

KIC 007455981

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})
007455981-01	OBS	3096.01	14.453807	135.471229	77.2	8.644	13.2	14.6	0.79	5559	0.95	49.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007455981-01	OBS	PC	0.94	0	0	0	0	NO_COMMENT

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

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

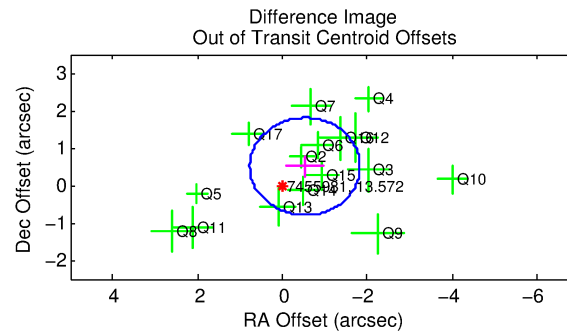
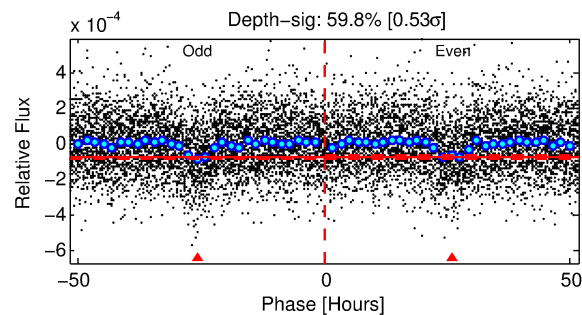
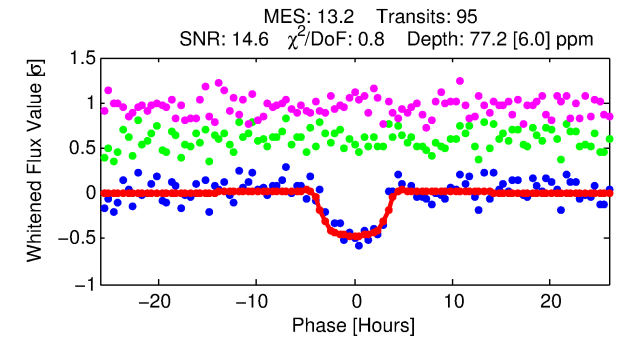
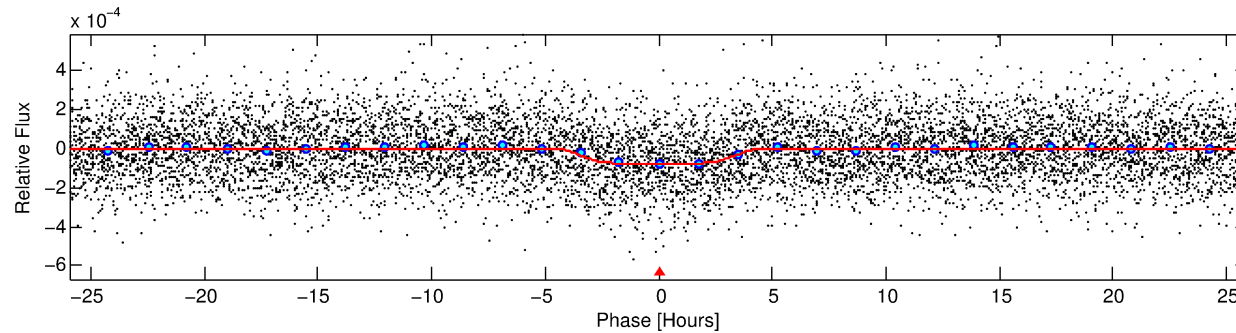
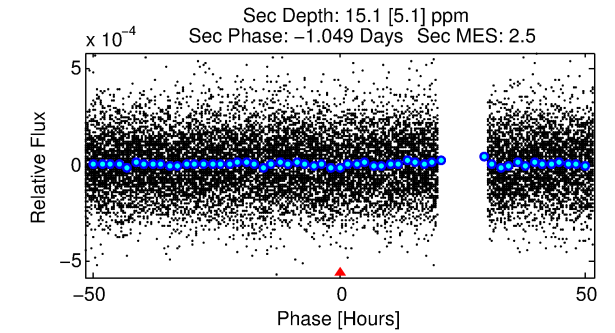
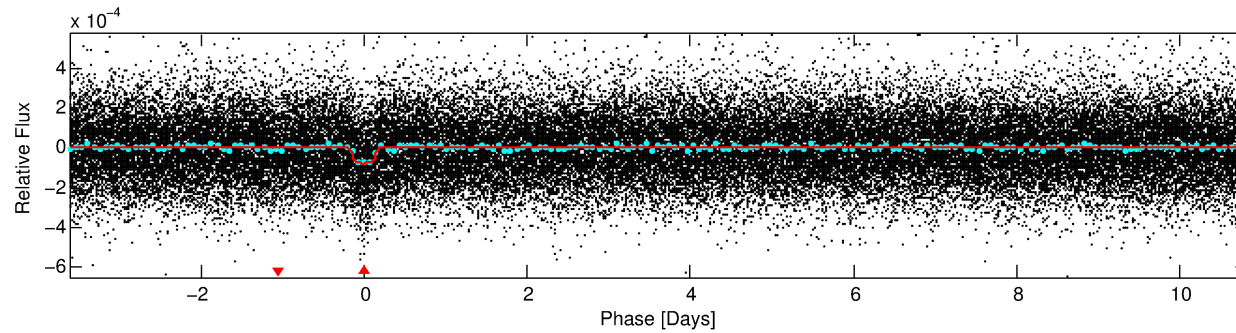
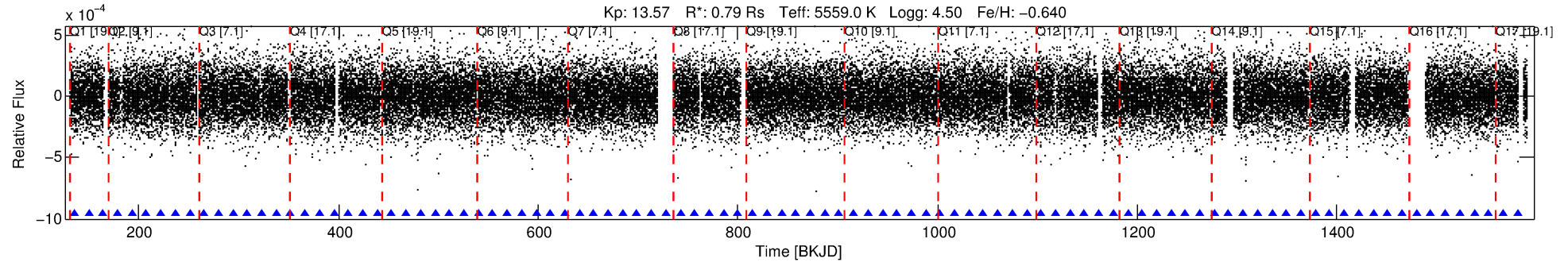
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007455981-01

No Significant Match Found

DV One-Page Summary

KIC: 7455981 Candidate: 1 of 1 Period: 14.454 d
KOI: K03096.01 Corr: 0.906



DV Fit Results:

Period = 14.45381 [0.00022] d
Epoch = 135.4712 [0.0128] BKJD
Rp/R* = 0.0110 [0.0006]
a/R* = 3.34 [0.62]
b = 0.98 [0.01]
Seff = 49.58 [12.27]
Teff = 677 [42] K
Rp = 0.95 [0.17] Re
a = 0.1038 [0.0153] AU
Ag = 99.60 [41.80] [2.36σ]
Teffp = 3305 [313] K [8.33σ]

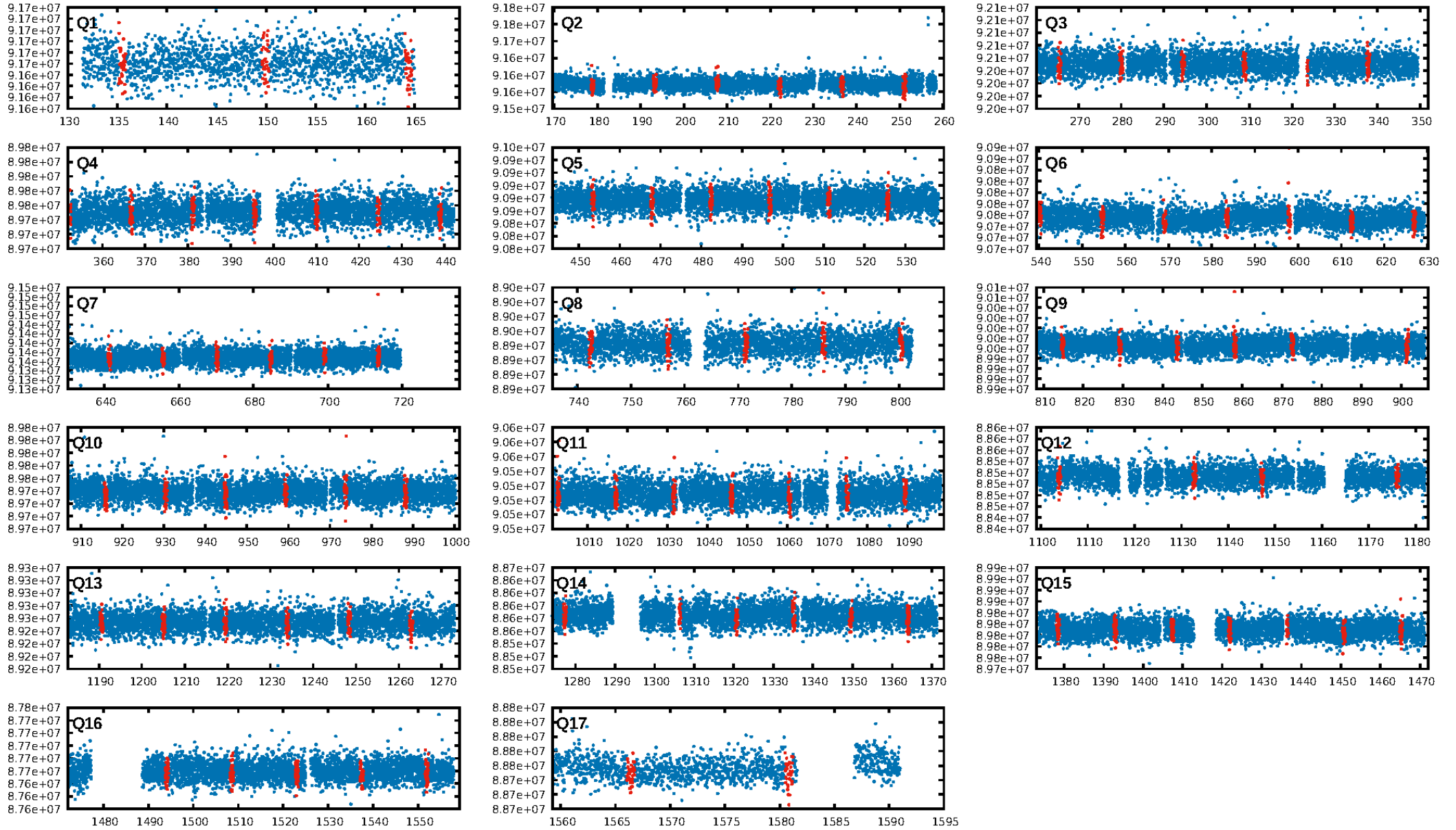
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.42e-39
RollingBand-fgt: 1.00 [90/90]
GhostDiagnostic-chr: 7.077
Centroid-sig: 15.0%
Centroid-so: 0.909 arcsec [1.25σ]
OotOffset-rm: 0.733 arcsec [1.69σ]
KicOffset-rm: 0.947 arcsec [2.38σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 1.00 [17/17]

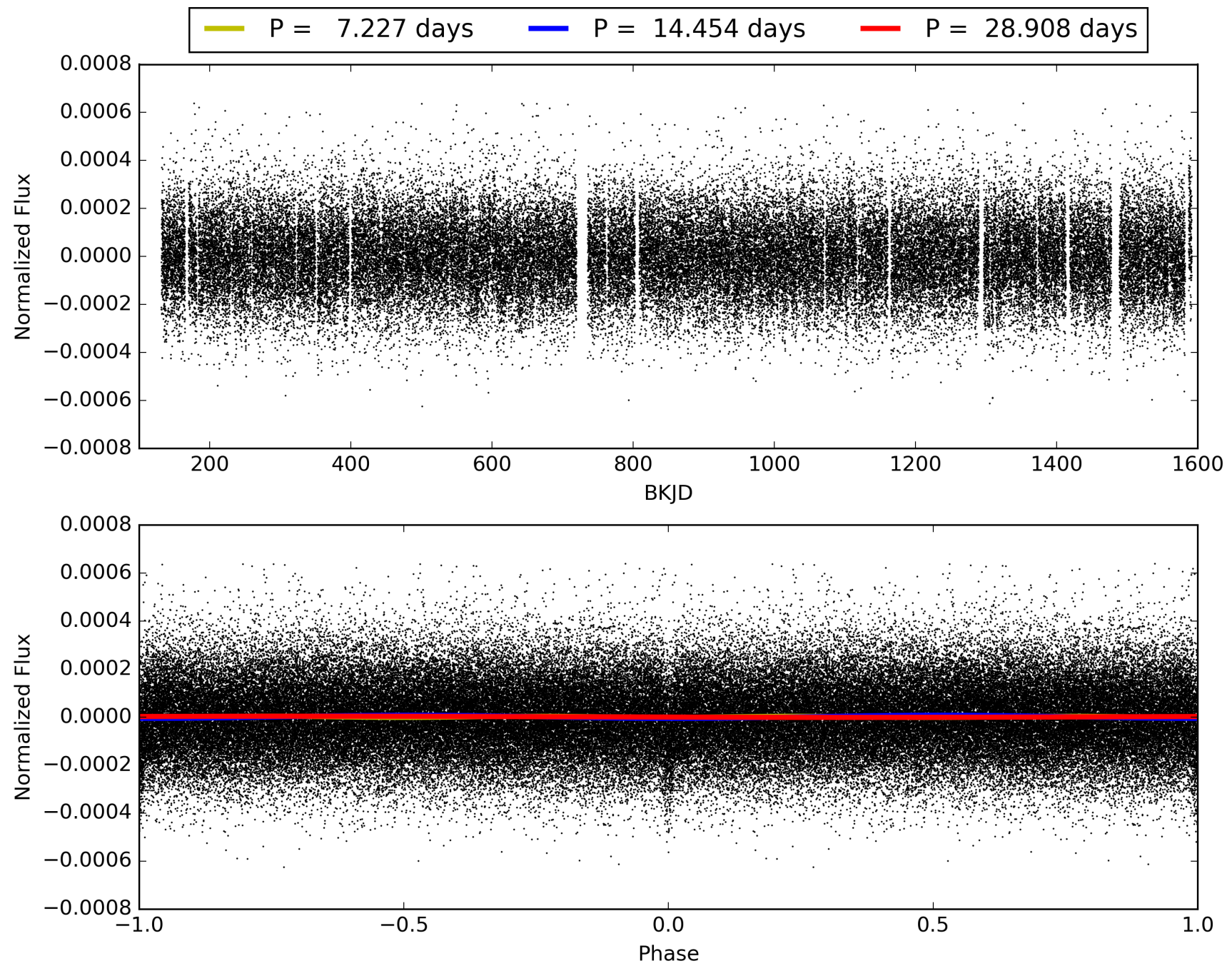
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:45:16 Z

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

TCE 007455981-01, PDC Light Curves

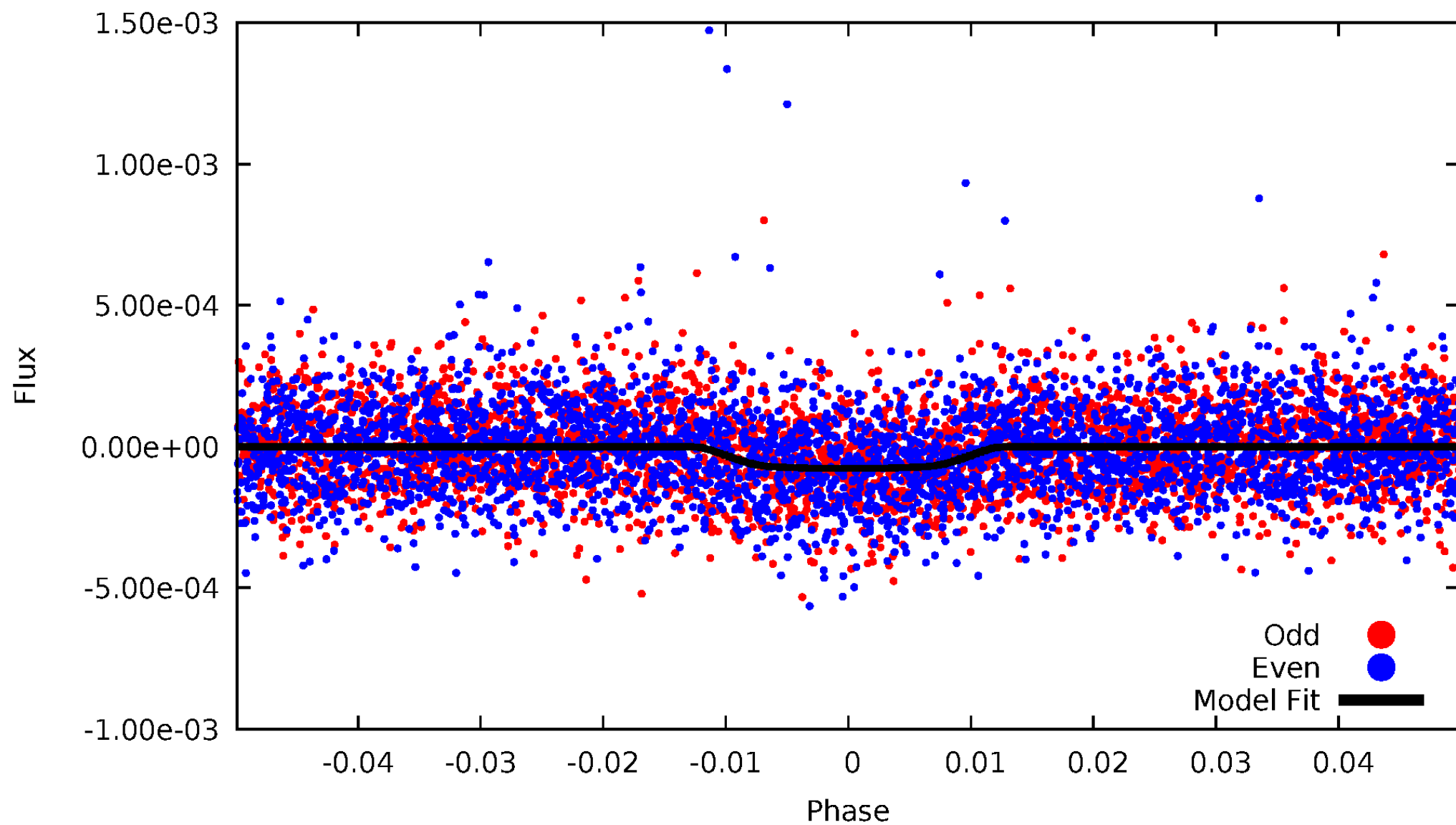


TCE 007455981-01



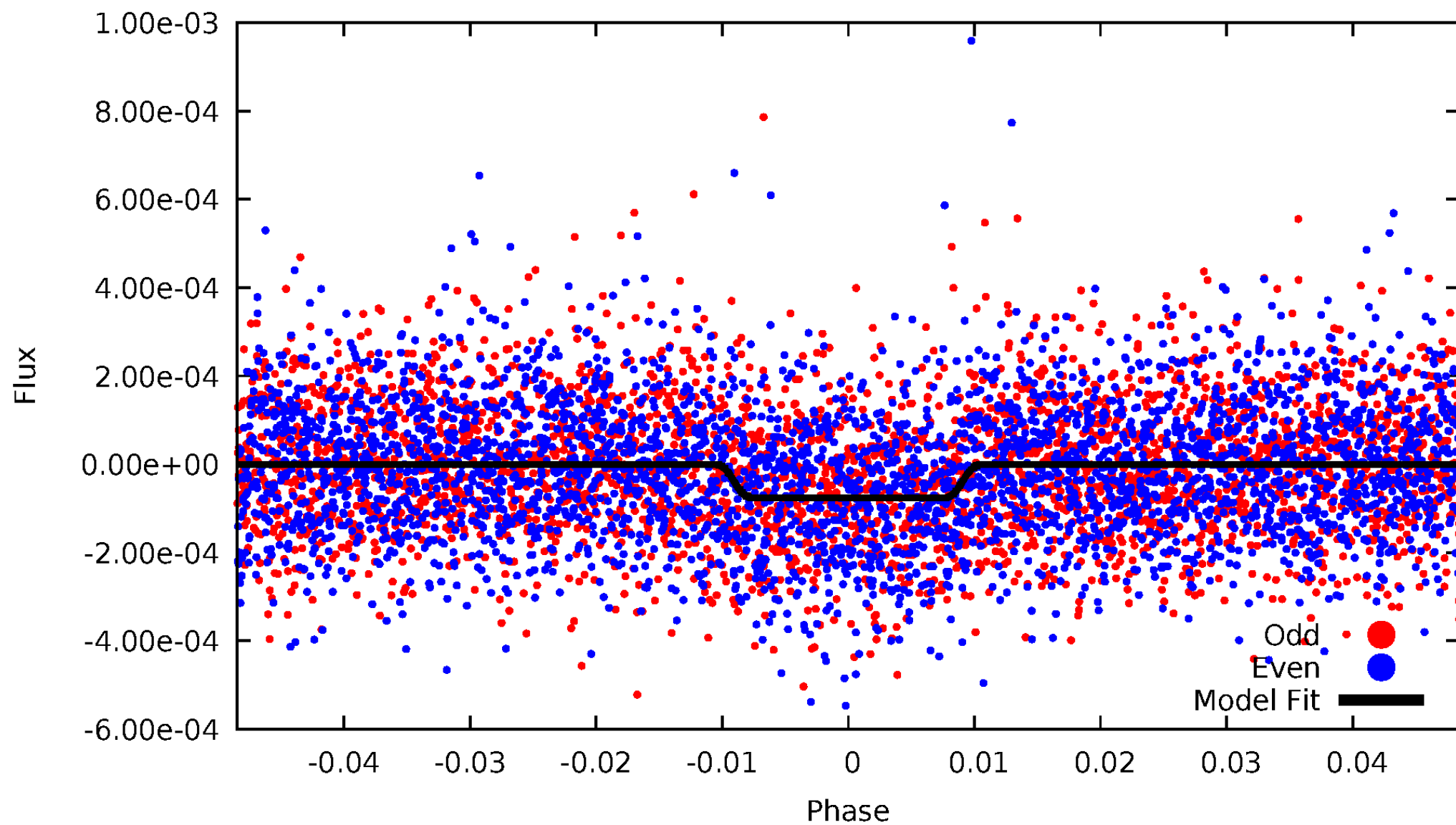
DV Odd/Even

TCE 007455981-01



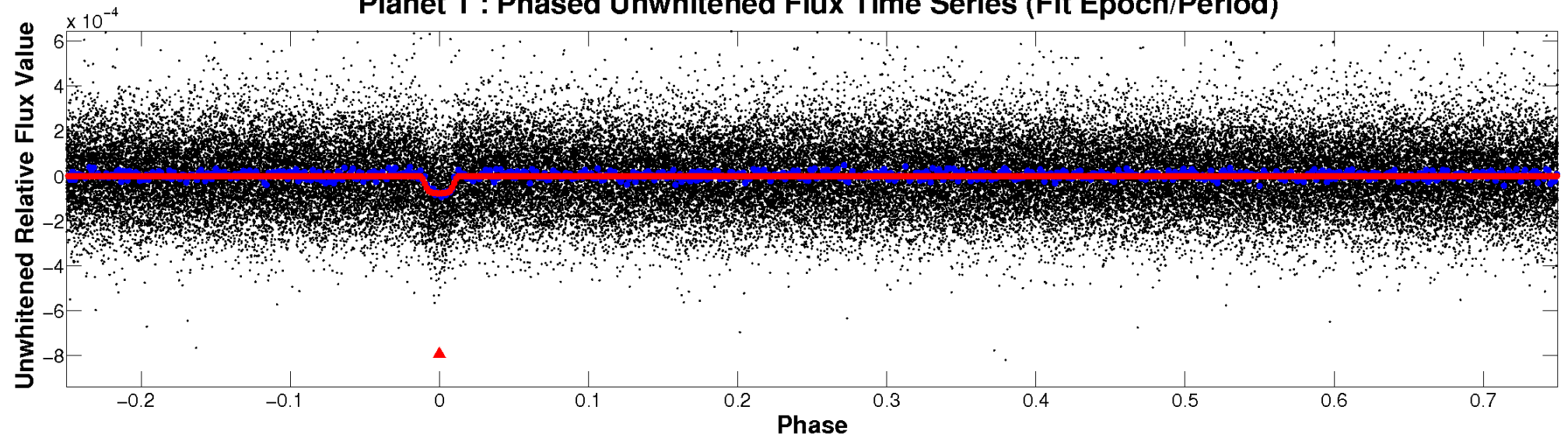
ALT Odd/Even

TCE 007455981-01

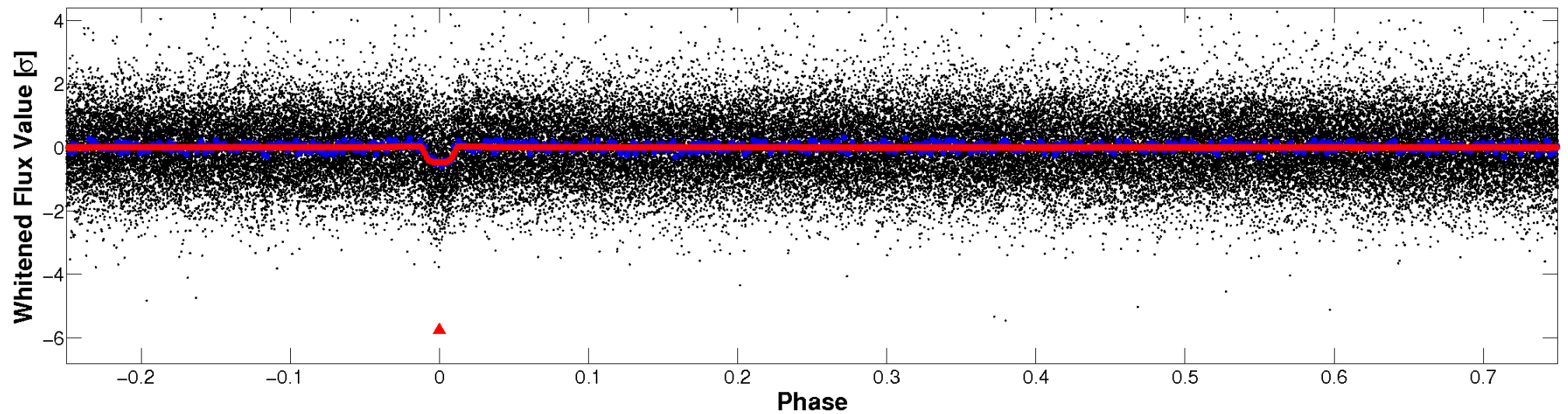


Non-Whitened Vs. Whitened Light Curve

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

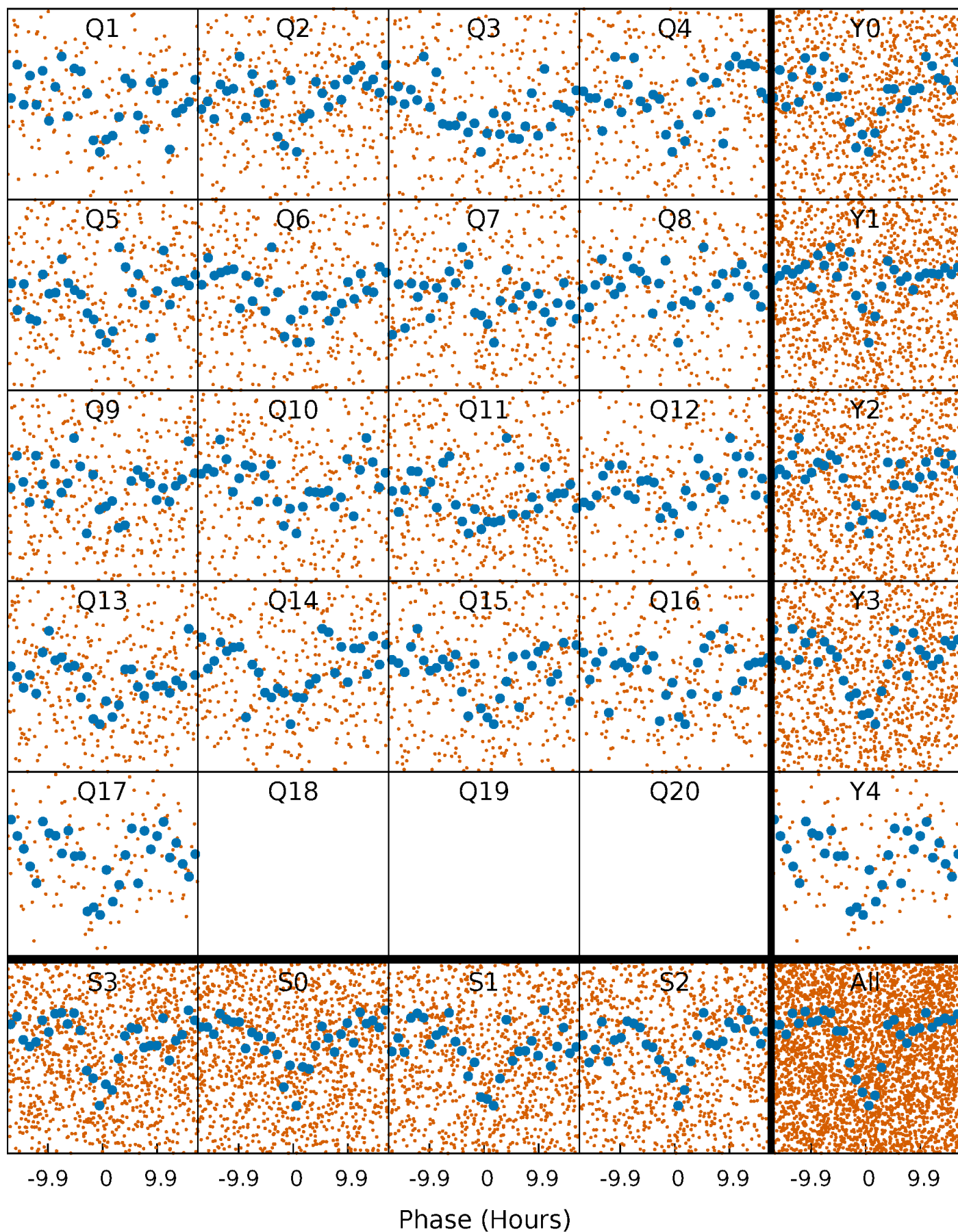


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



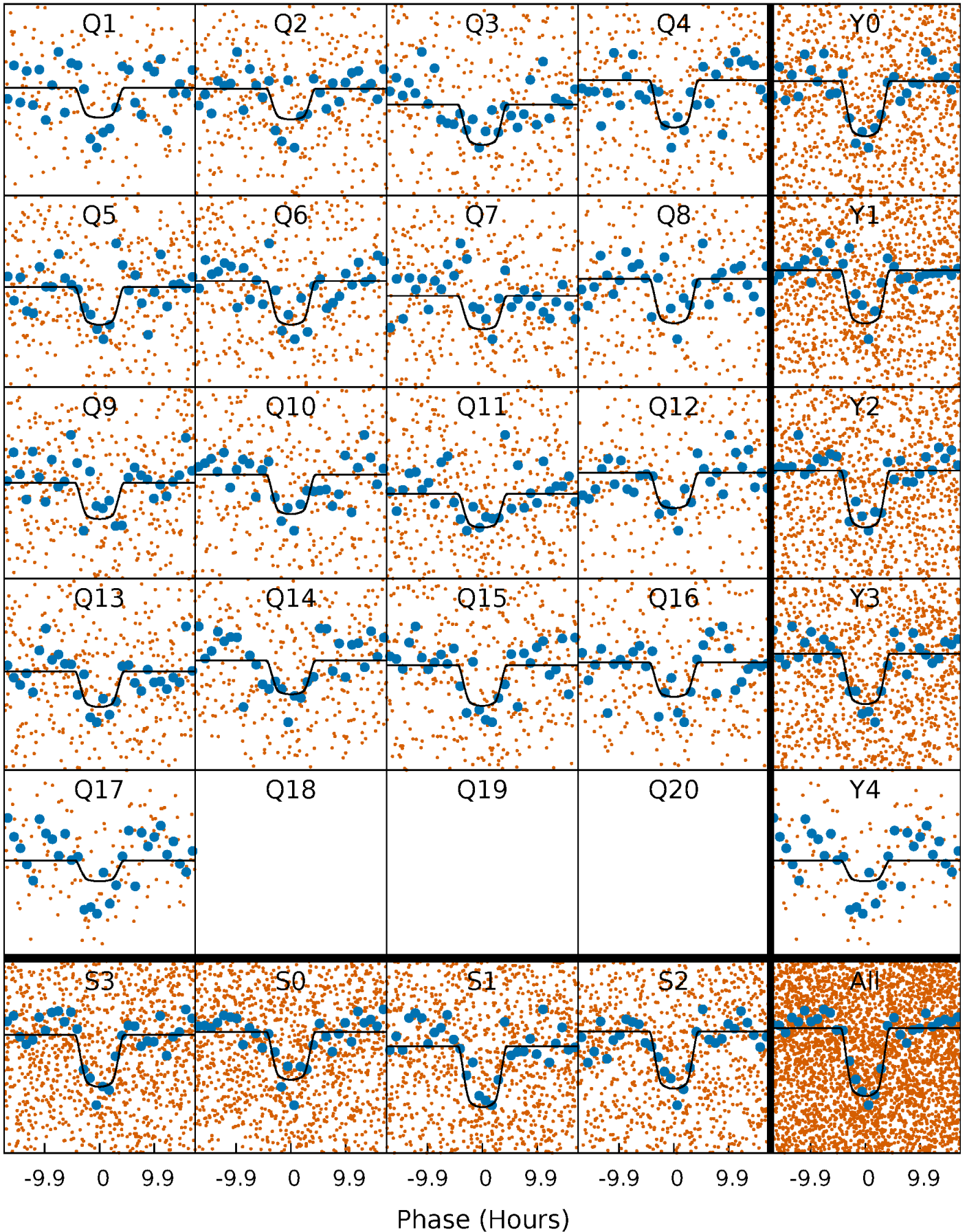
PDC Quarter-Phased Transit Curves

TCE 007455981-01 P= 14.453807 Days $T_0=135.471229$ (BKJD)



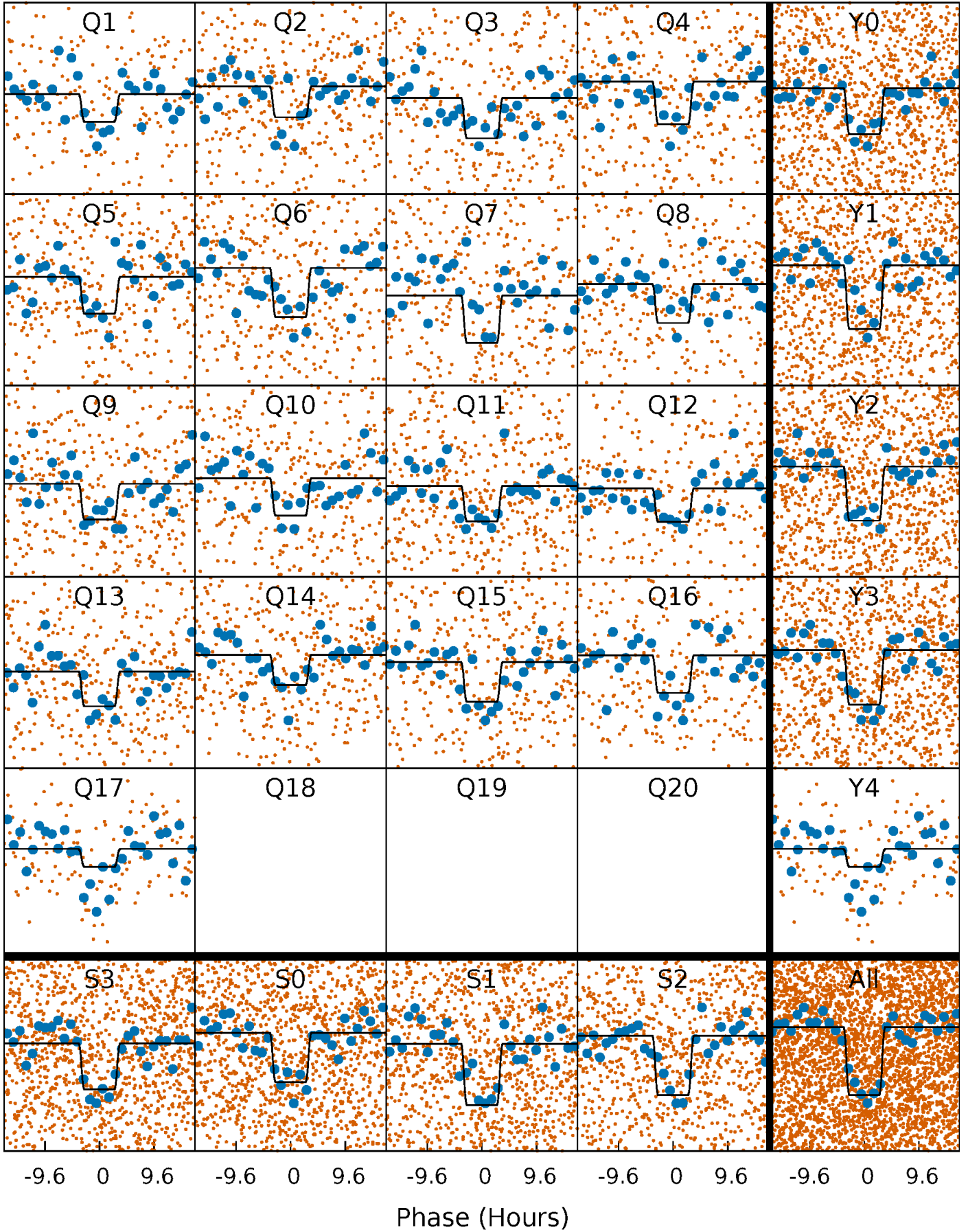
DV Quarter-Phased Transit Curves

TCE 007455981-01 P= 14.453807 Days $T_0=135.471229$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

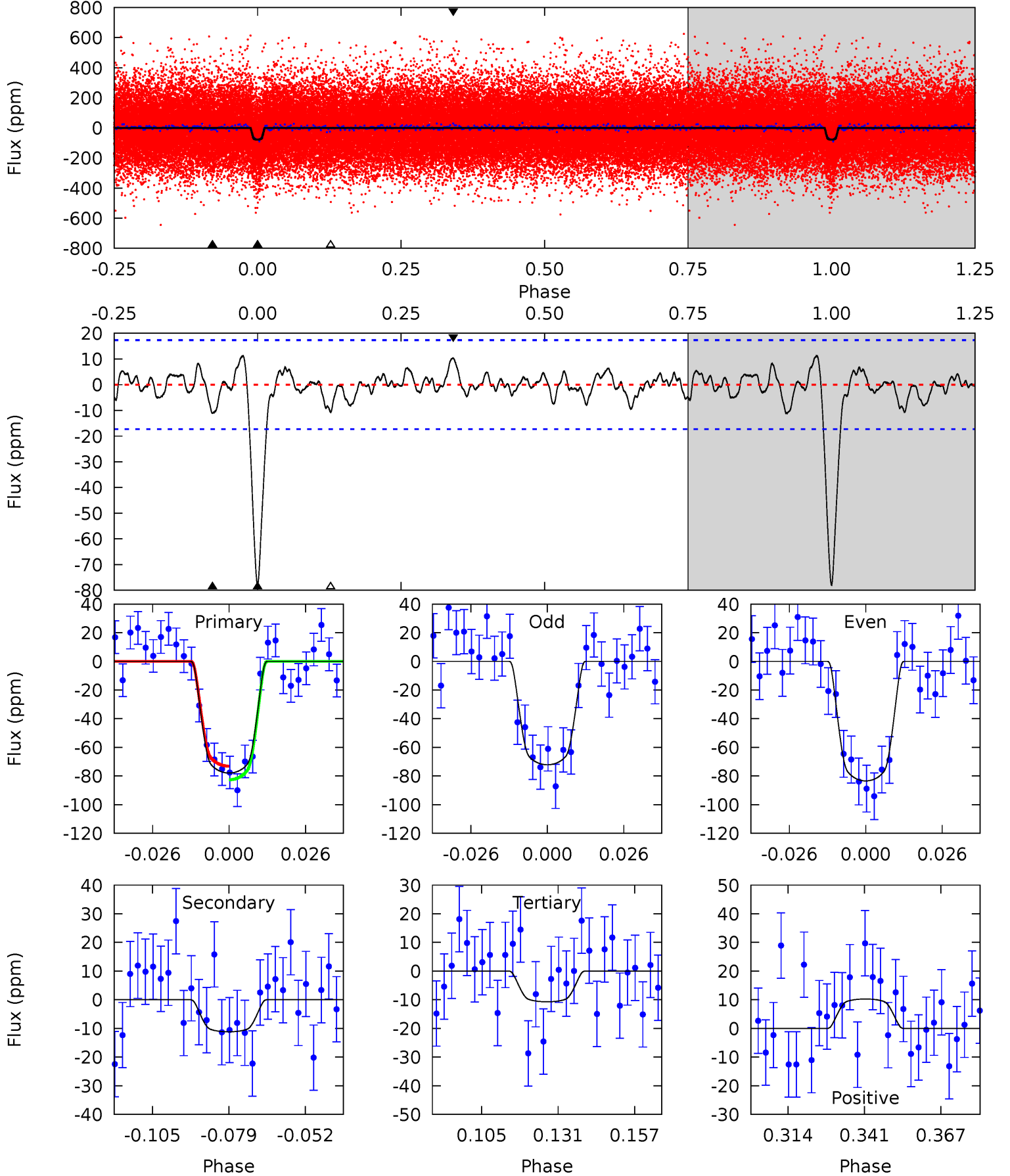
TCE 007455981-01 P= 14.453783 Days $T_0=135.469973$ (BKJD)



DV Model-Shift Uniqueness Test

007455981-01, P = 14.453807 Days, E = 121.017422 Days

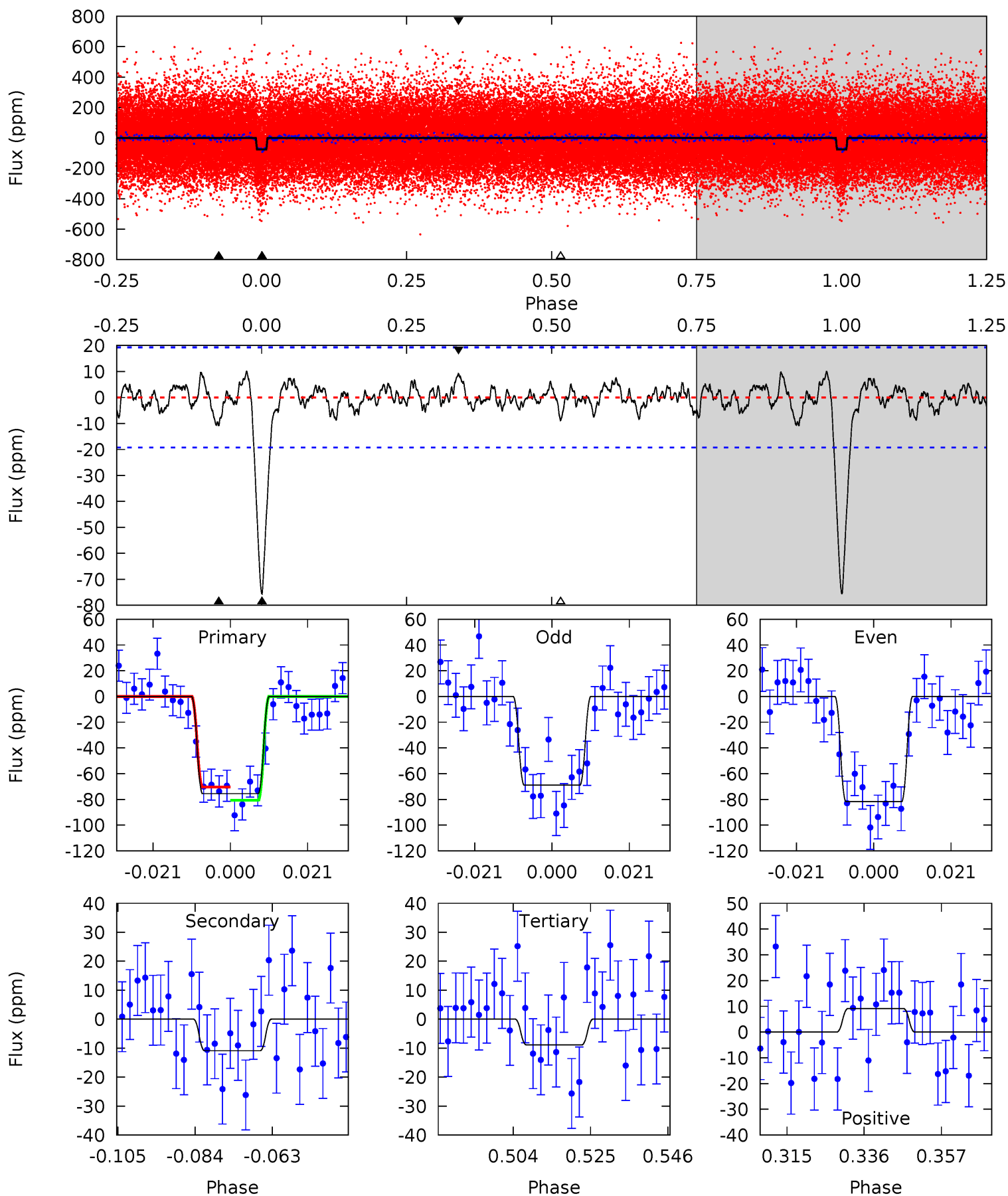
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.8	3.13	3.00	2.87	4.84	2.22	1.03	18.8	18.9	0.13	0.26	1.58	0.99	0.12	1.33



Alt Model-Shift Uniqueness Test

007455981-01, P = 14.453783 Days, E = 121.016190 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	2.76	2.24	2.31	4.88	2.31	0.90	16.9	16.8	0.52	0.45	1.62	1.04	0.12	1.29



Stellar Parameters For KIC 007455981

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5559^{+165}_{-148}	$4.496^{+0.120}_{-0.120}$	$-0.640^{+0.350}_{-0.300}$	$0.790^{+0.136}_{-0.099}$	$0.714^{+0.102}_{-0.036}$	$2.038^{+1.055}_{-0.697}$
	+3%/-3%	+3%/-3%	+55%/-47%	+17%/-13%	+14%/-5%	+52%/-34%
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 007455981-01 / KOI 3096.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-11 ± 4	$0.95^{+0.12}_{-0.09}$	945^{+52}_{-43}	3525^{+197}_{-214}	73^{+31}_{-25}
Alt.	-11 ± 4	$0.76^{+0.10}_{-0.09}$	945^{+52}_{-47}	3784^{+252}_{-303}	113^{+50}_{-44}

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

DV Centroid Data

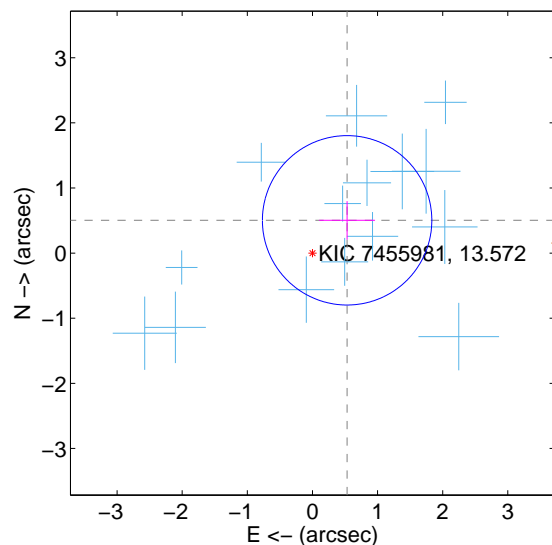
Supplemental centroid analysis for 007455981-01. Kepler magnitude: 13.57. Transit SNR 14.55

There are 15 quarters with good PRF difference image offsets

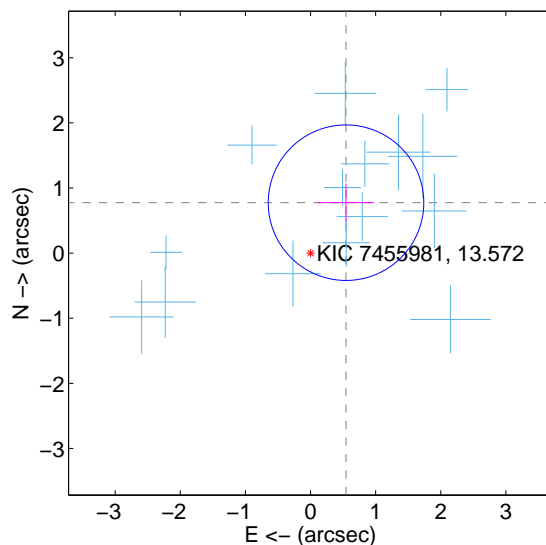
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.733 ± 0.434	1.69	-0.532 ± 0.429	0.503 ± 0.294
PRF-fit source offset from KIC position	0.947 ± 0.398	2.38	-0.545 ± 0.430	0.774 ± 0.294
photometric centroid source offset	0.91 ± 0.73	1.25	-0.89 ± 0.72	-0.20 ± 0.84

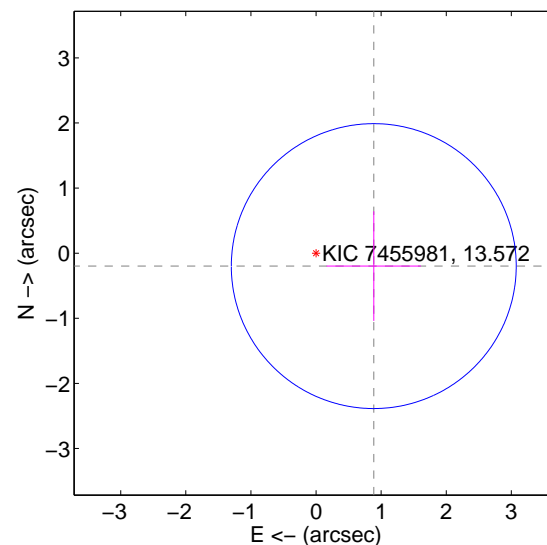
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

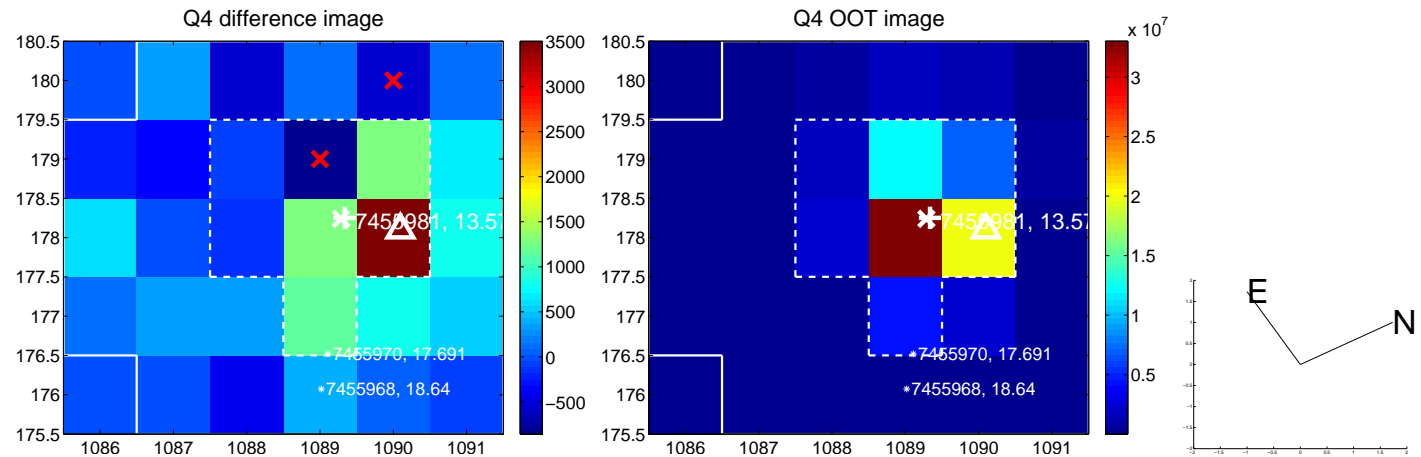
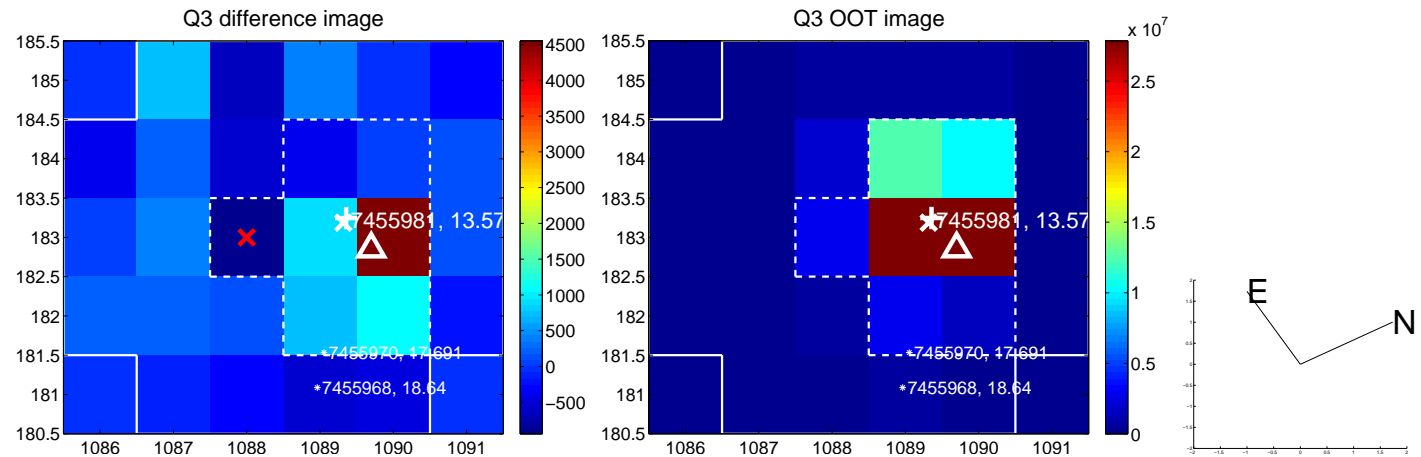
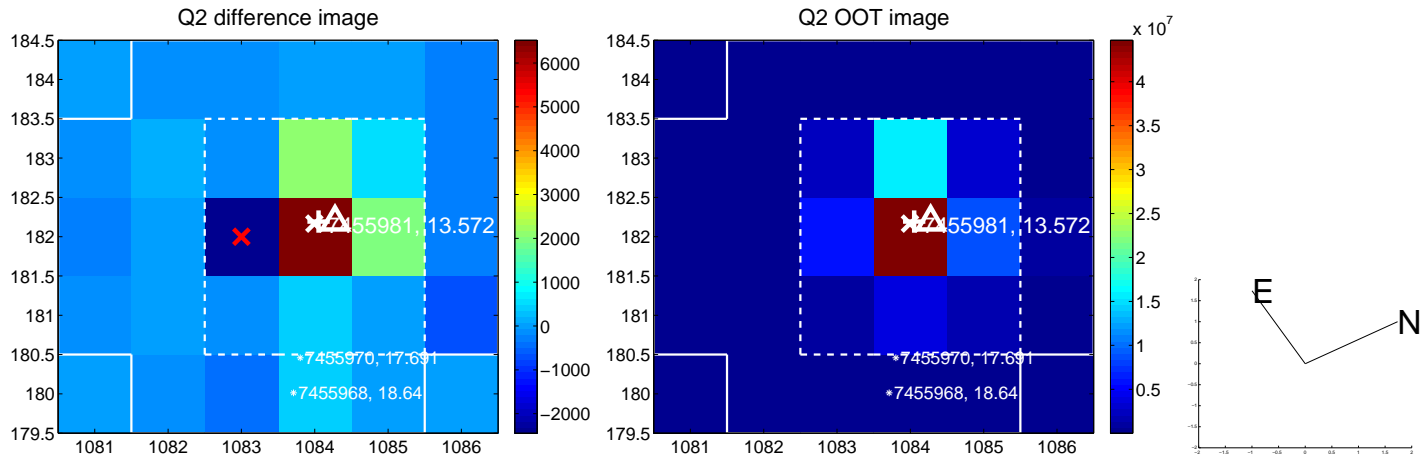
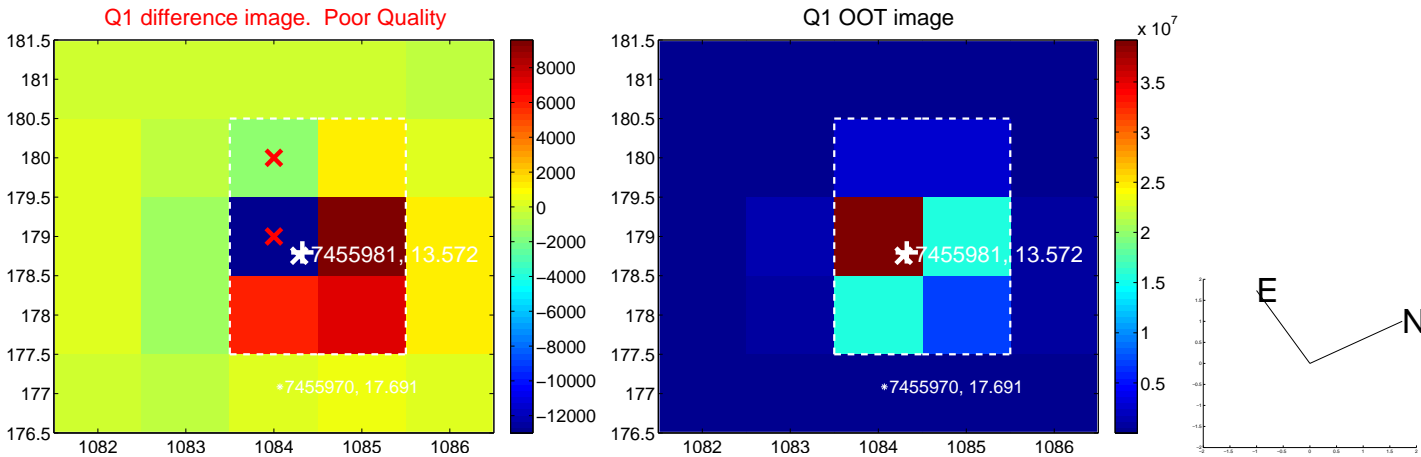


offset from photometric centroids

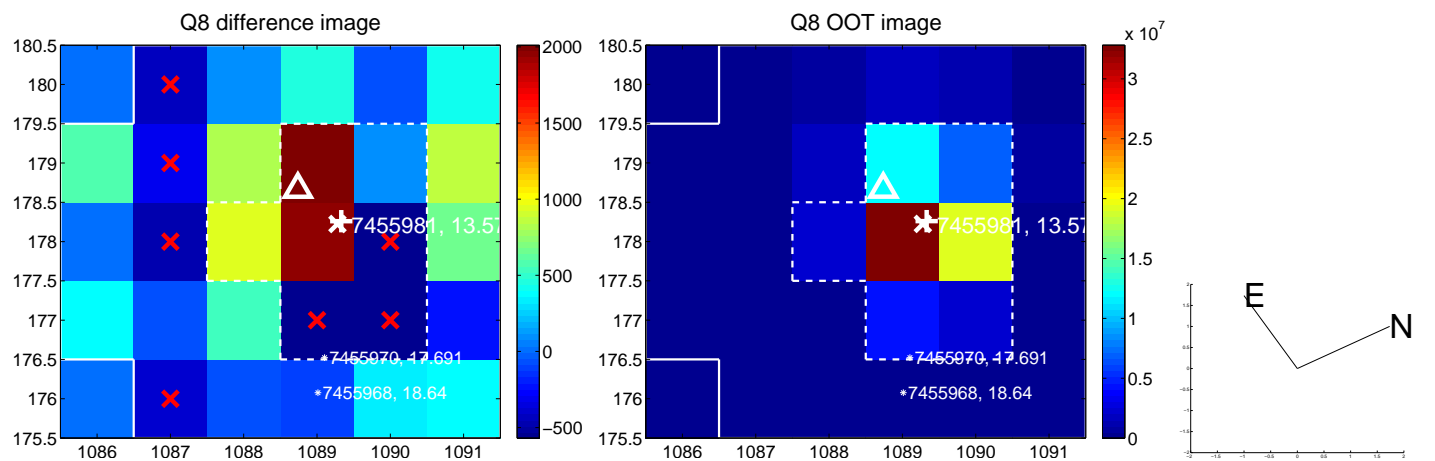
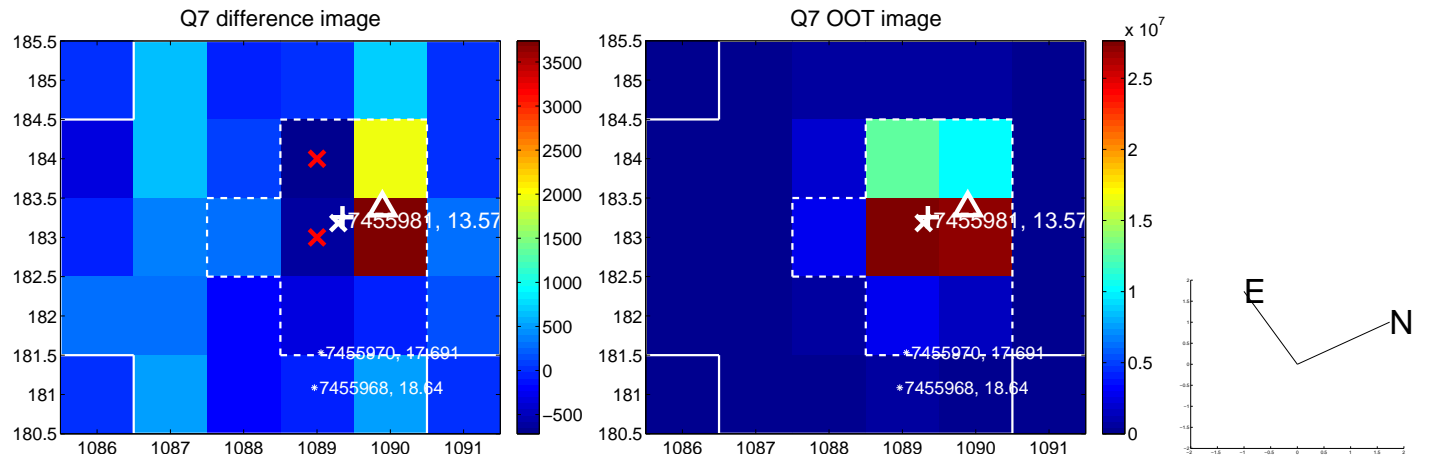
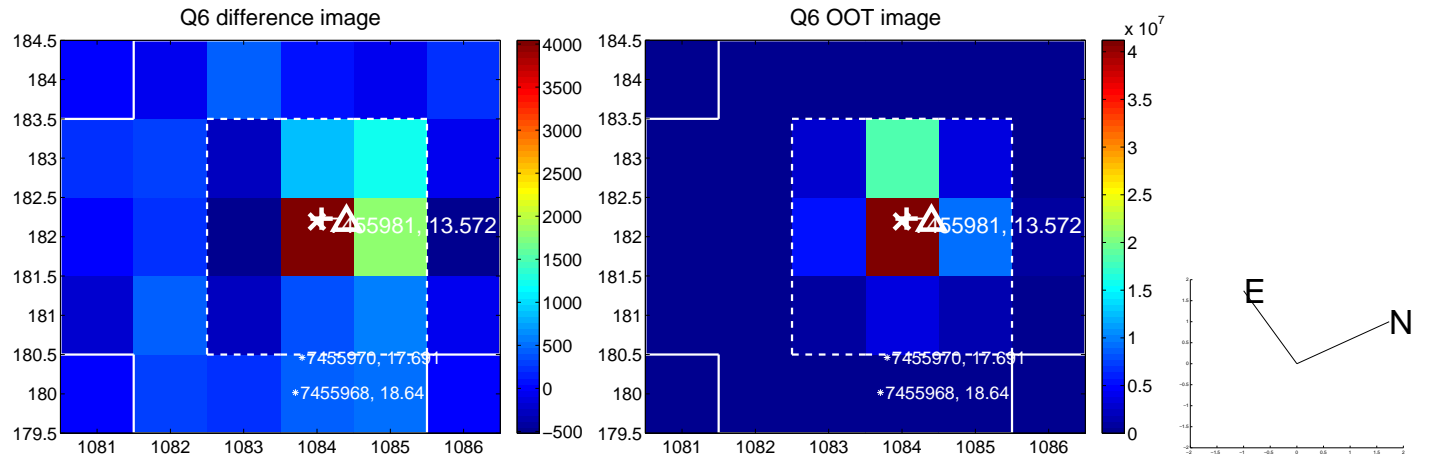
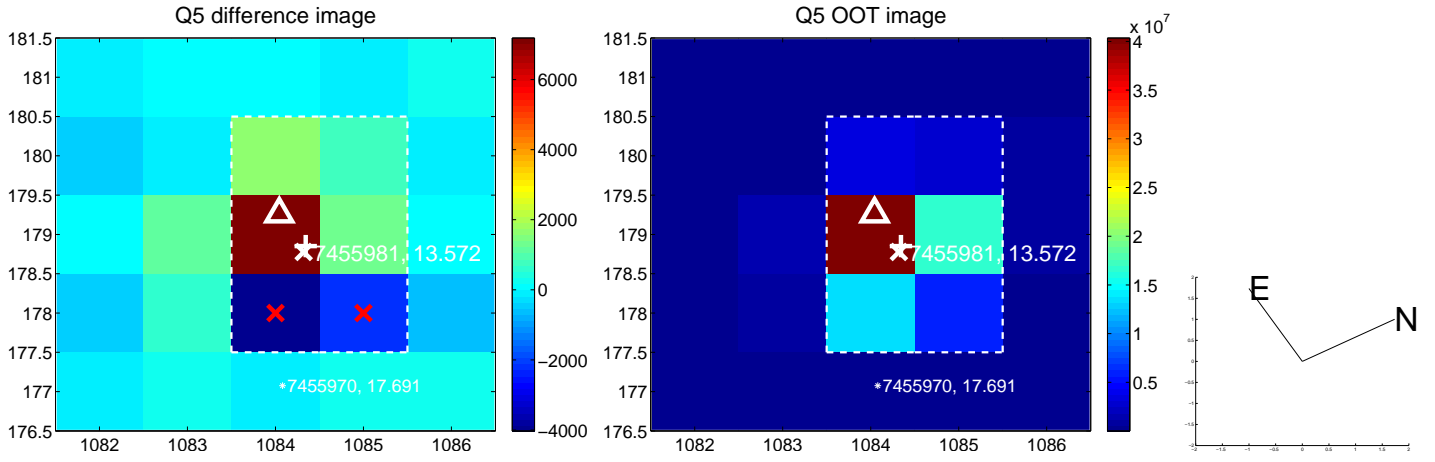


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

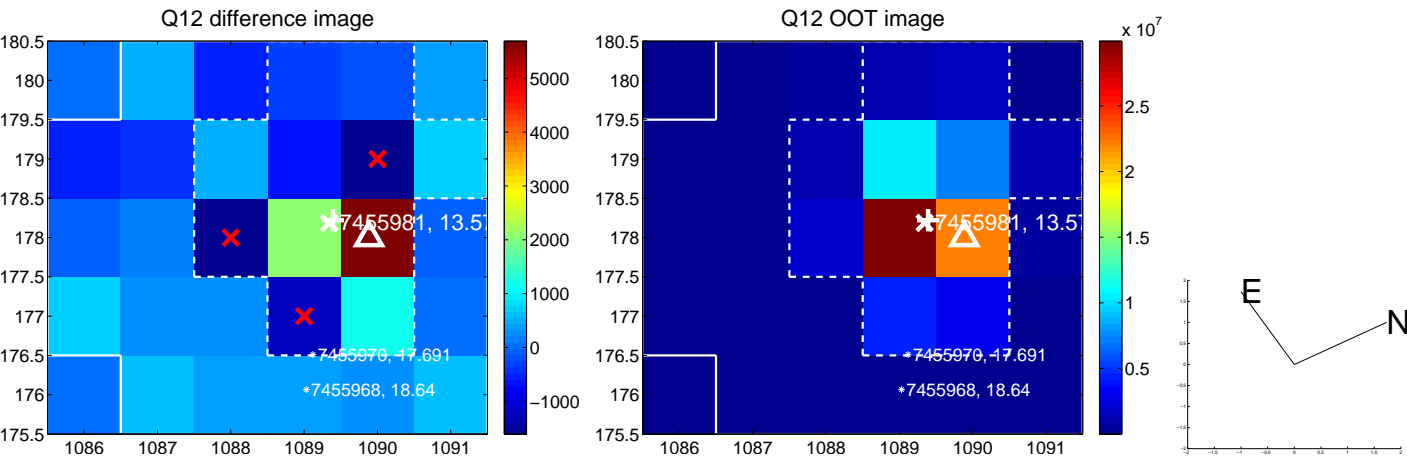
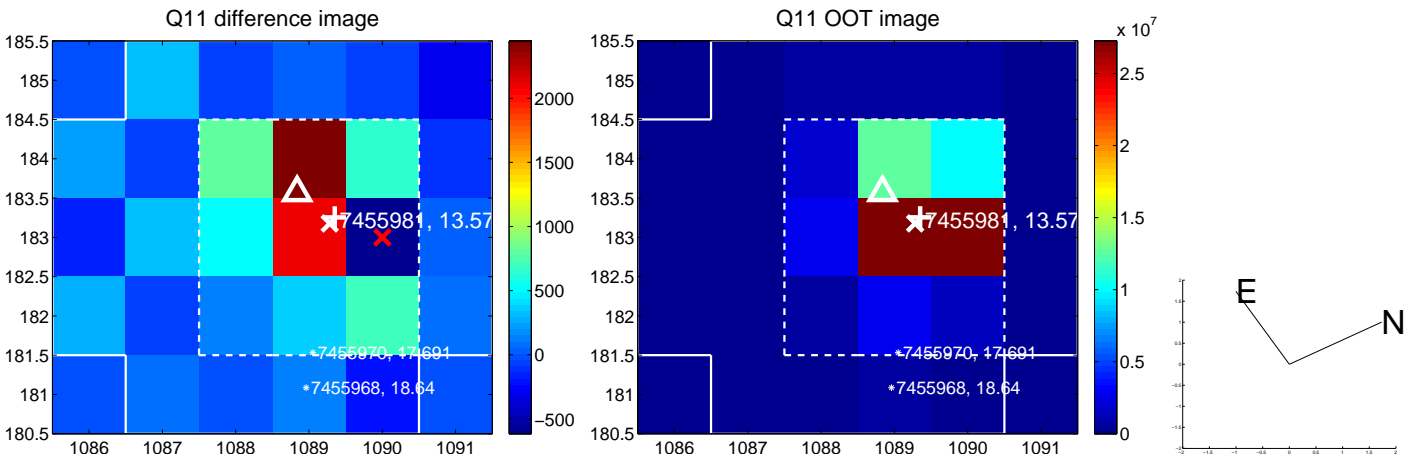
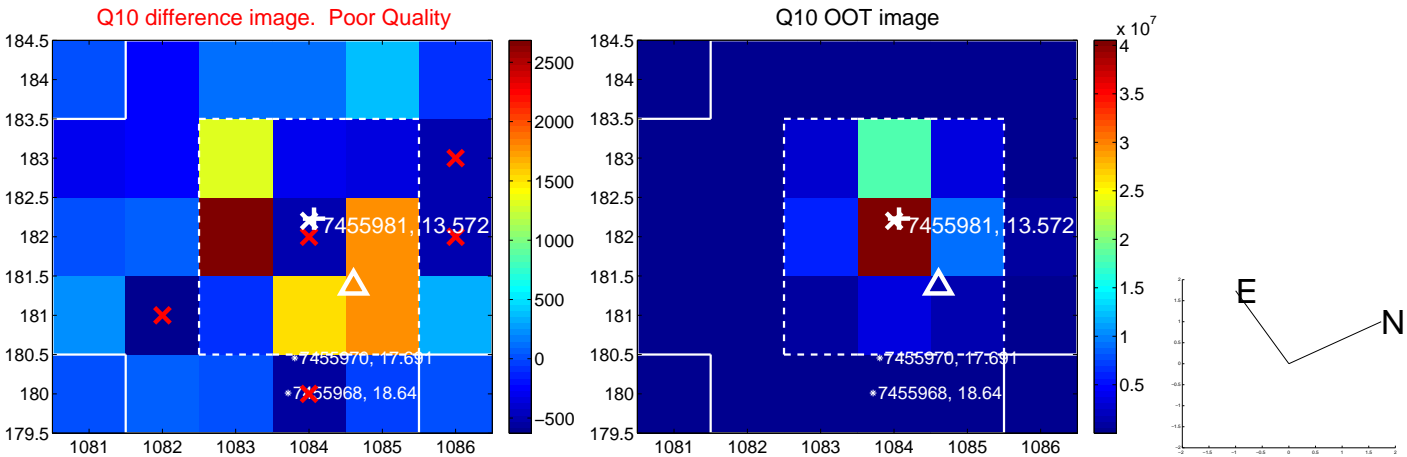
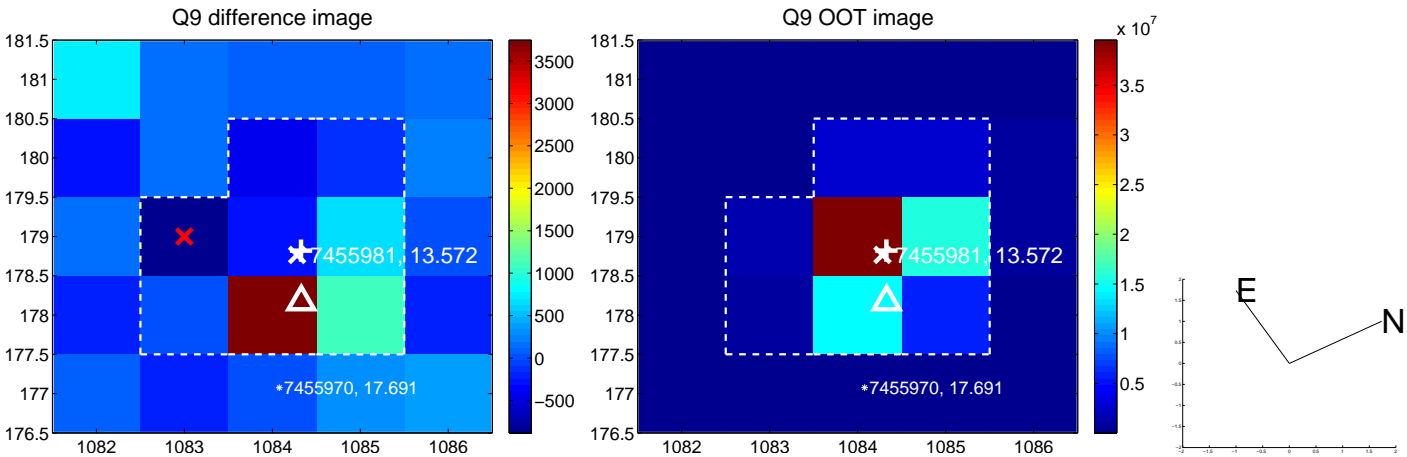
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



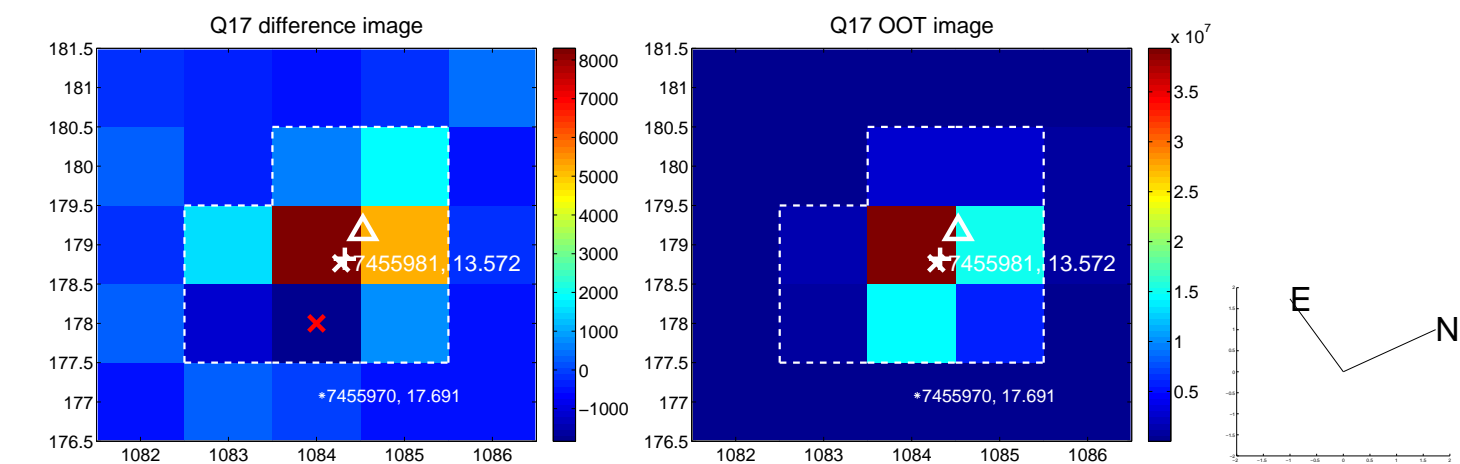
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



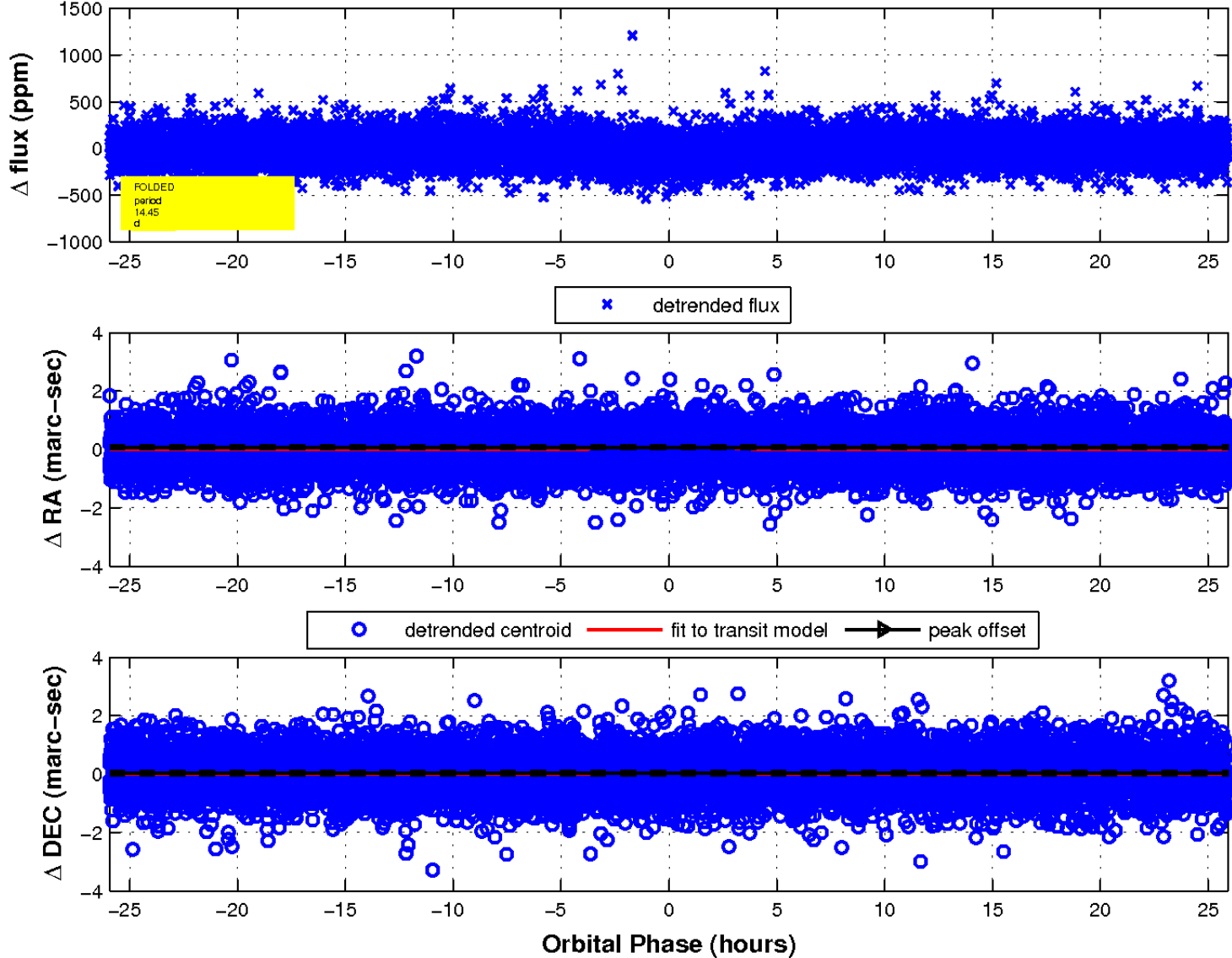
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

