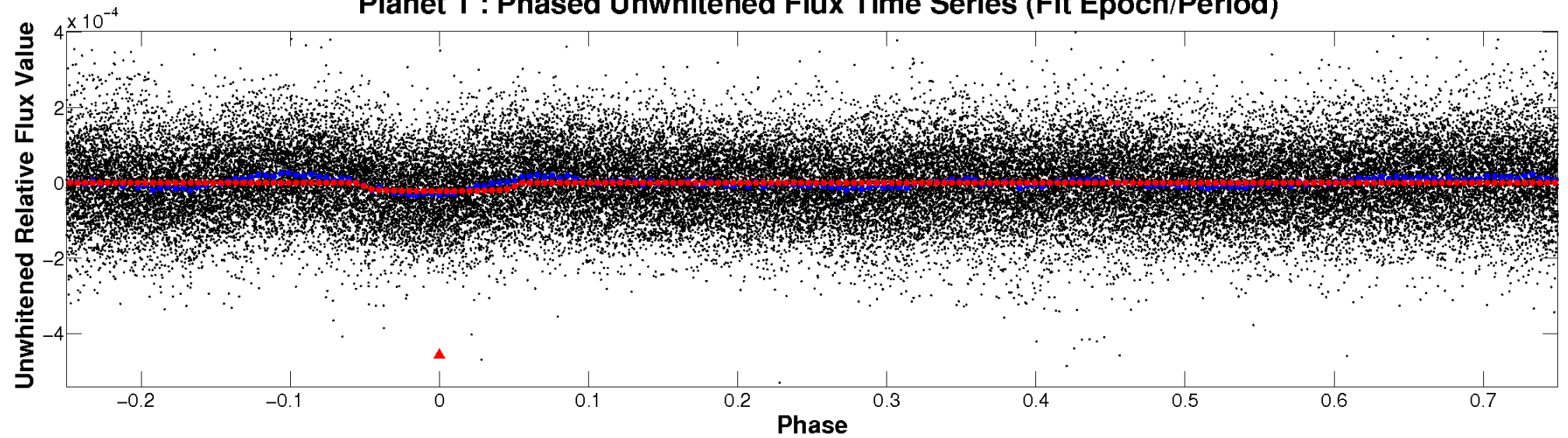
ALT Odd/Even

TCE 010490558-01

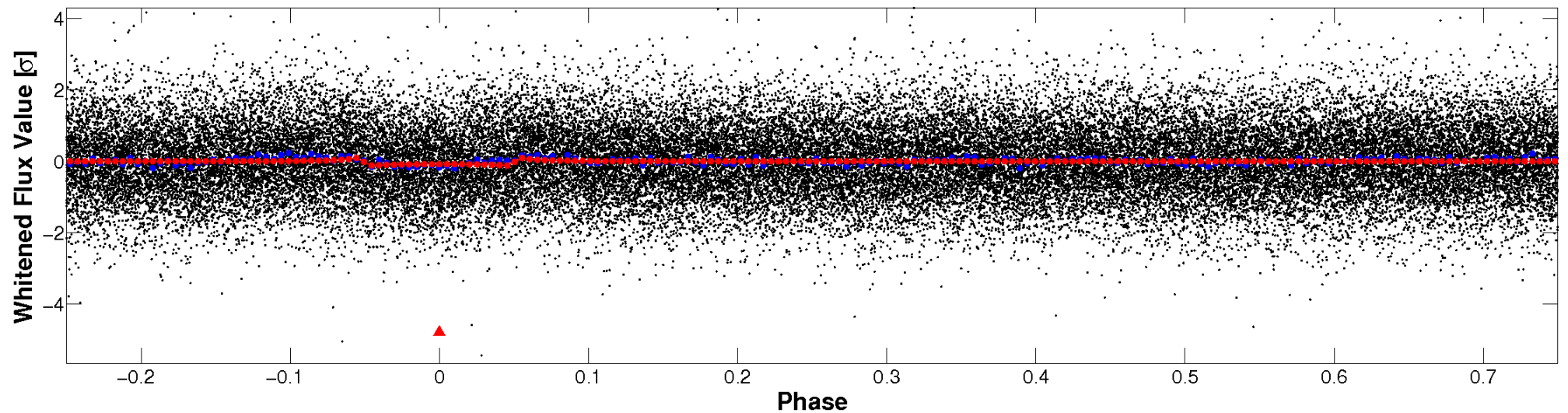


Non-Whitened Vs. Whitened Light Curve

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

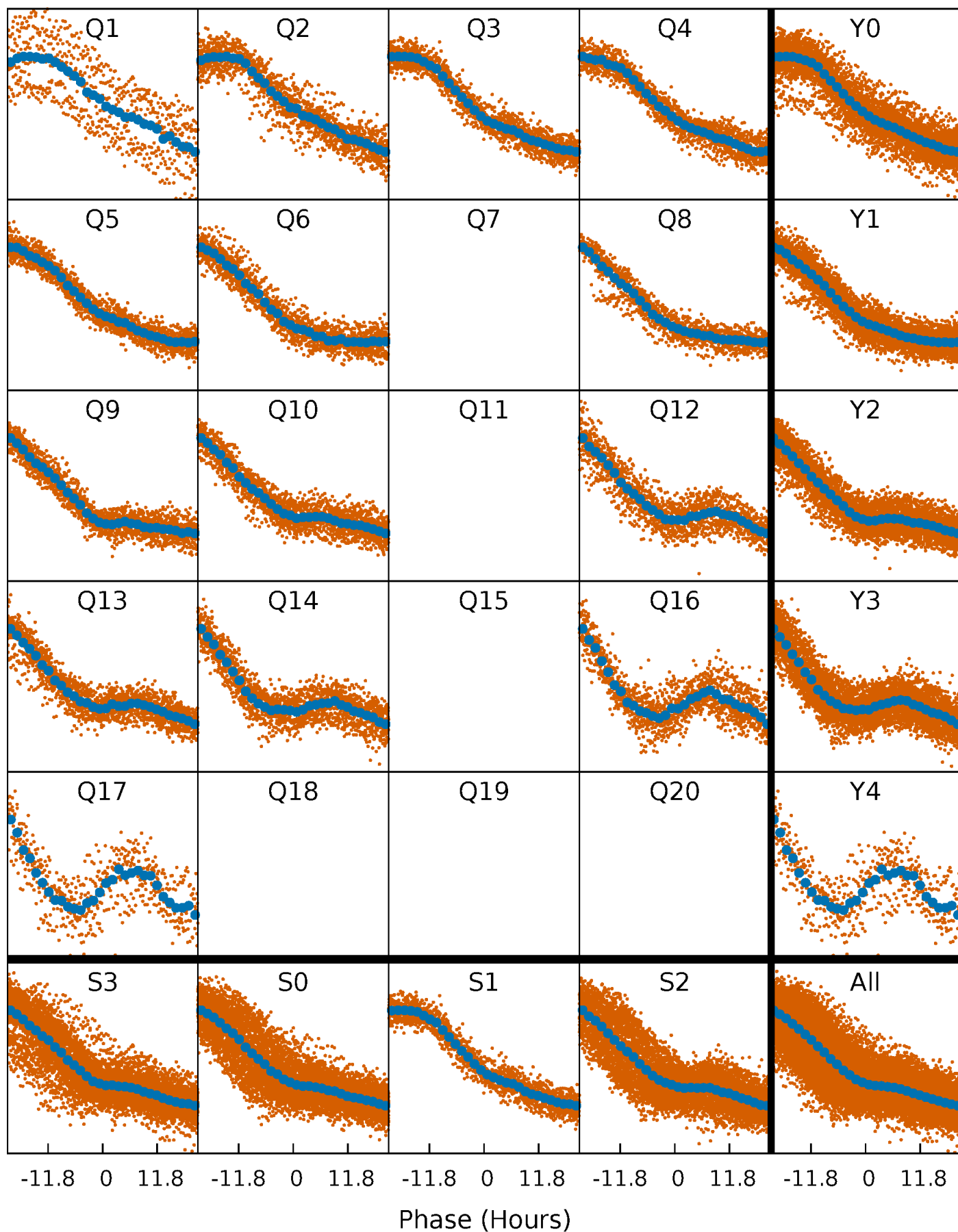


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



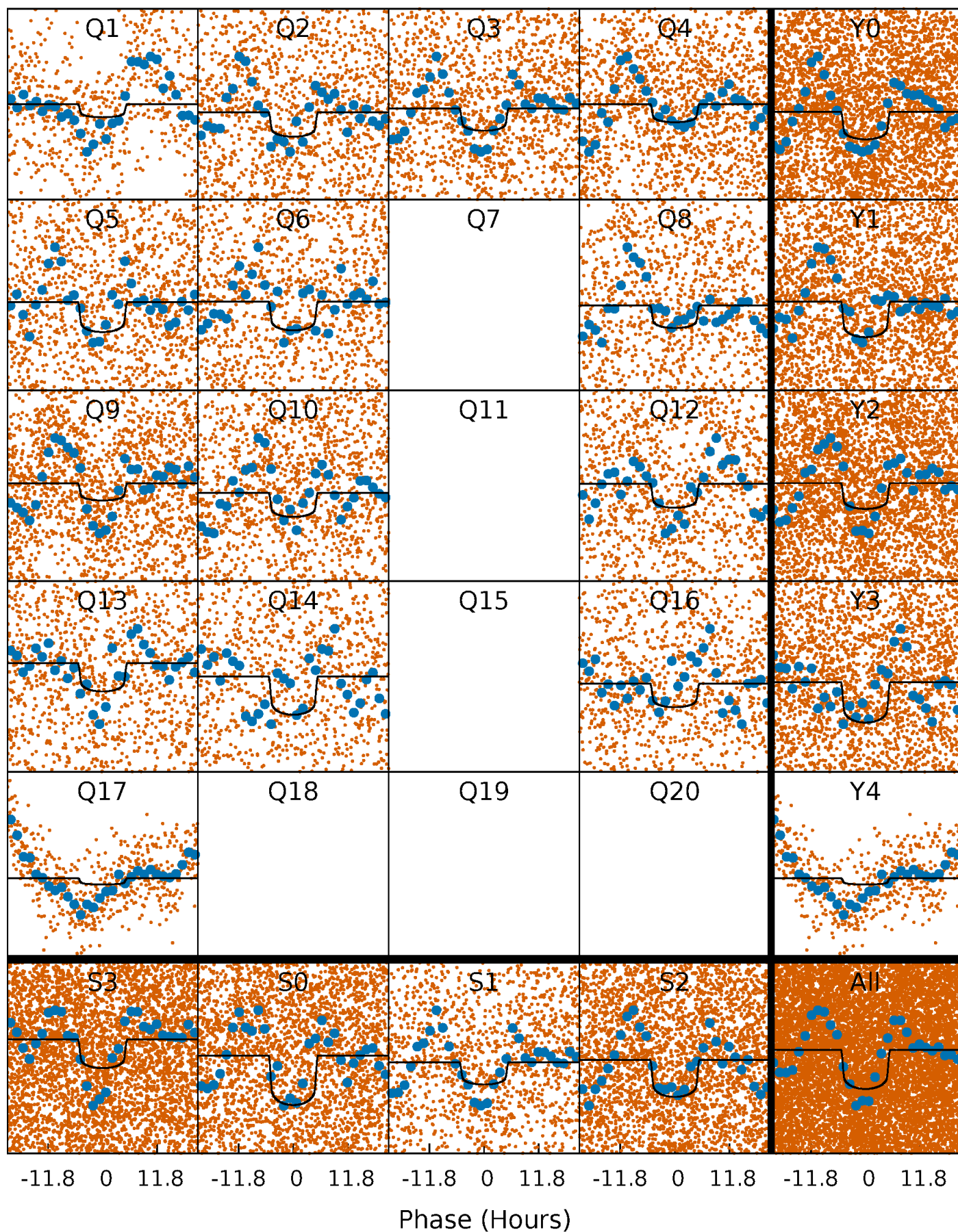
PDC Quarter-Phased Transit Curves

TCE 010490558-01 P= 4.042711 Days $T_0=133.771096$ (BKJD)



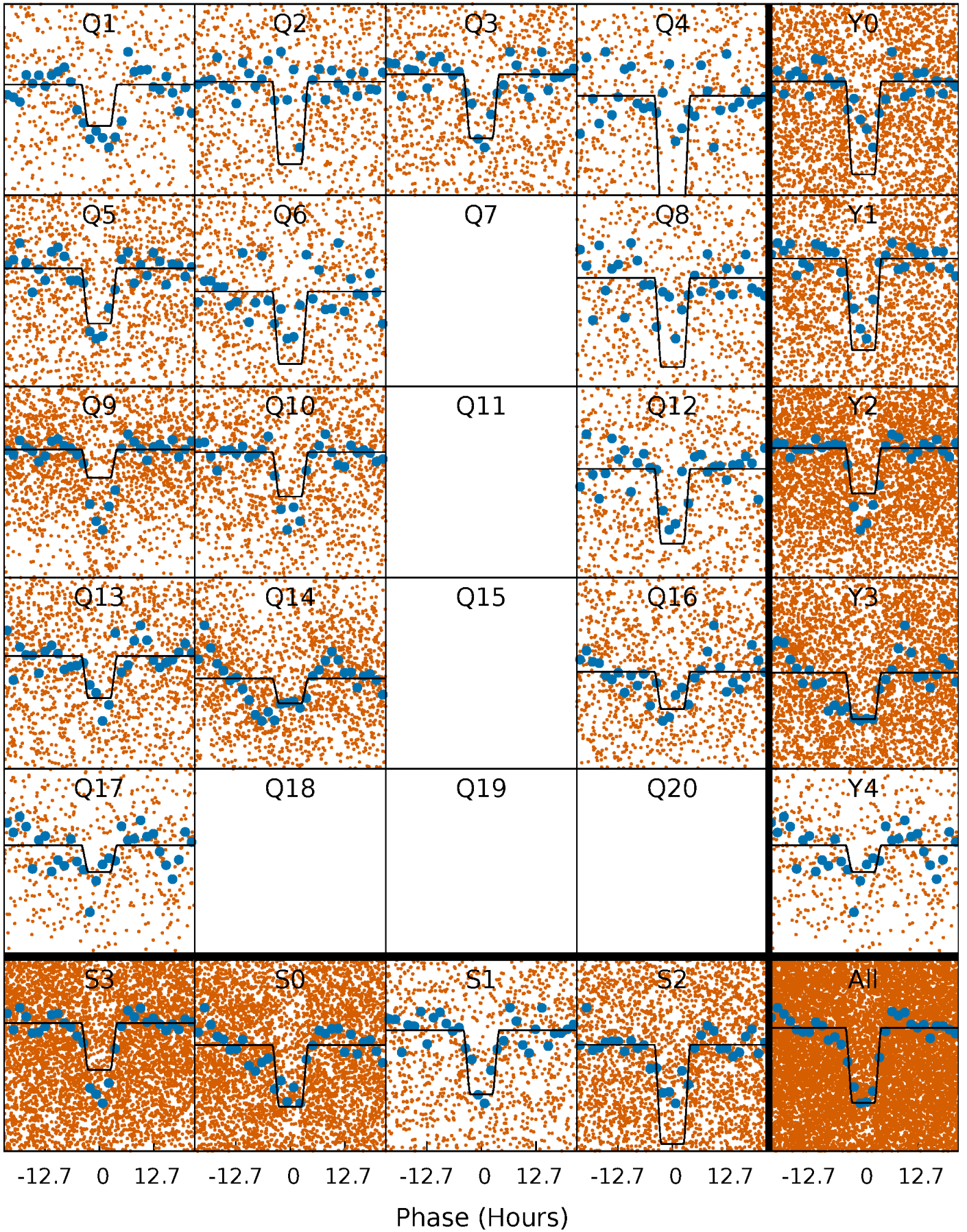
DV Quarter-Phased Transit Curves

TCE 010490558-01 P= 4.042711 Days $T_0=133.771096$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

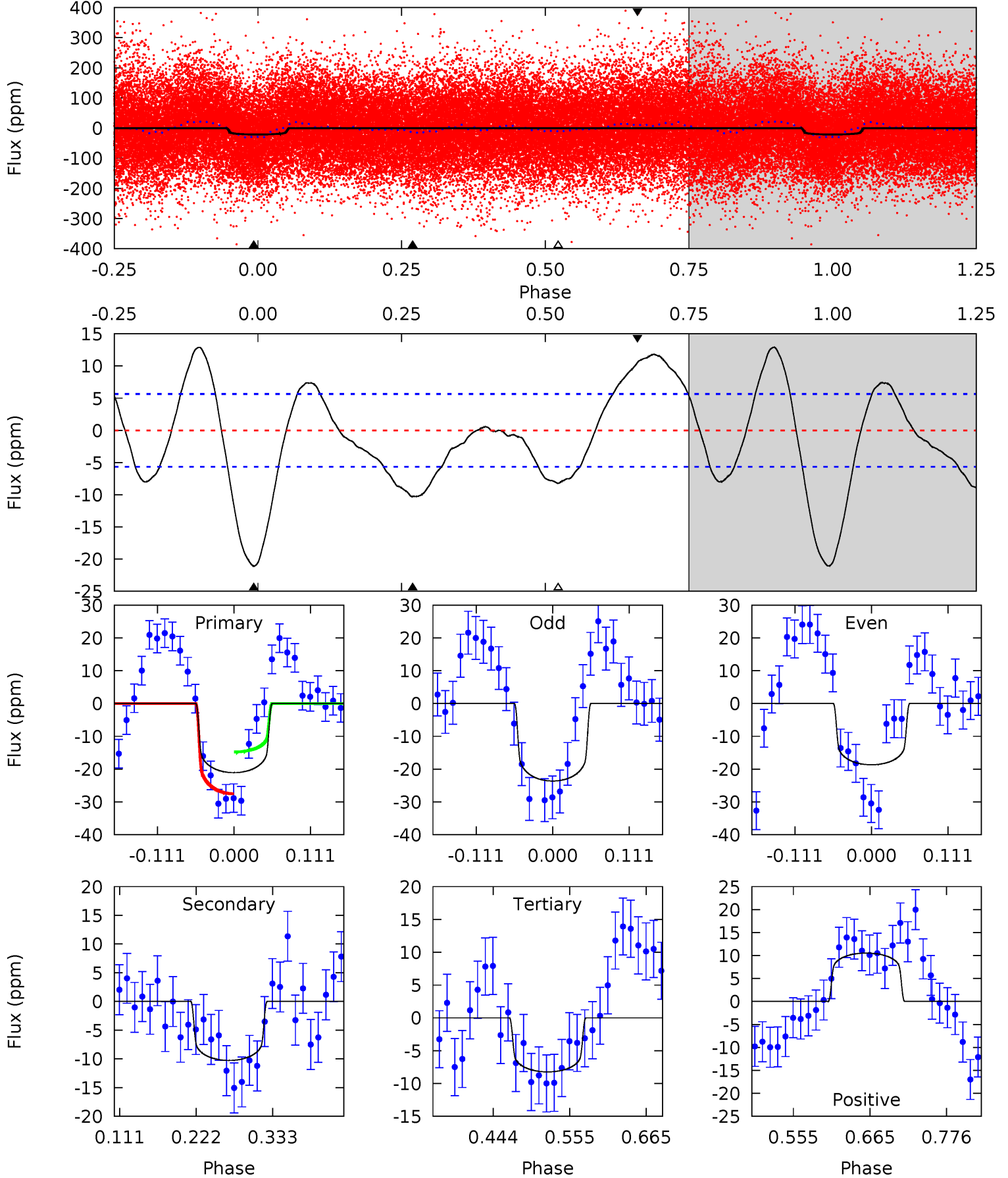
TCE 010490558-01 P= 4.042521 Days $T_0=133.752383$ (BKJD)



DV Model-Shift Uniqueness Test

010490558-01, P = 4.042711 Days, E = 129.728385 Days

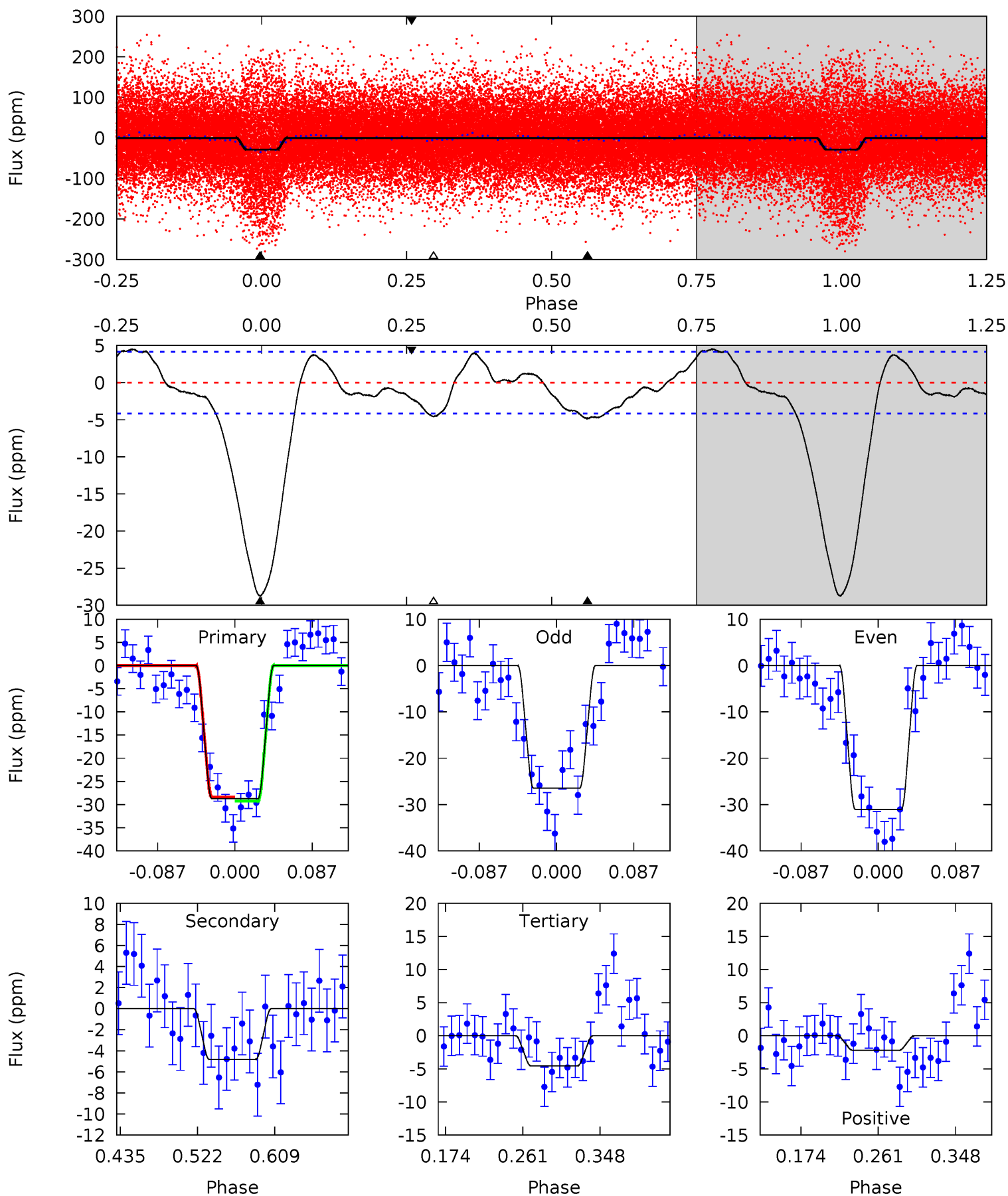
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.9	8.26	6.62	8.47	4.54	1.59	4.98	10.3	8.48	1.64	-0.21	1.99	1.27	0.38	5.15



Alt Model-Shift Uniqueness Test

010490558-01, P = 4.042521 Days, E = 129.709862 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.7	5.32	5.03	-2.42	4.59	1.71	2.53	26.6	34.1	0.29	7.74	2.52	0.91	0.14	0.47



Stellar Parameters For KIC 010490558

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6740^{+70}_{-91}	$4.126^{+0.120}_{-0.120}$	$0.000^{+0.150}_{-0.150}$	$1.696^{+0.289}_{-0.260}$	$1.405^{+0.109}_{-0.109}$	$0.406^{+0.232}_{-0.148}$
	+1%/-1%	+3%/-3%	+inf%/-inf%	+17%/-15%	+8%/-8%	+57%/-36%
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 010490558-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-10 ± 1	$0.97^{+0.15}_{-0.14}$	2294^{+104}_{-105}	5284^{+355}_{-280}	19^{+7}_{-5}
Alt.	-5 ± 1	$1.02^{+0.14}_{-0.15}$	2290^{+108}_{-99}	4407^{+259}_{-241}	$7.932^{+3.125}_{-2.415}$

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

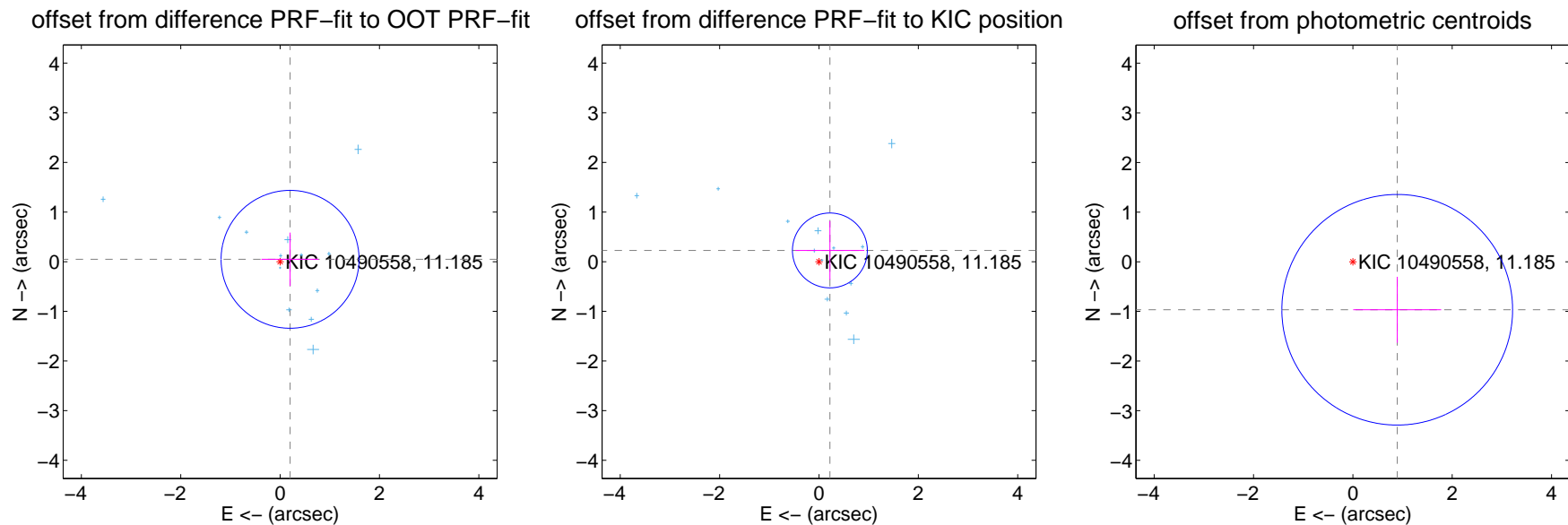
DV Centroid Data

Supplemental centroid analysis for 010490558-01. **Kepler magnitude: 11.19.** Transit SNR 7.38

There are 13 quarters with good PRF difference image offsets

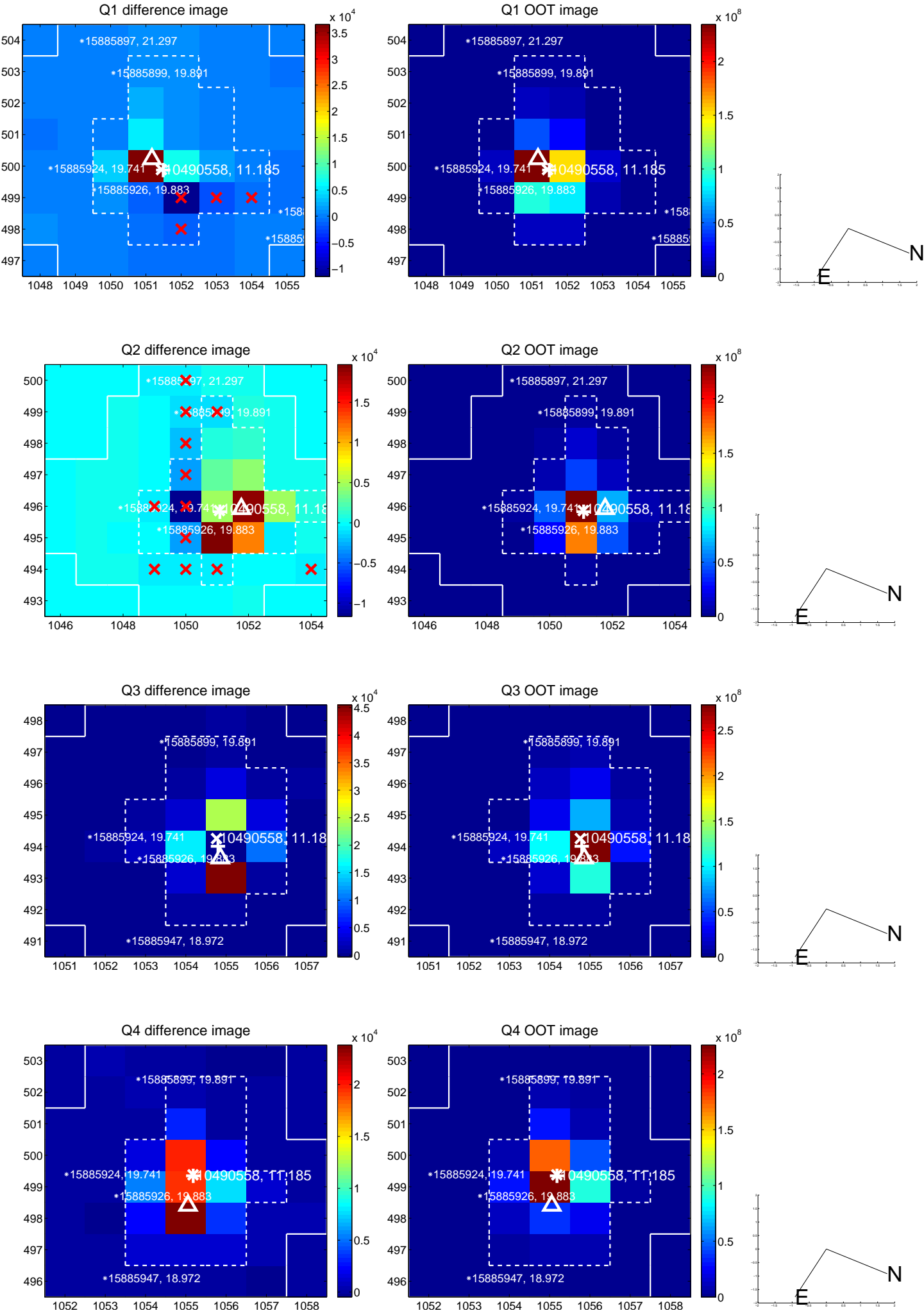
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.206 ± 0.463	0.45	-0.201 ± 0.577	0.048 ± 0.538
PRF-fit source offset from KIC position	0.316 ± 0.251	1.26	-0.220 ± 0.694	0.227 ± 0.590
photometric centroid source offset	1.32 ± 0.77	1.70	-0.89 ± 0.89	-0.97 ± 0.67

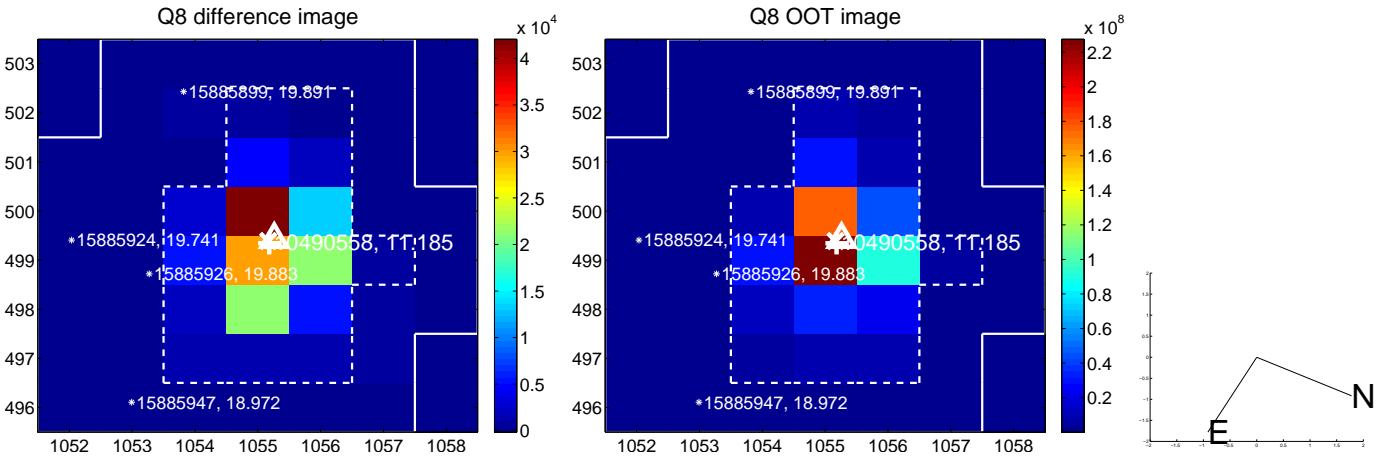
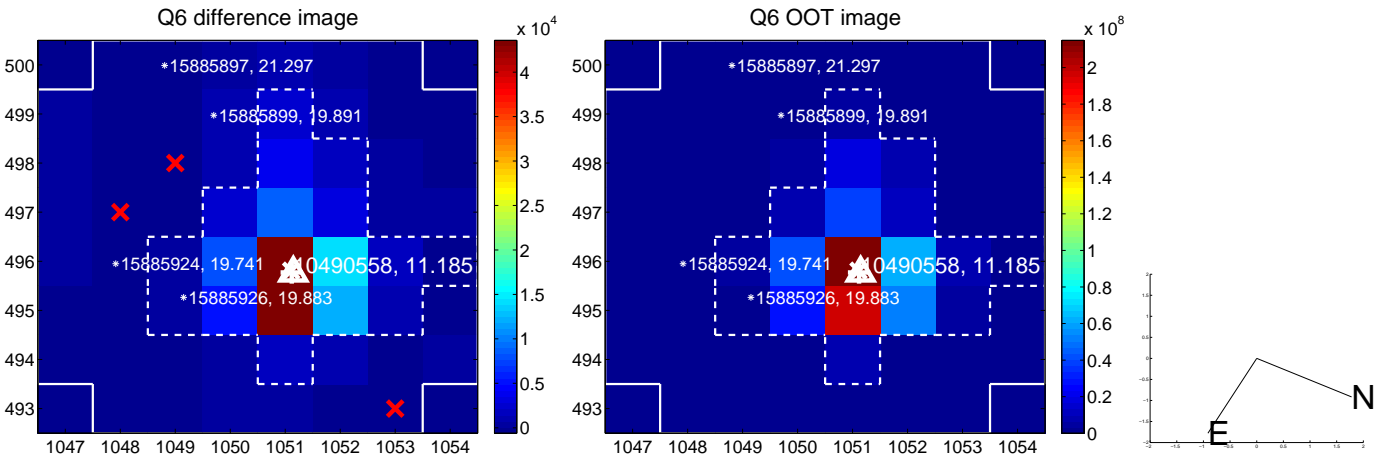
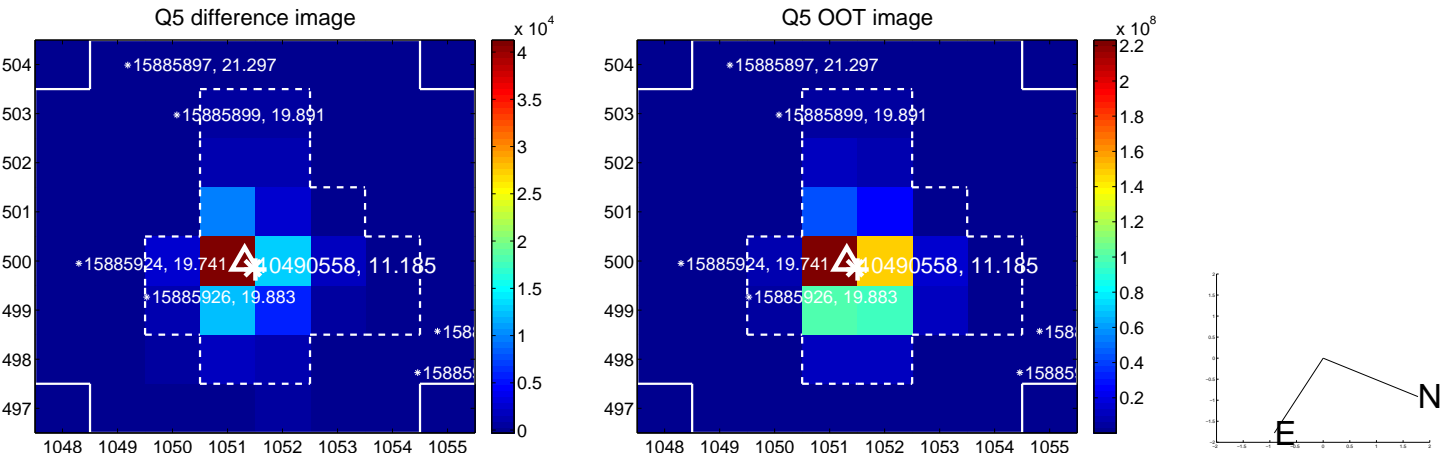


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

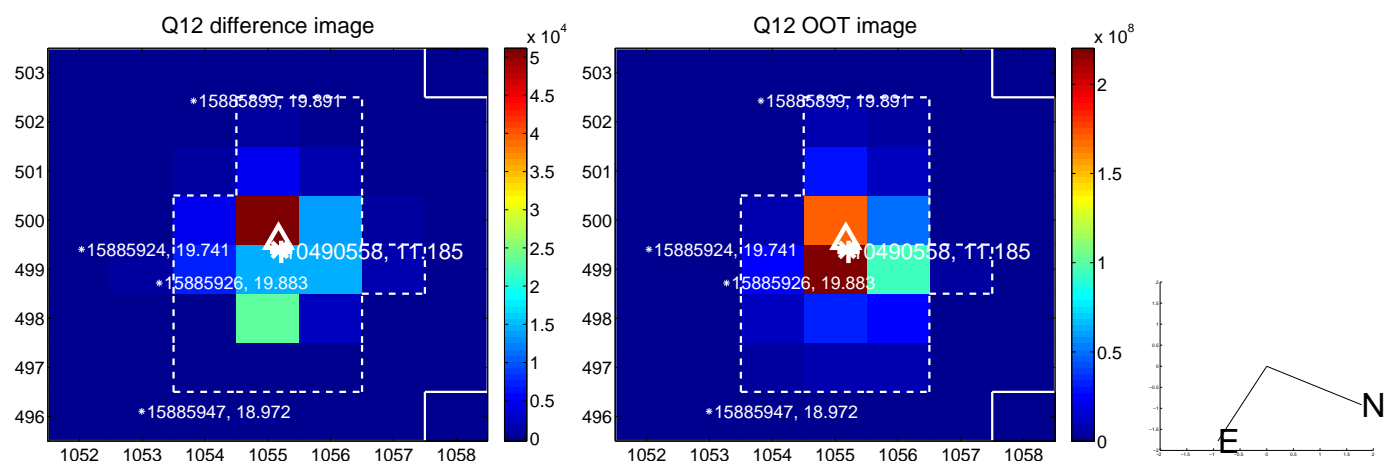
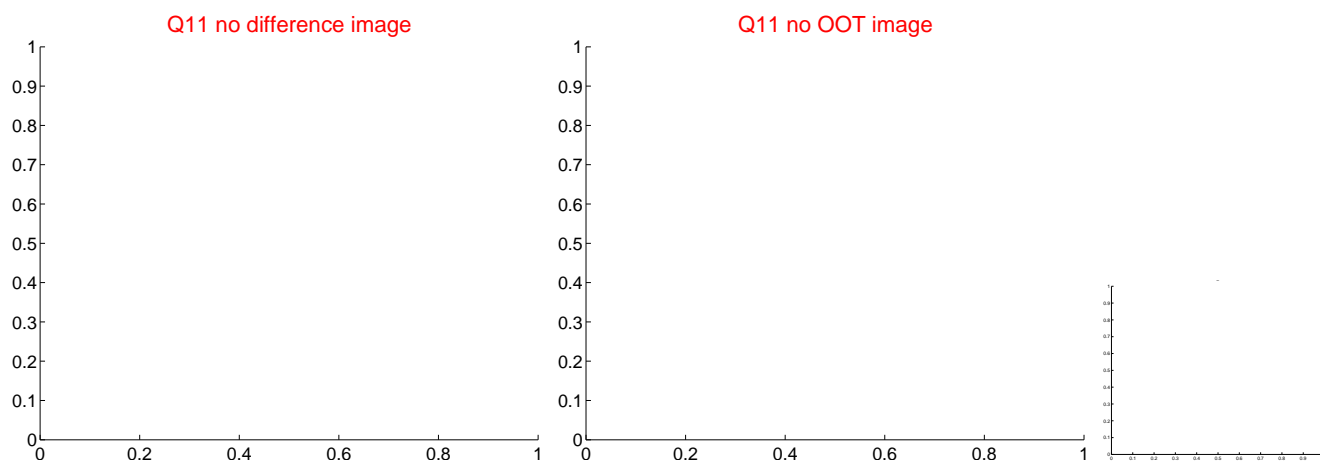
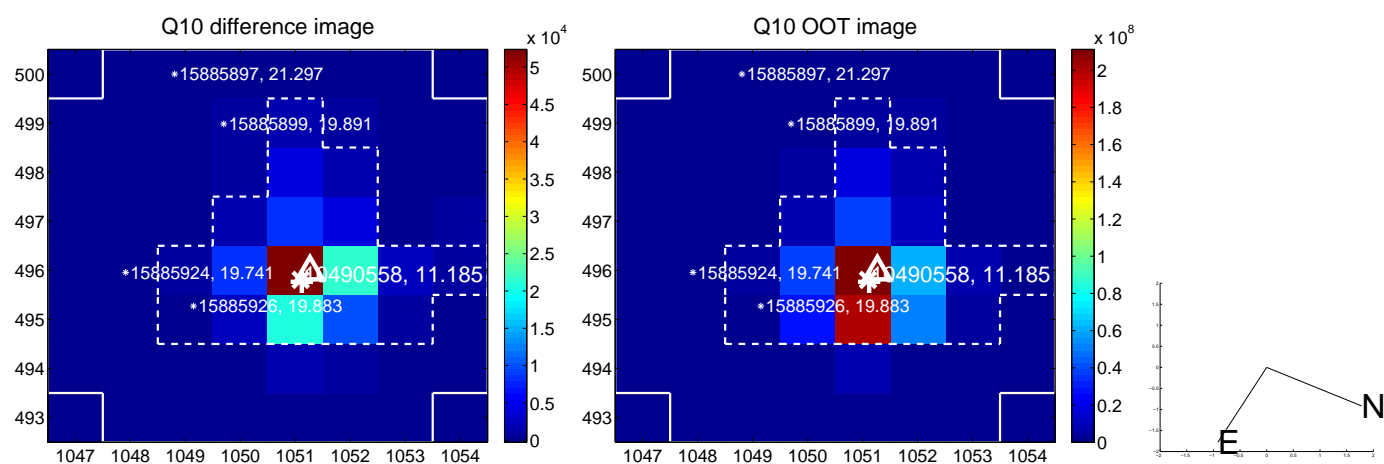
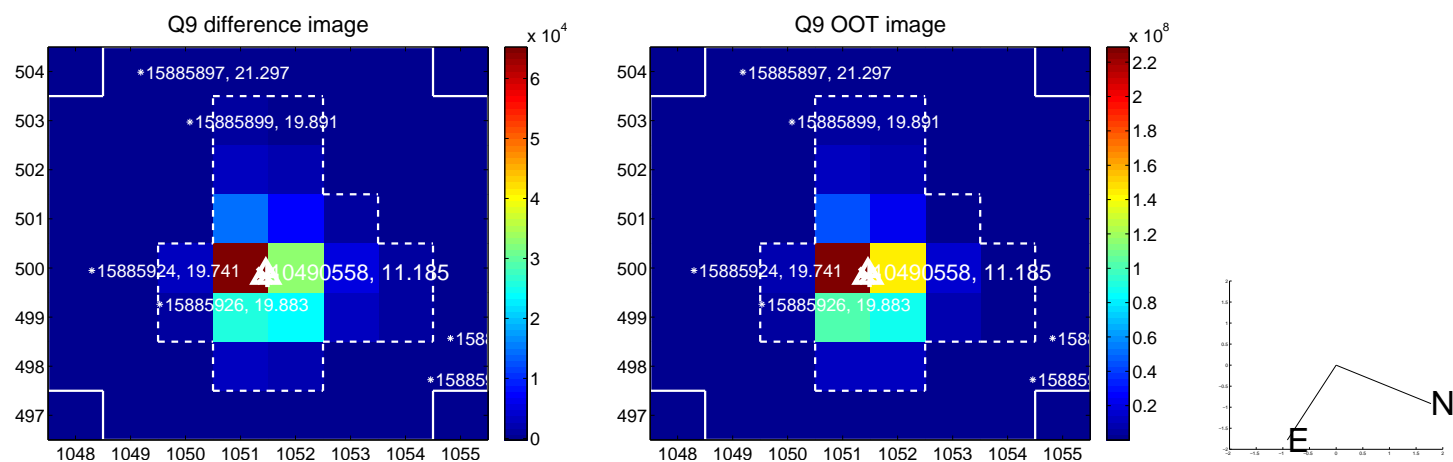
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



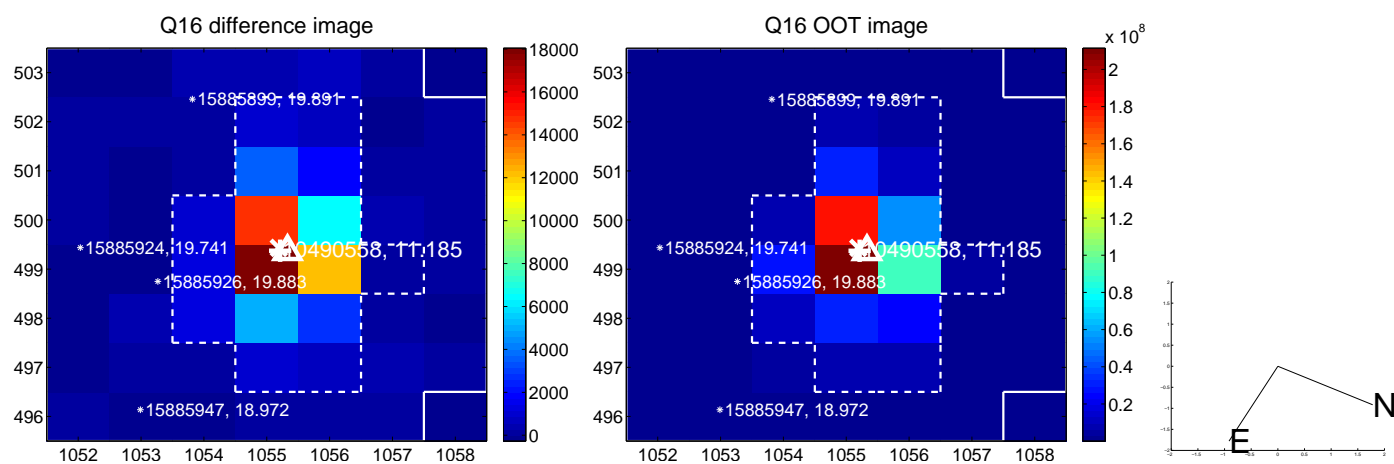
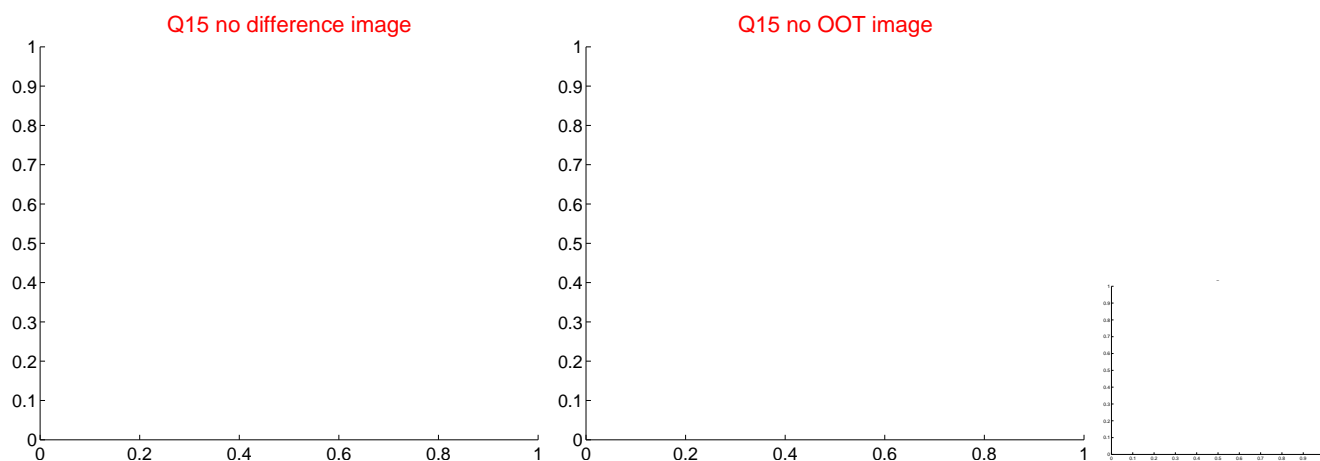
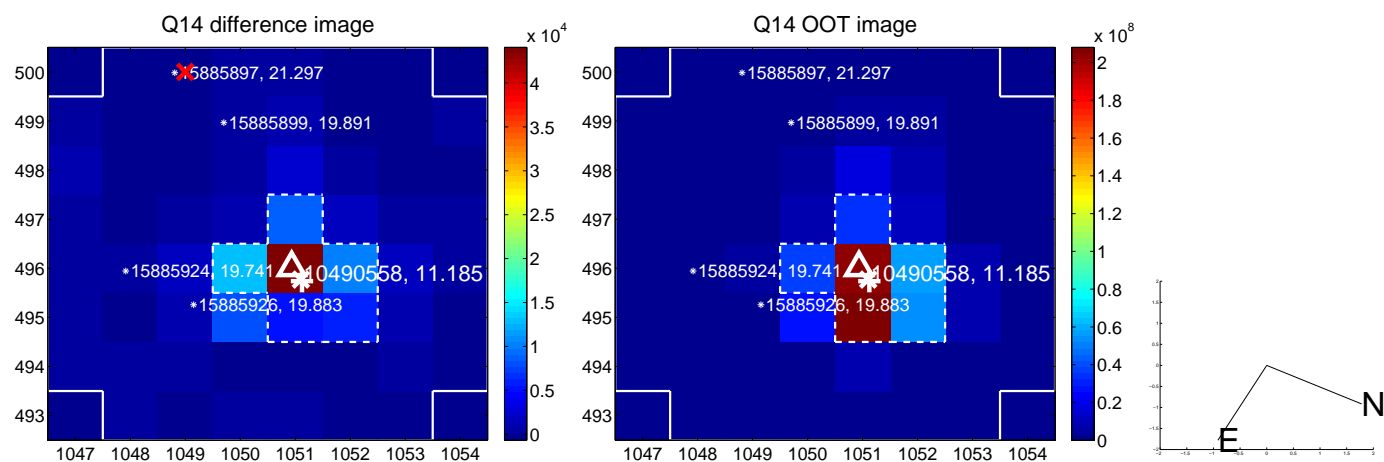
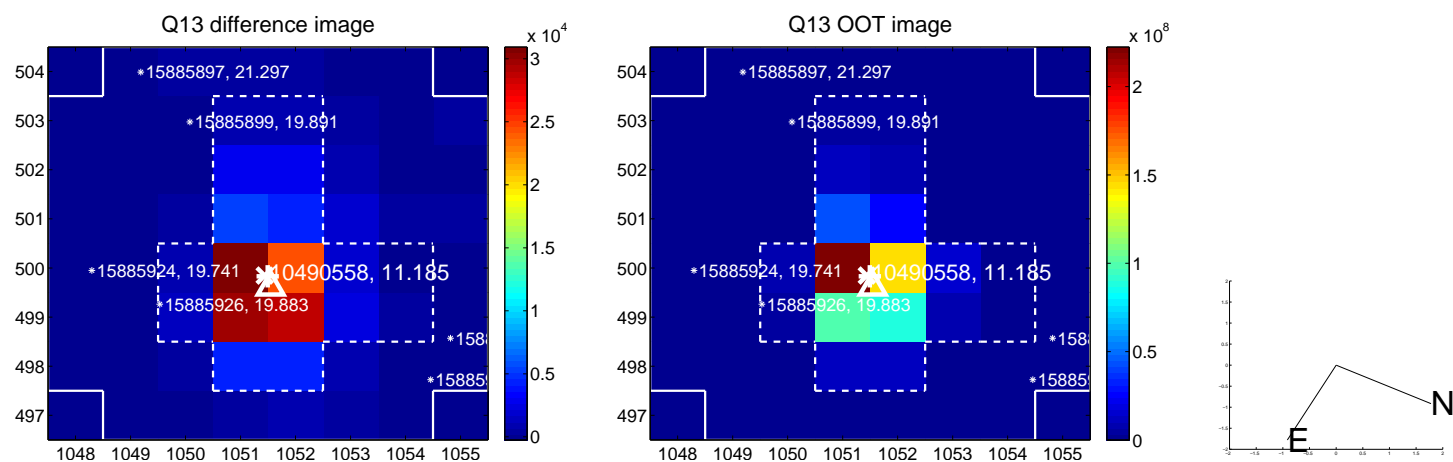
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



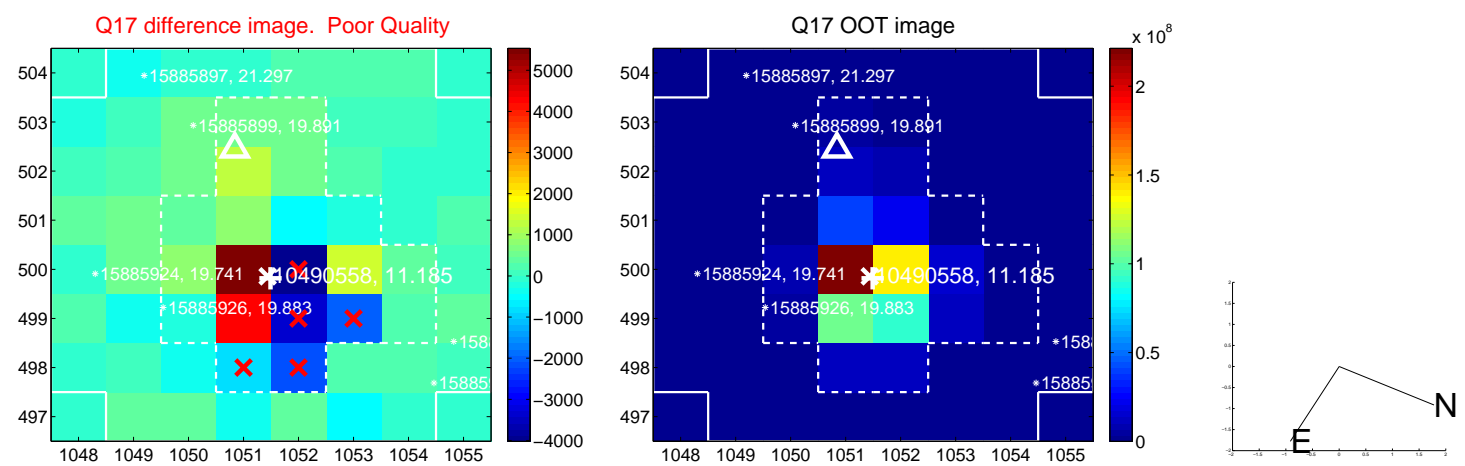
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



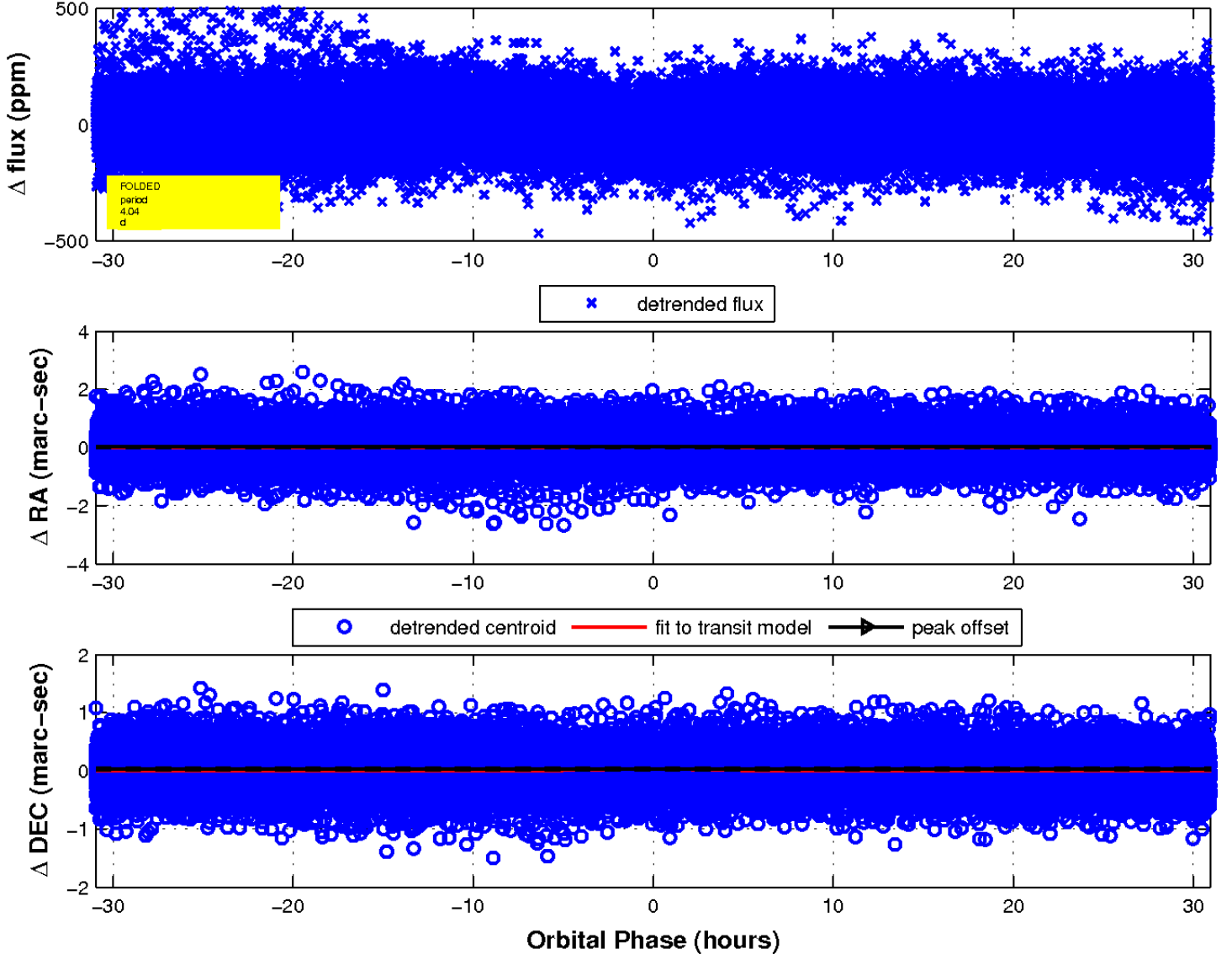
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

