

KIC 007907808

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})
007907808-01	OBS	4109.01	0.655940	132.101482	66.4	1.225	14.8	16.4	1.75	4968	1.41	8004.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007907808-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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

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

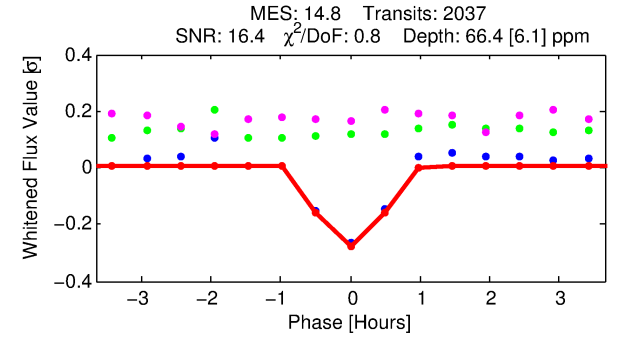
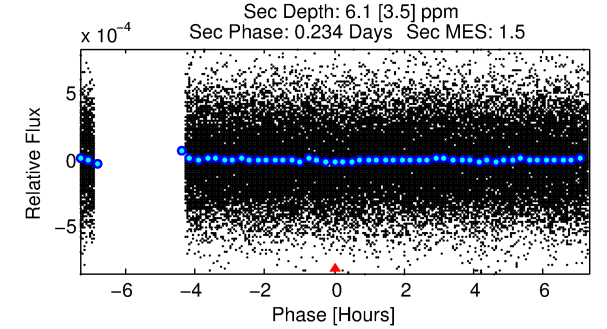
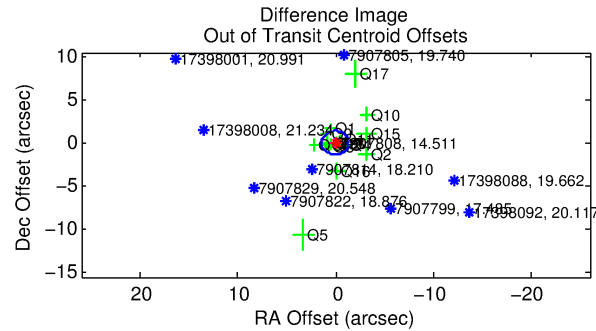
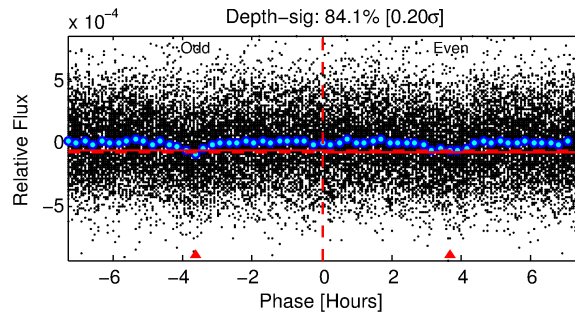
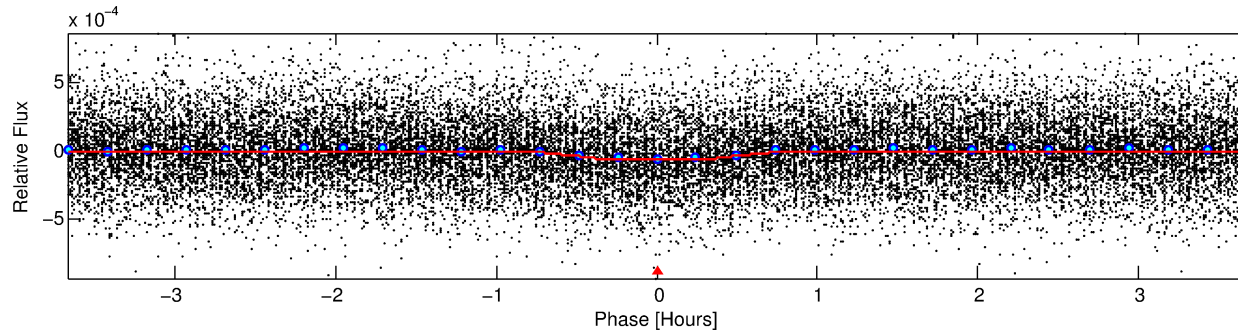
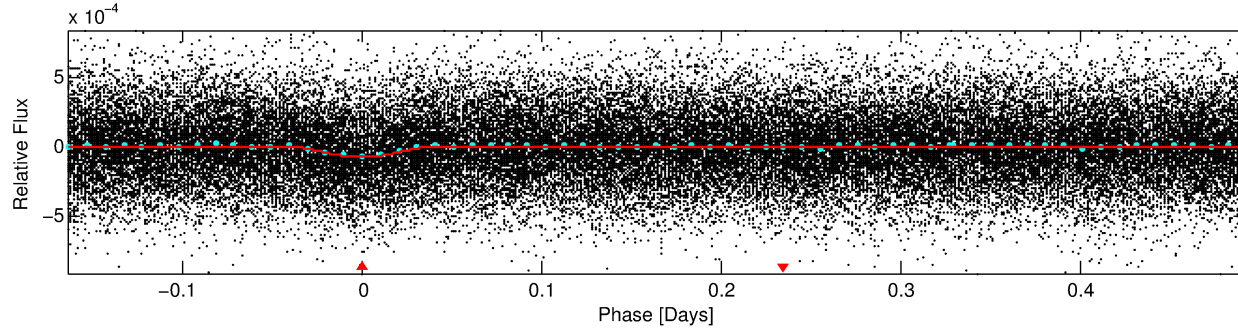
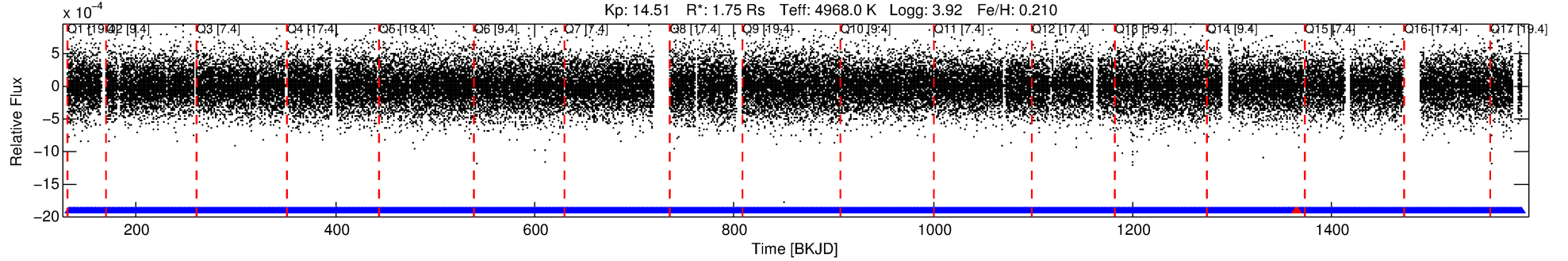
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007907808-01

No Significant Match Found

DV One-Page Summary

KIC: 7907808 Candidate: 1 of 1 Period: 0.656 d
KOI: K04109.01 Corr: 0.957



DV Fit Results:

Period = 0.65594 [0.00001] d
Epoch = 132.1015 [0.0012] BKJD
Rp/R* = 0.0073 [0.0065]
a/R* = 4.01 [10.97]
b = 0.28 [9.71]
Seff = 8004.24 [8739.74]
Teq = 2412 [658] K
Rp = 1.41 [1.47] Re
a = 0.0145 [0.0091] AU
Ag = 0.36 [0.77] [-0.83 σ]
Teffp = 2885 [1344] K [0.32 σ]

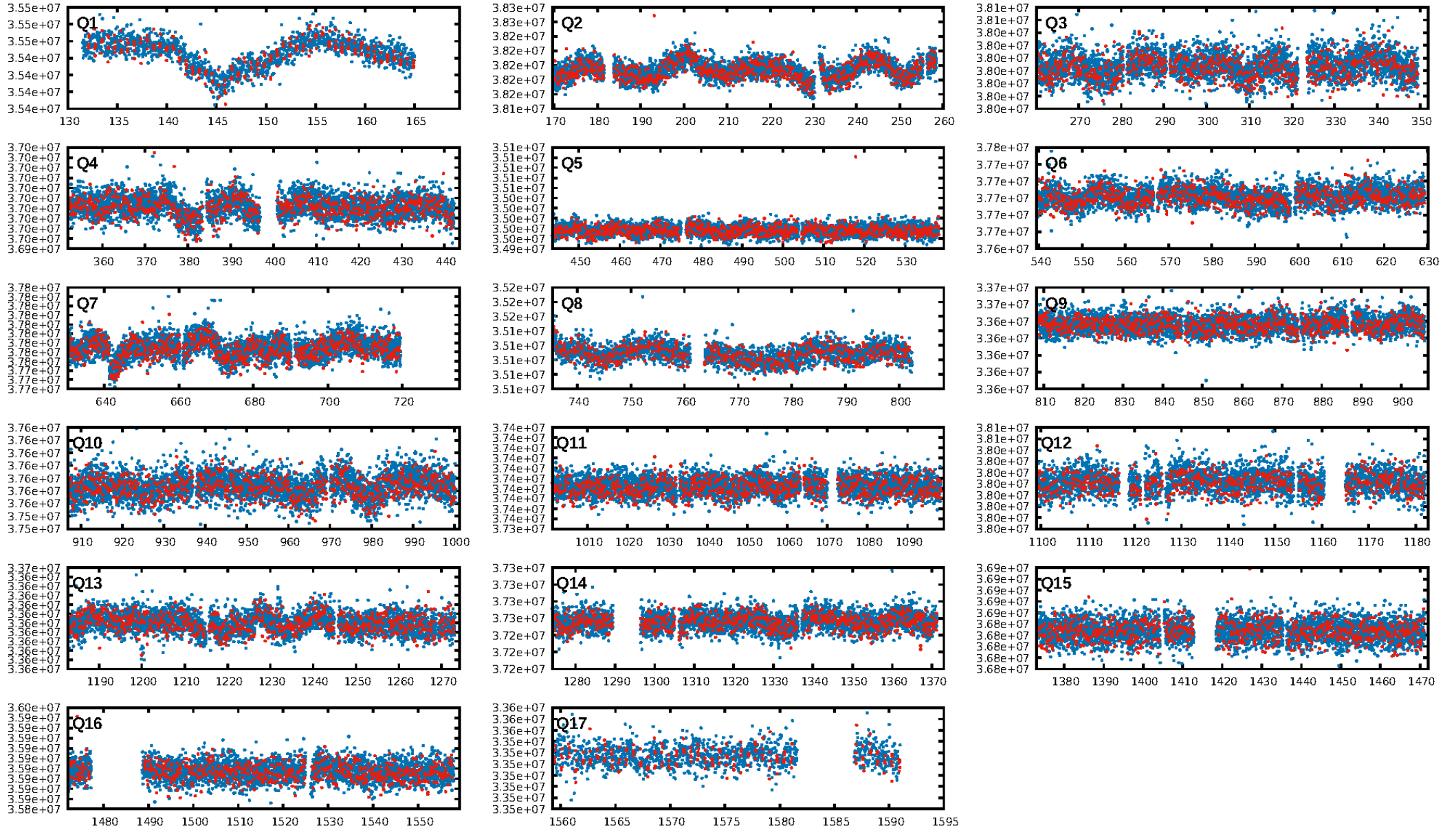
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.84e-48
RollingBand-fgt: 1.00 [1943/1945]
GhostDiagnostic-chr: 26.12
Centroid-sig: 7.4%
Centroid-so: 1.007 arcsec [1.43 σ]
OotOffset-rm: 0.072 arcsec [0.16 σ]
KicOffset-rm: 0.581 arcsec [1.28 σ]
OotOffset-st: 3/4/3/5 [15]
KicOffset-st: 3/4/3/5 [15]
DiffImageQuality-fgm: 0.67 [10/15]
DiffImageOverlap-fno: 1.00 [17/17]

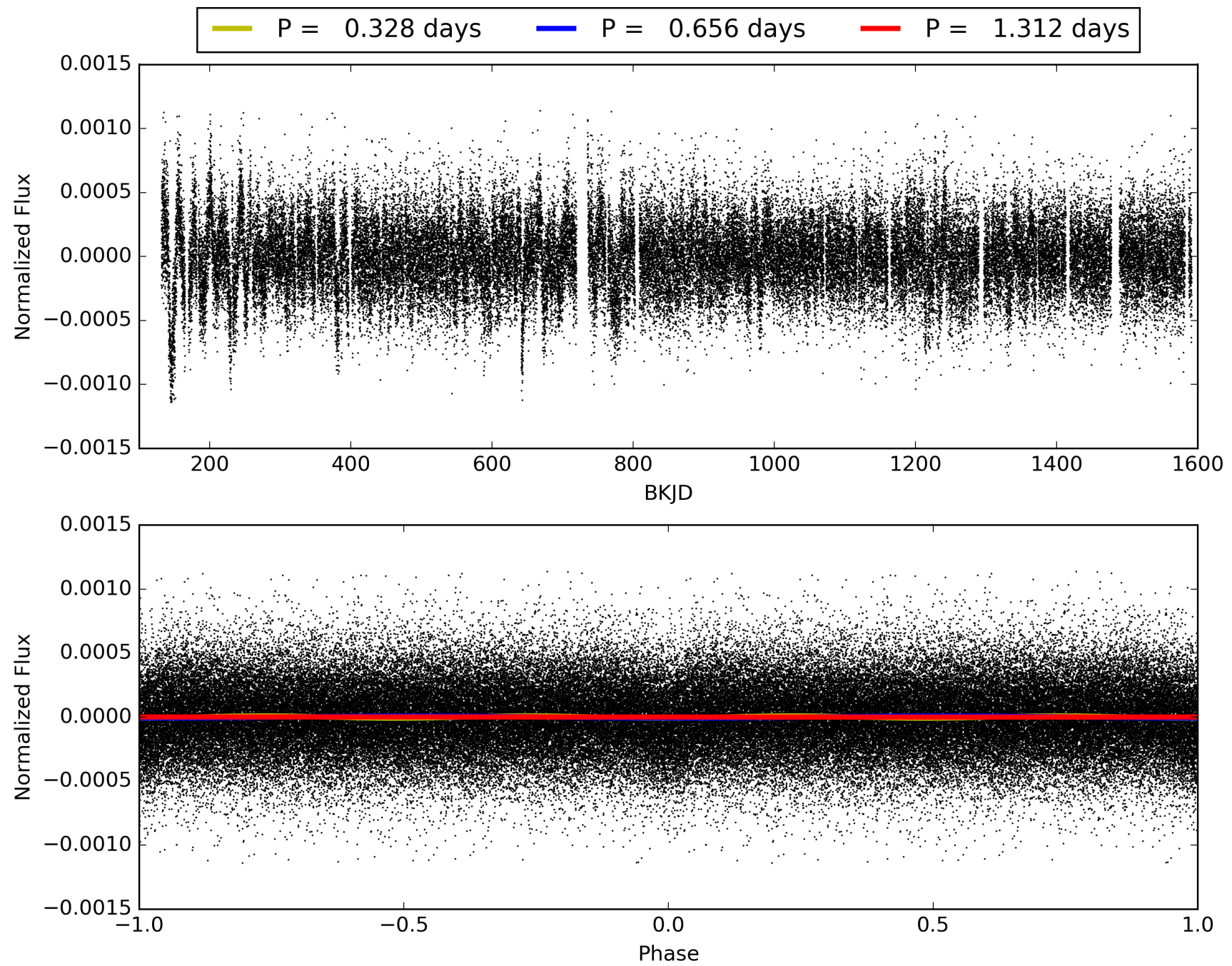
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:00:33 Z

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

TCE 007907808-01, PDC Light Curves

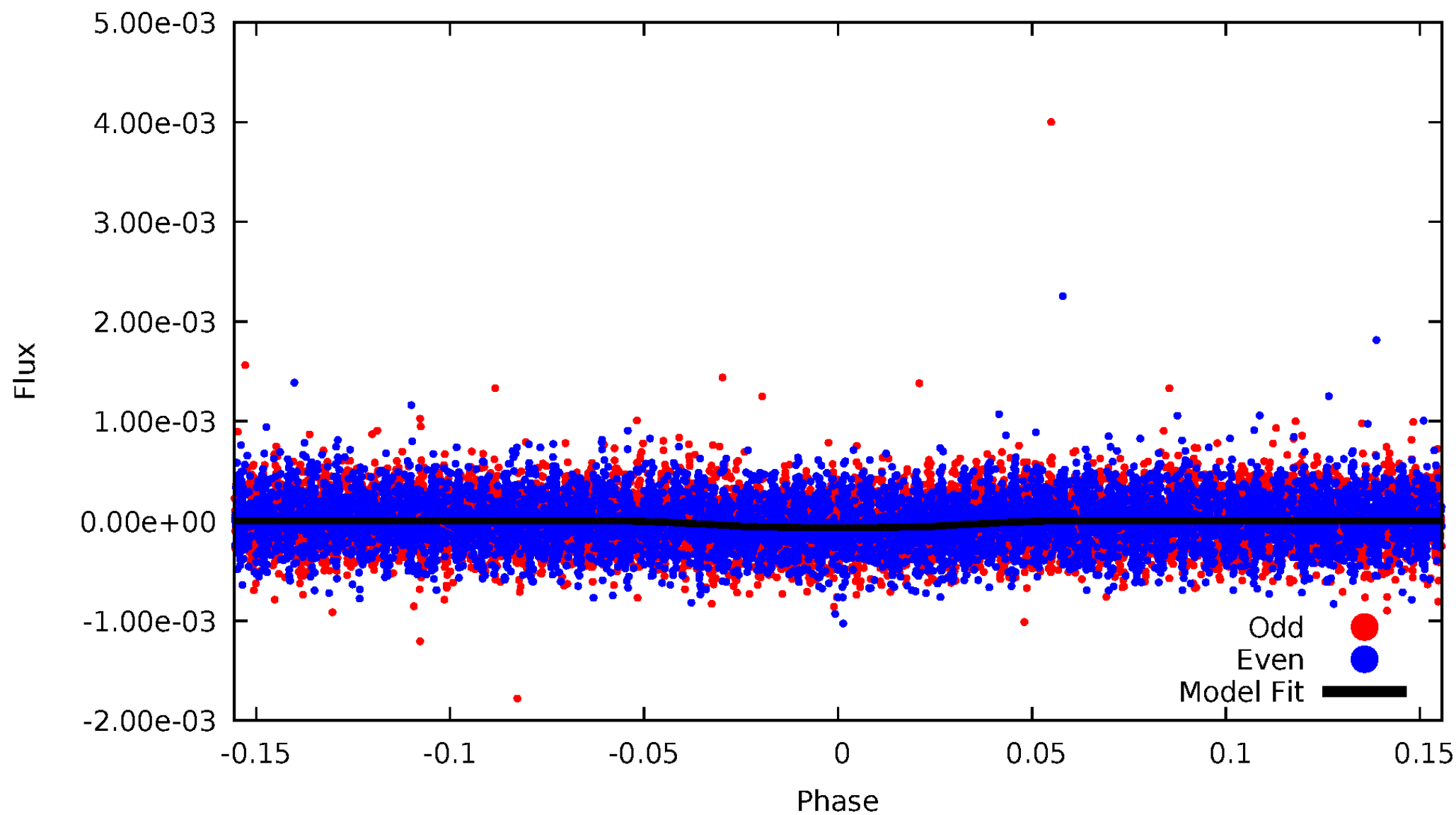


TCE 007907808-01



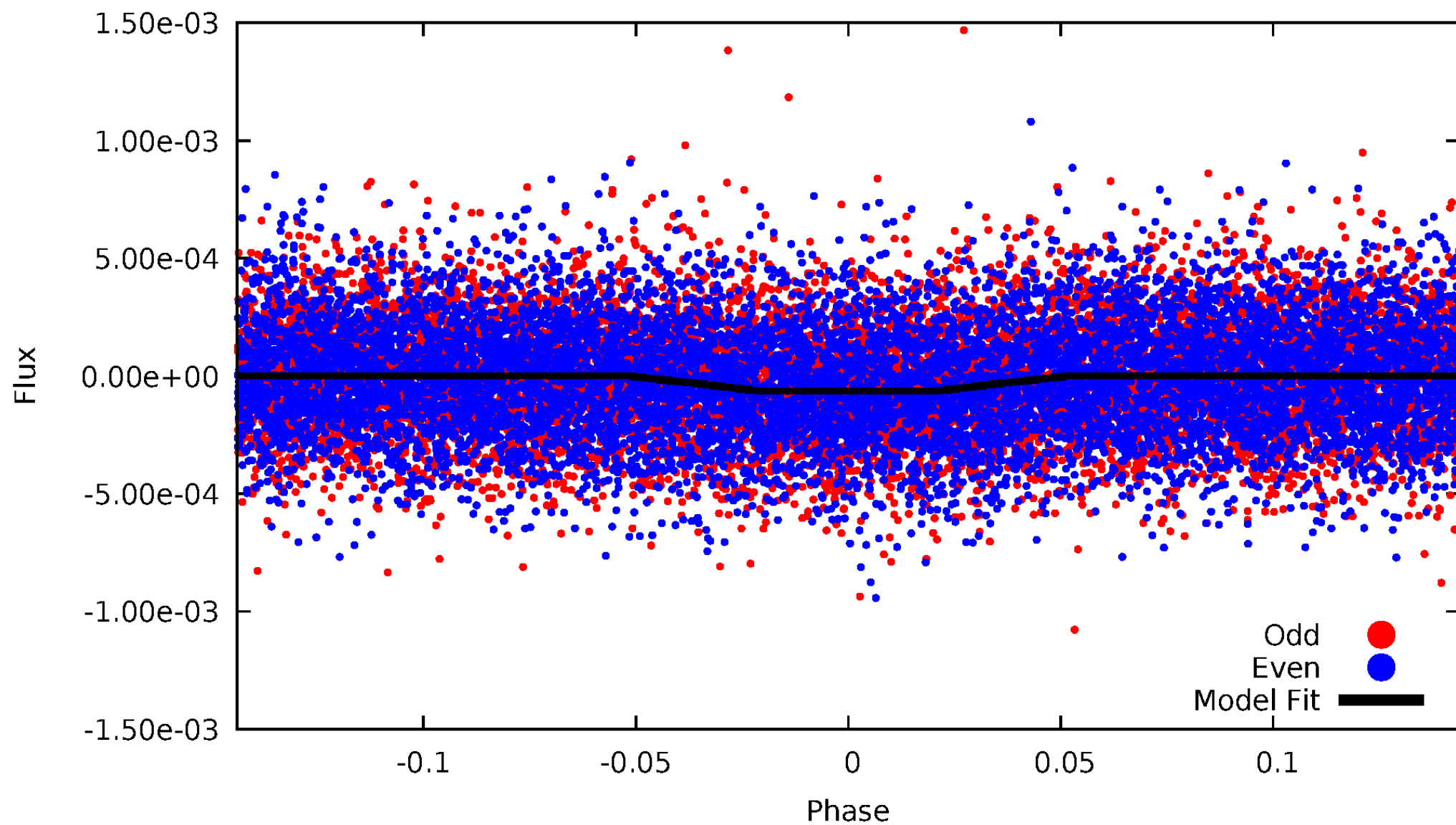
DV Odd/Even

TCE 007907808-01

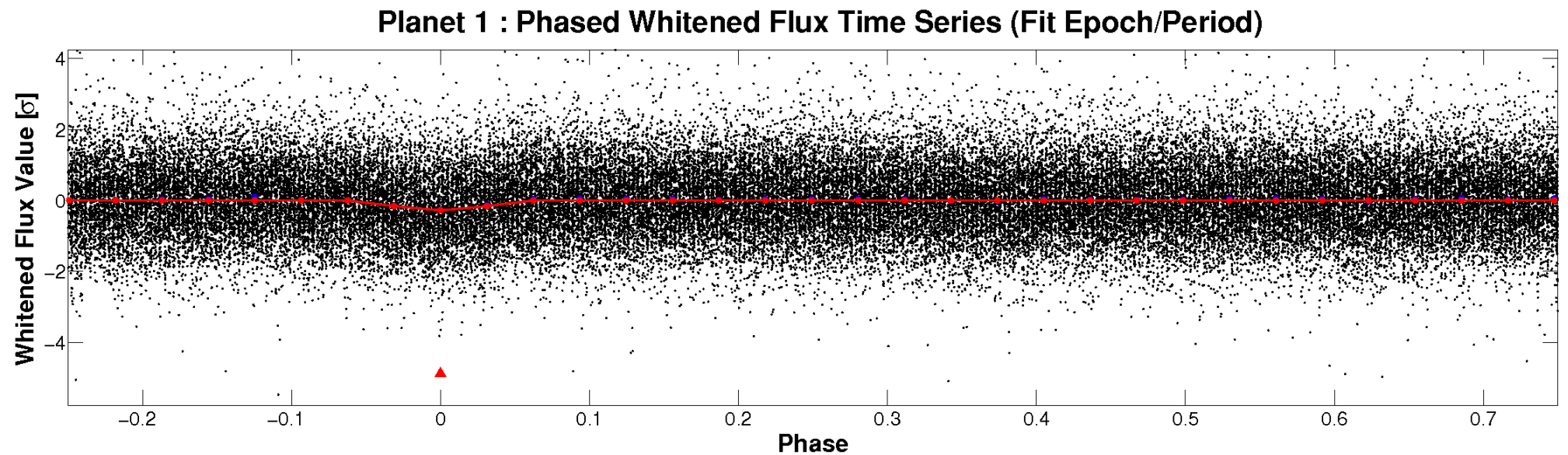
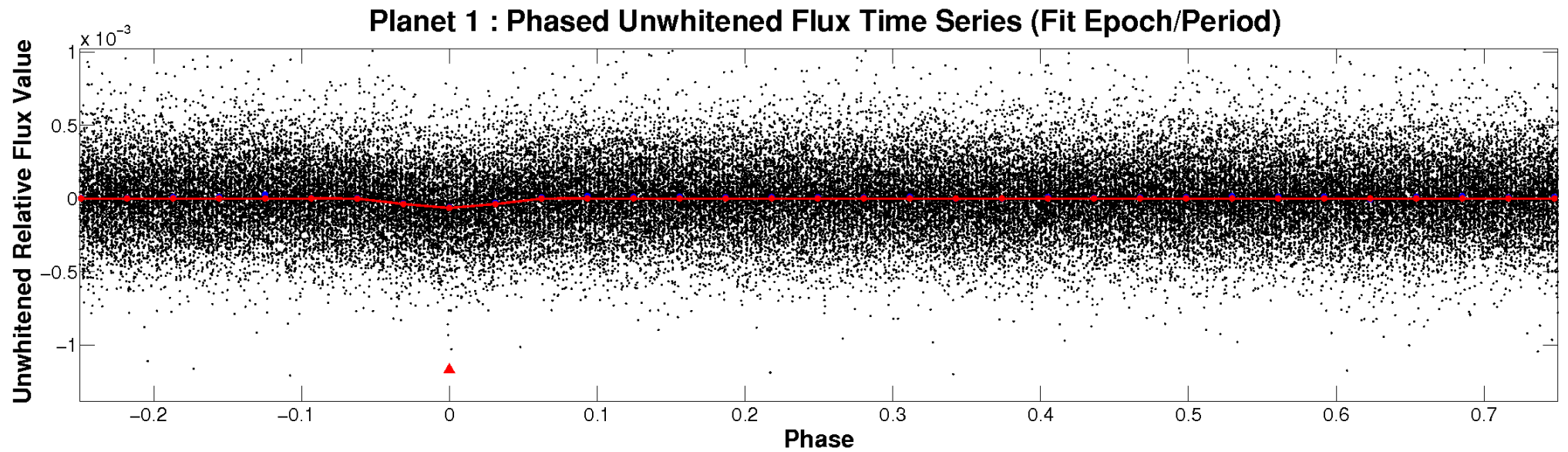


ALT Odd/Even

TCE 007907808-01

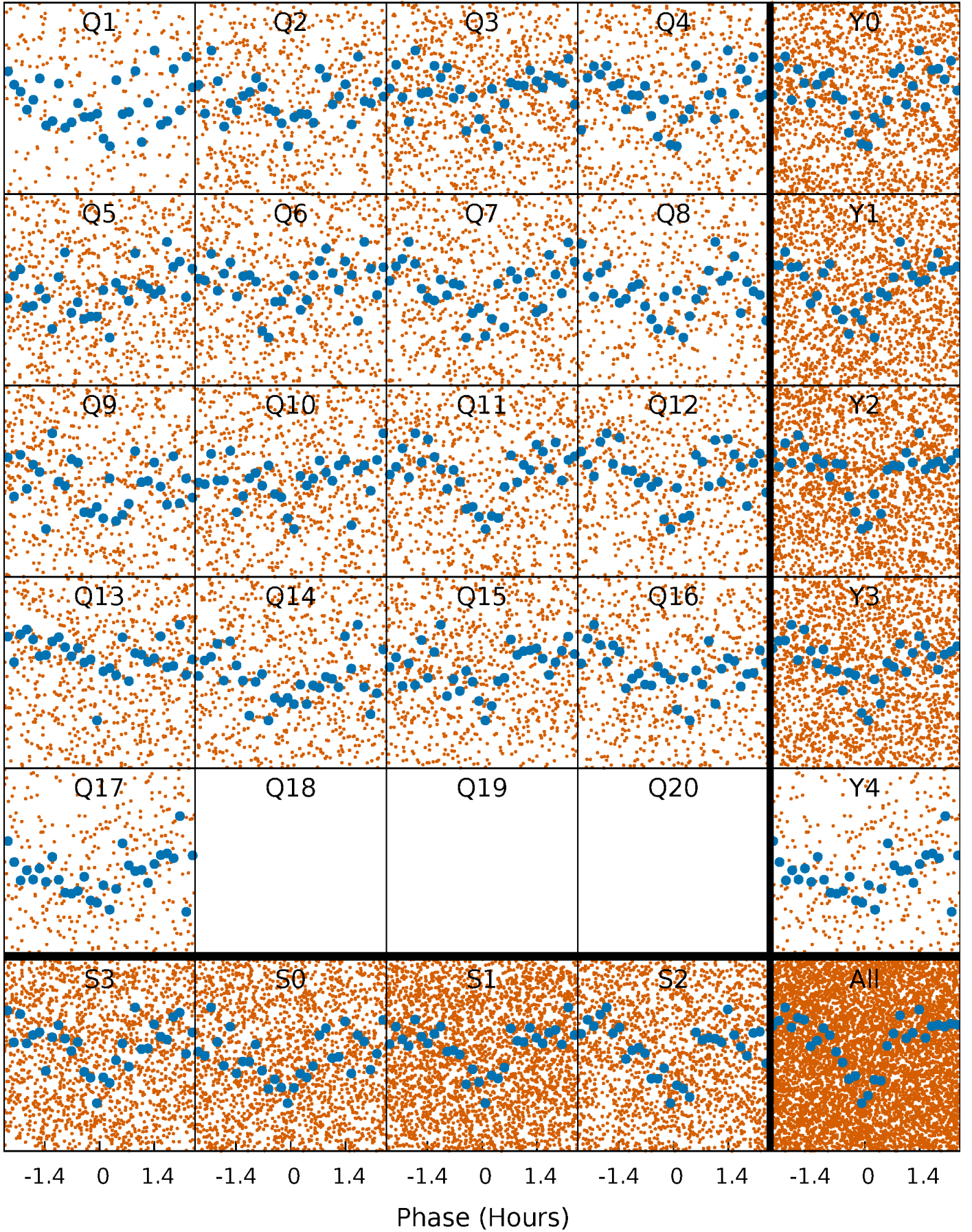


Non-Whitened Vs. Whitened Light Curve



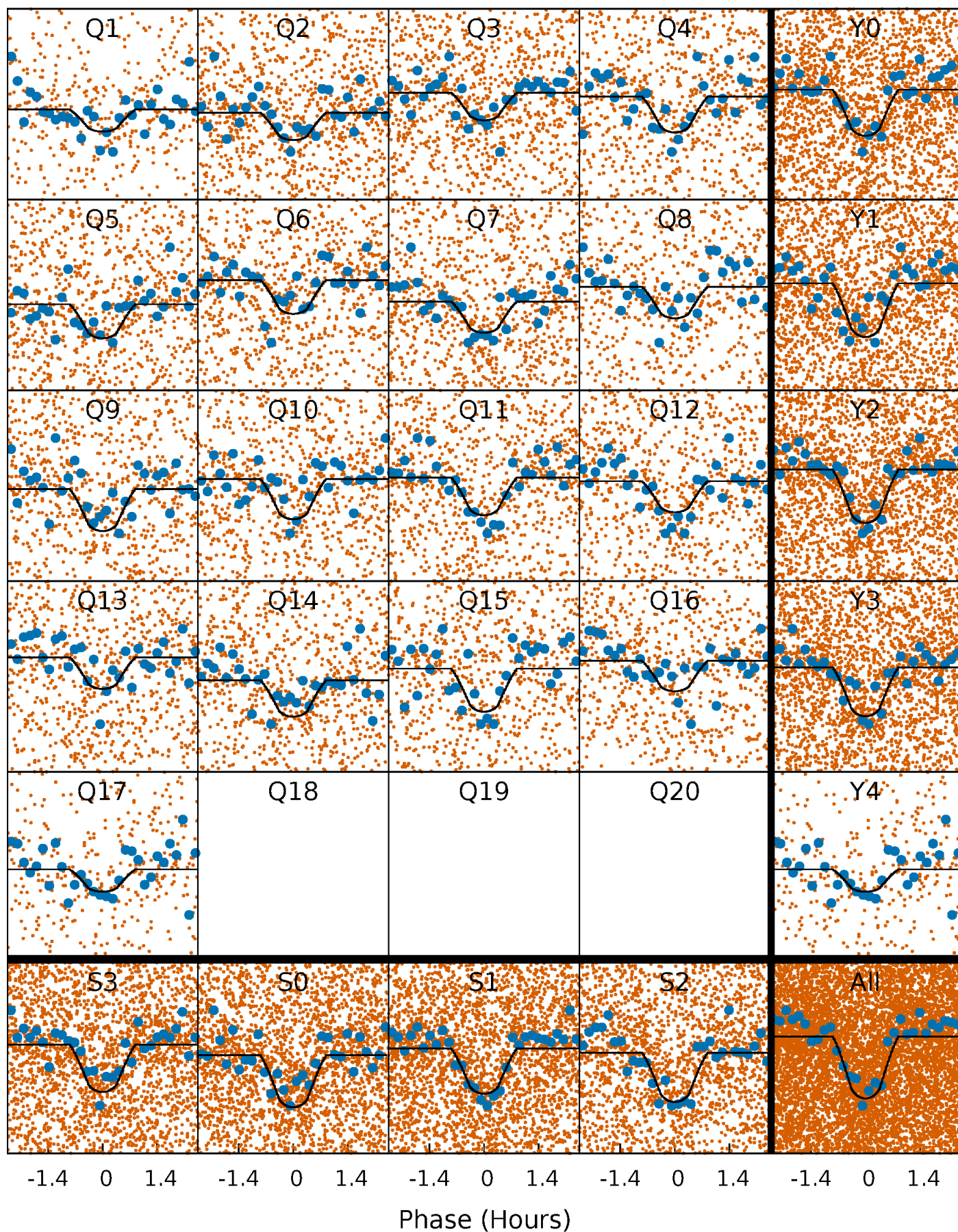
PDC Quarter-Phased Transit Curves

TCE 007907808-01 P= 0.655940 Days $T_0=132.101482$ (BKJD)



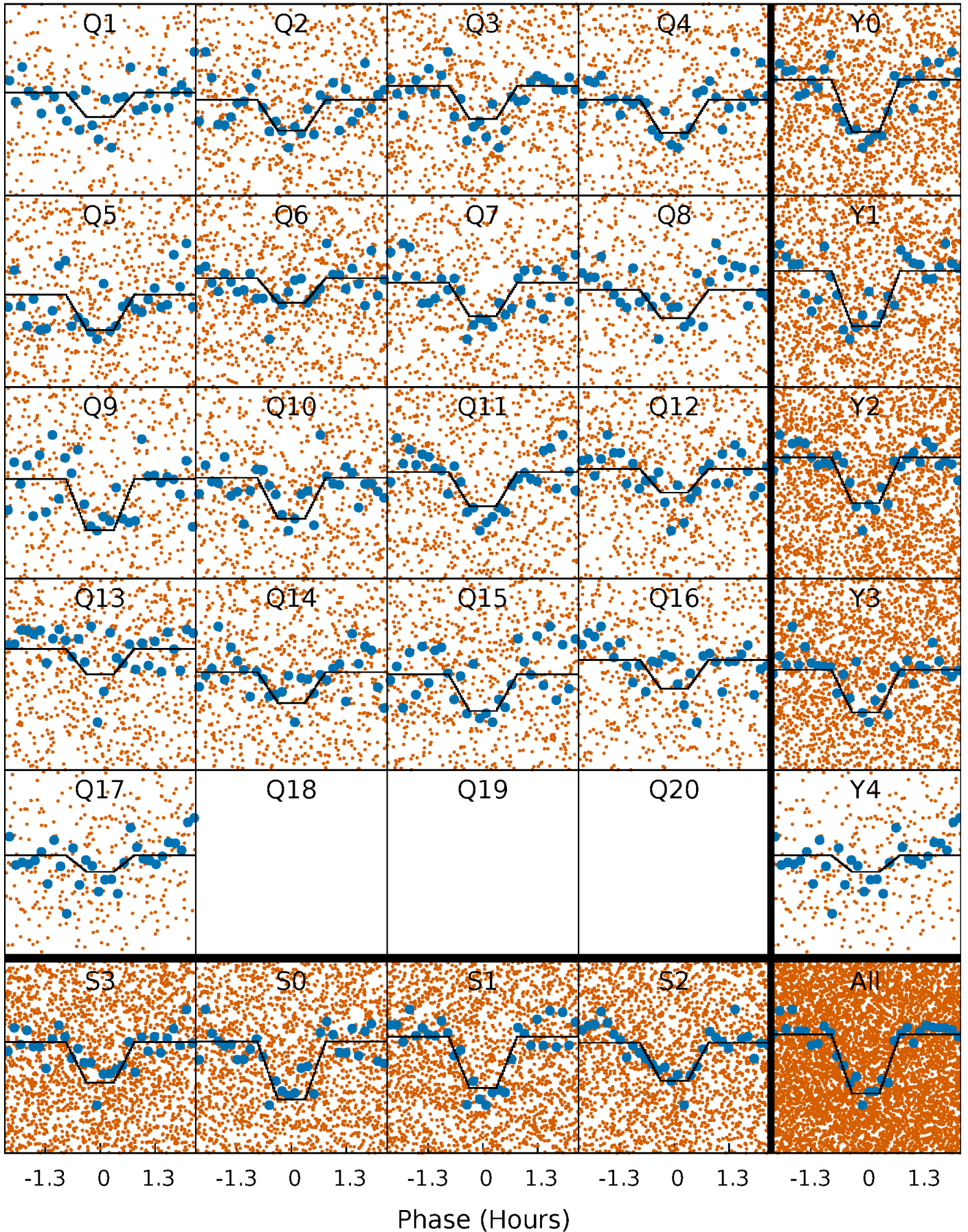
DV Quarter-Phased Transit Curves

TCE 007907808-01 P= 0.655940 Days $T_0=132.101482$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

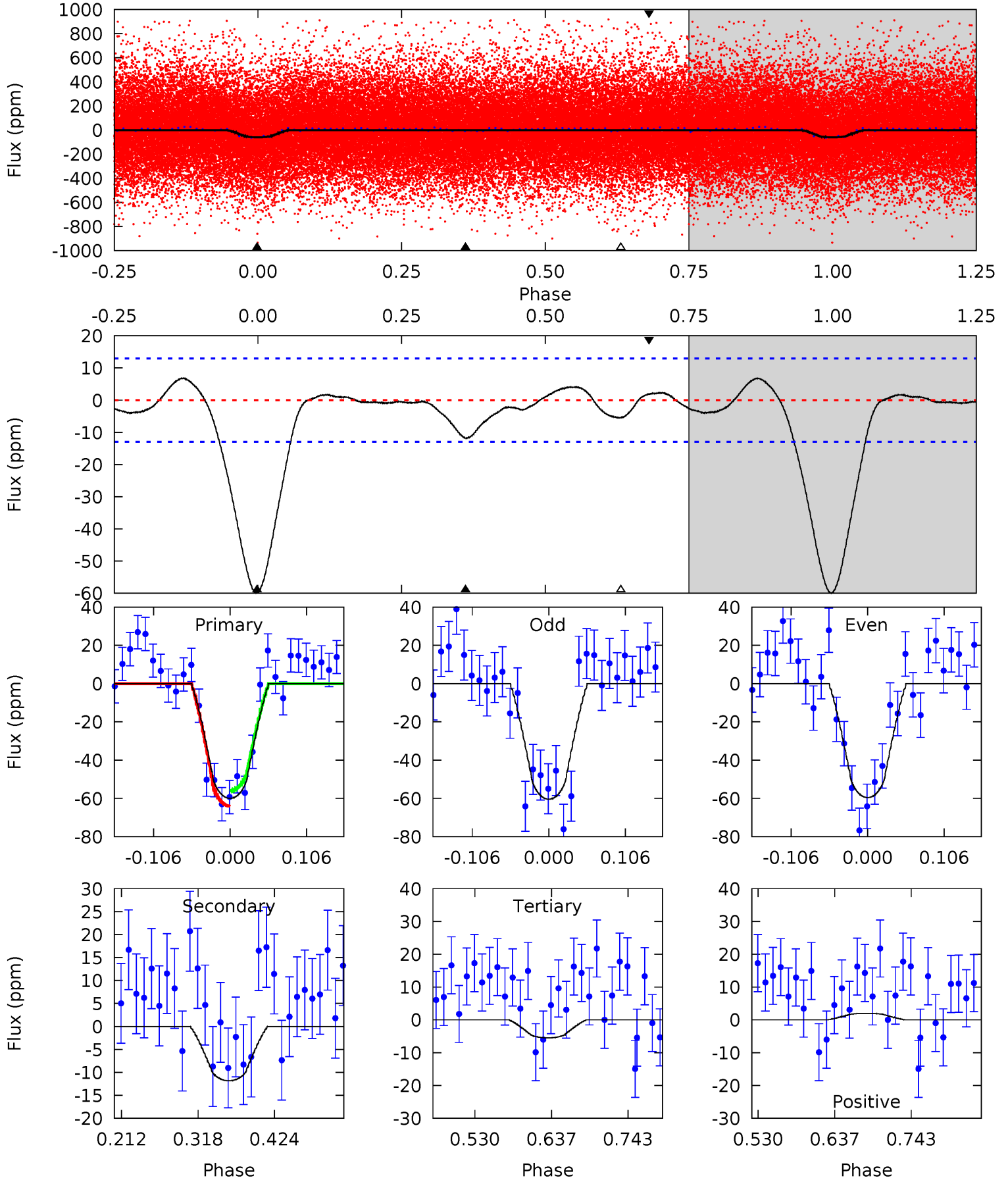
TCE 007907808-01 P= 0.655938 Days $T_0=132.101247$ (BKJD)



DV Model-Shift Uniqueness Test

007907808-01, P = 0.655940 Days, E = 131.445542 Days

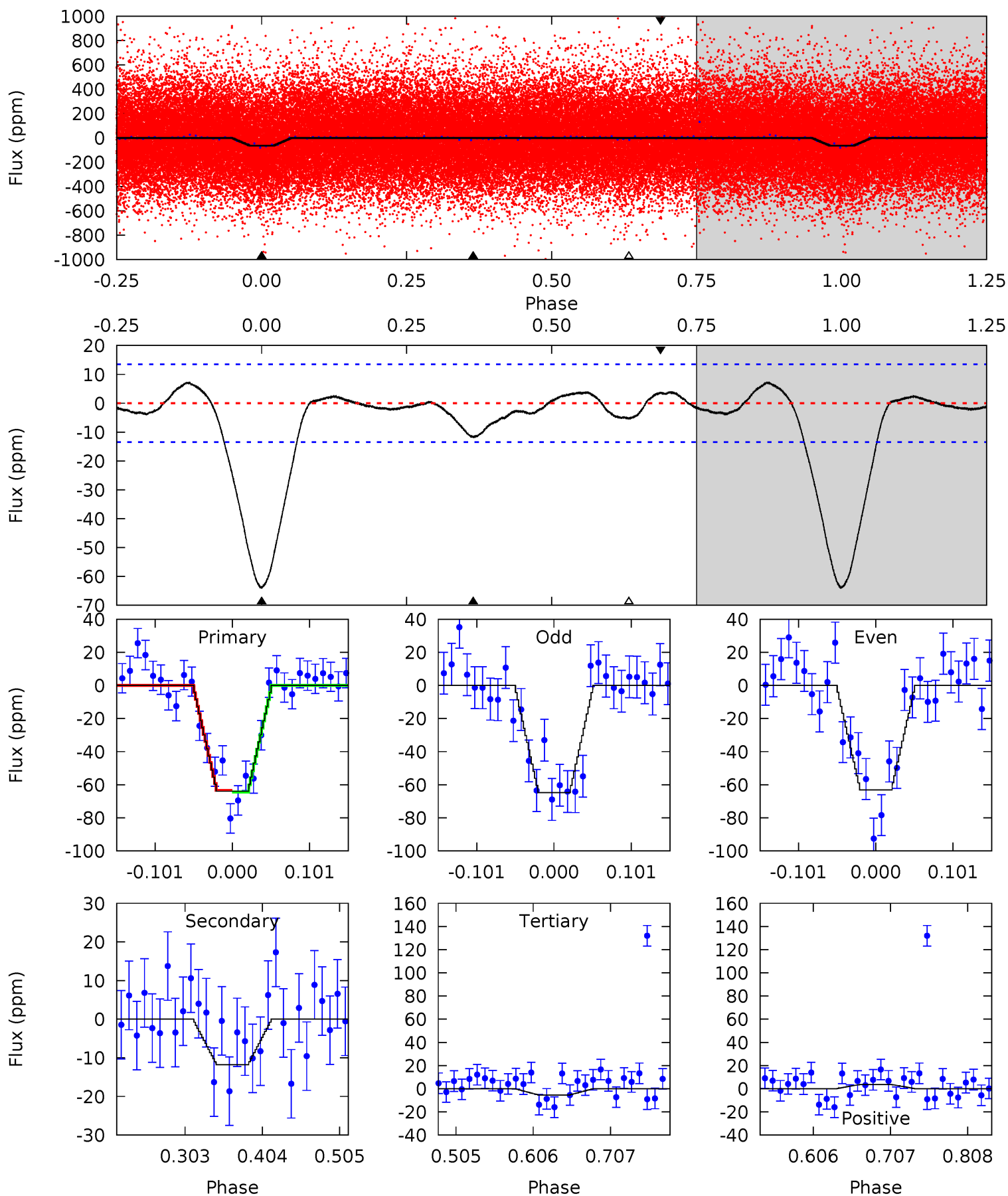
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.1	4.16	1.93	0.70	4.55	1.62	1.03	19.2	20.4	2.23	3.46	0.15	0.96	0.10	1.44



Alt Model-Shift Uniqueness Test

007907808-01, P = 0.655938 Days, E = 131.445309 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	4.00	1.83	1.25	4.56	1.64	1.02	19.9	20.4	2.17	2.75	0.29	0.96	0.10	0.17



Stellar Parameters For KIC 007907808

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4968^{+149}_{-134}	$3.924^{+0.665}_{-0.285}$	$0.210^{+0.200}_{-0.300}$	$1.755^{+0.970}_{-0.970}$	$0.944^{+0.194}_{-0.159}$	$0.246^{+2.373}_{-0.150}$
	+3%/-3%	+17%/-7%	+95%/-143%	+55%/-55%	+21%/-17%	+965%/-61%
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 007907808-01 / KOI 4109.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-12 ± 3	$1.40^{+1.19}_{-0.85}$	3313^{+446}_{-527}	3239^{+1772}_{-6141}	$0.669^{+4.205}_{-0.483}$
Alt.	-12 ± 3	$1.48^{+1.38}_{-0.90}$	3300^{+463}_{-533}	3145^{+1567}_{-6089}	$0.620^{+3.592}_{-0.459}$

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

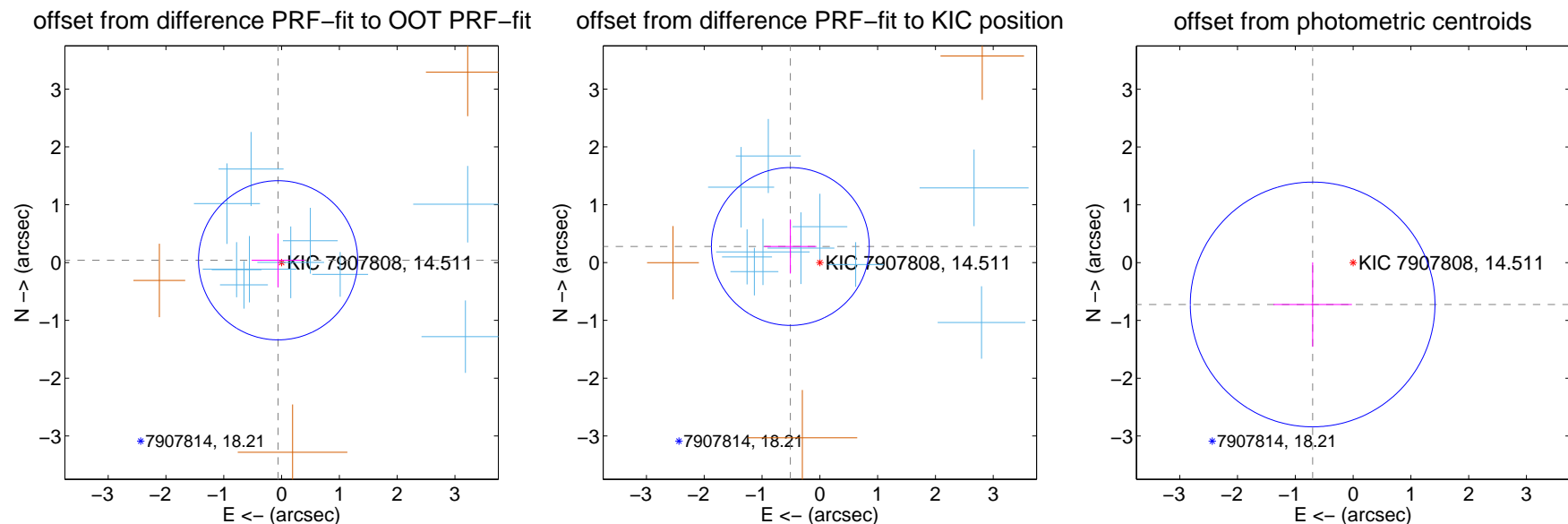
DV Centroid Data

Supplemental centroid analysis for 007907808-01. Kepler magnitude: 14.51. Transit SNR 16.36

There are 10 quarters with good PRF difference image offsets

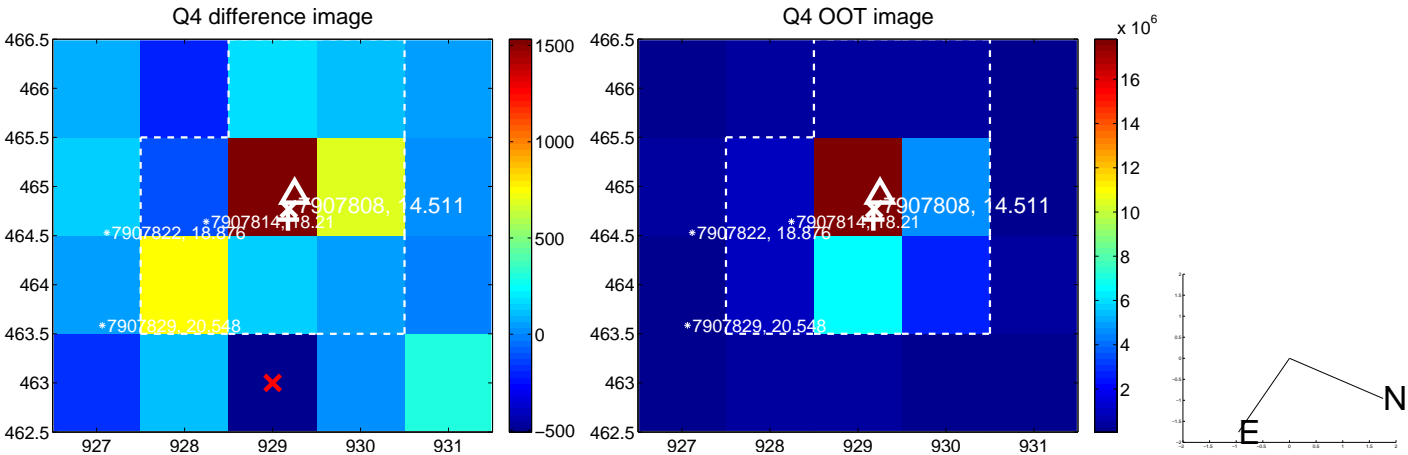
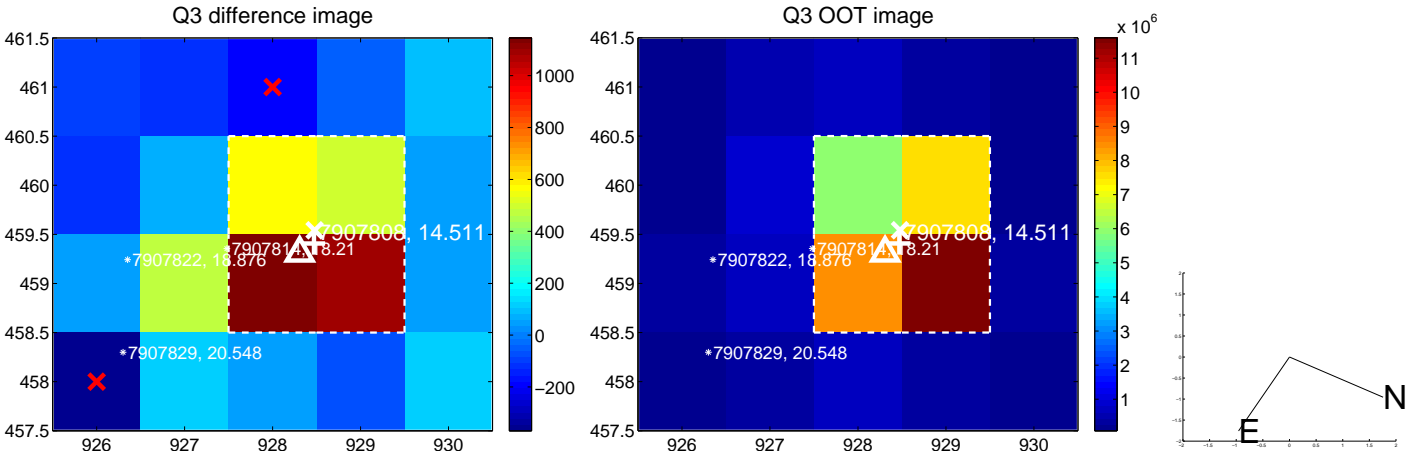
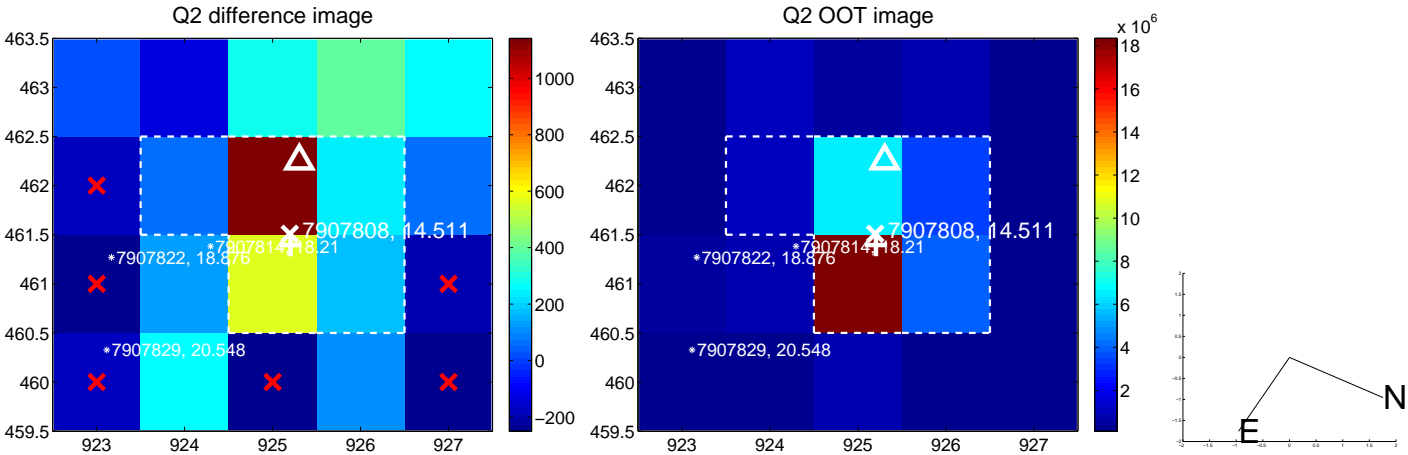
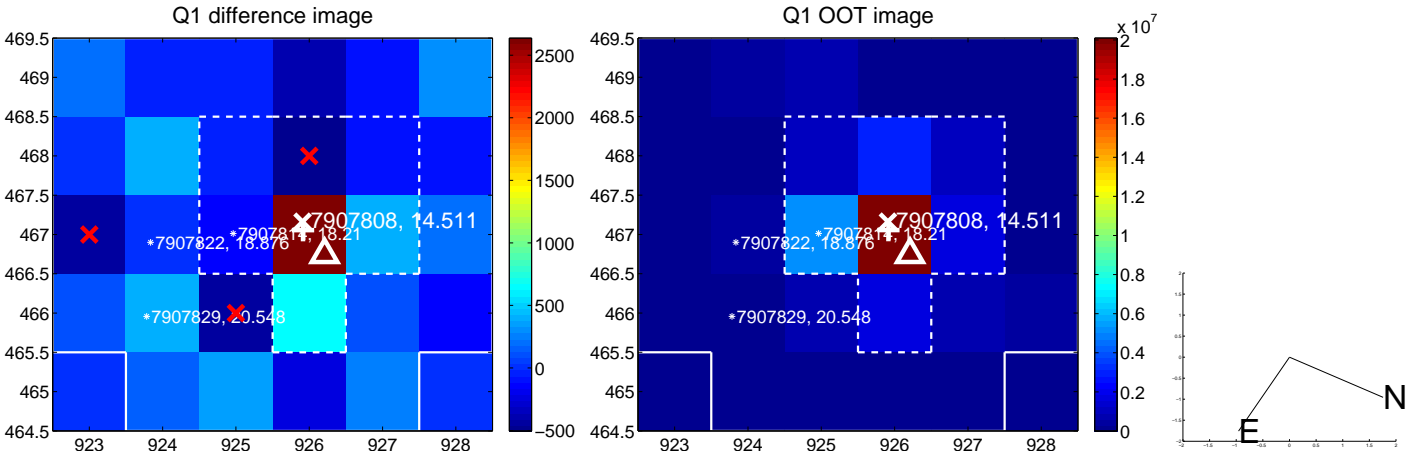
The direct PRF centroid is offset from the target star catalog position by about 0.58 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.072 ± 0.459	0.16	0.060 ± 0.457	0.039 ± 0.464
PRF-fit source offset from KIC position	0.581 ± 0.455	1.28	0.510 ± 0.451	0.278 ± 0.469
photometric centroid source offset	1.01 ± 0.71	1.43	0.70 ± 0.68	-0.72 ± 0.73

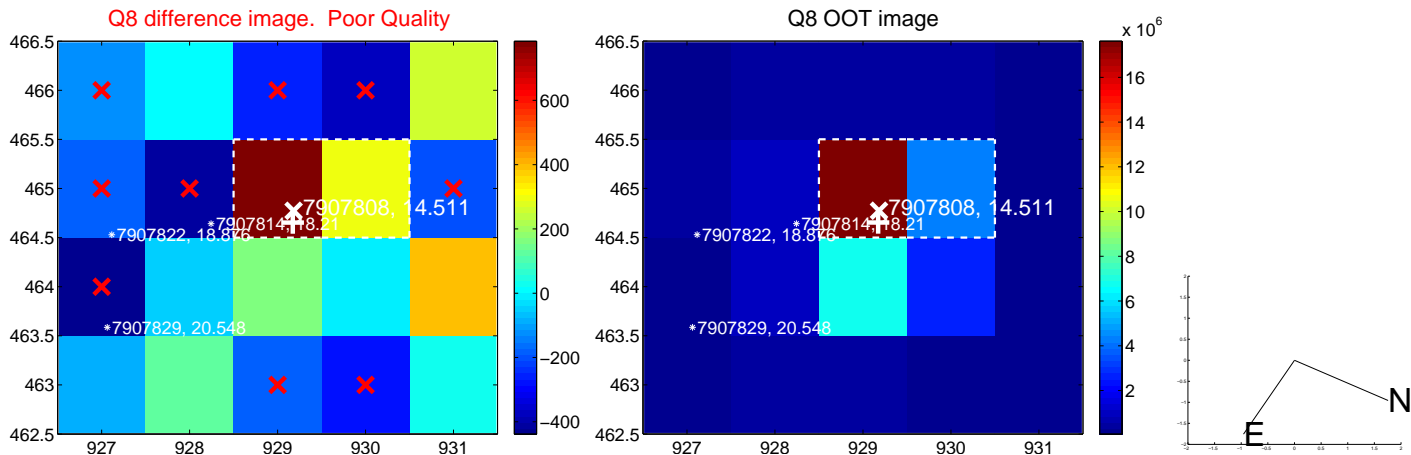
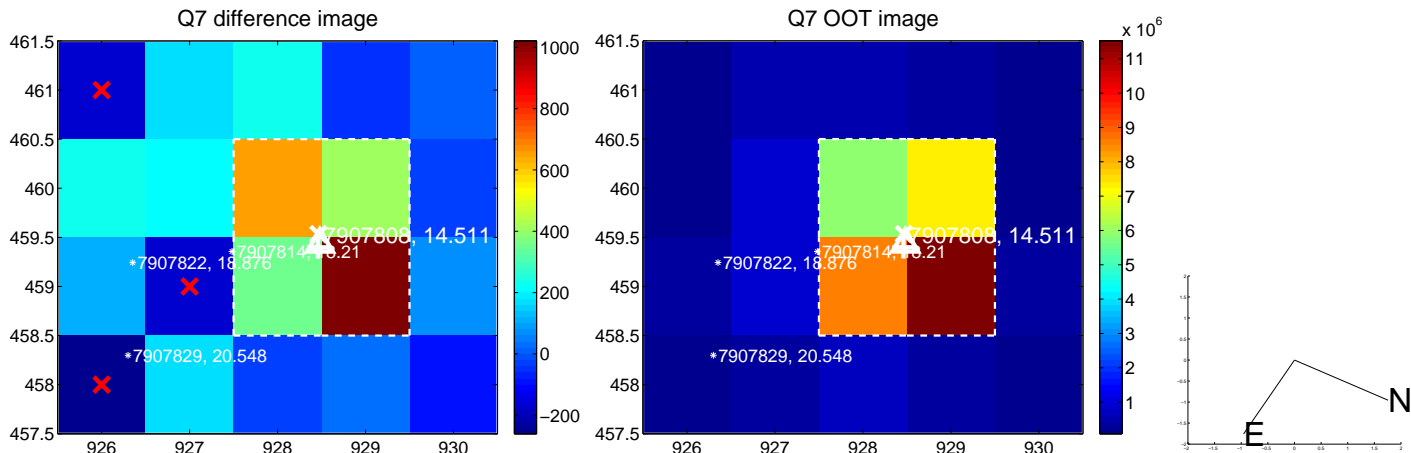
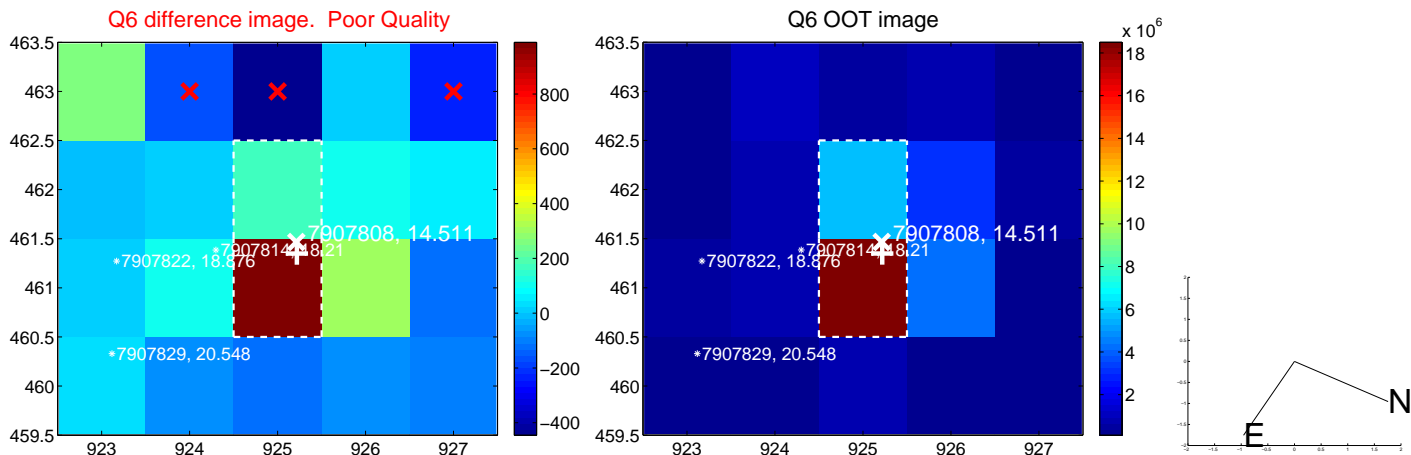
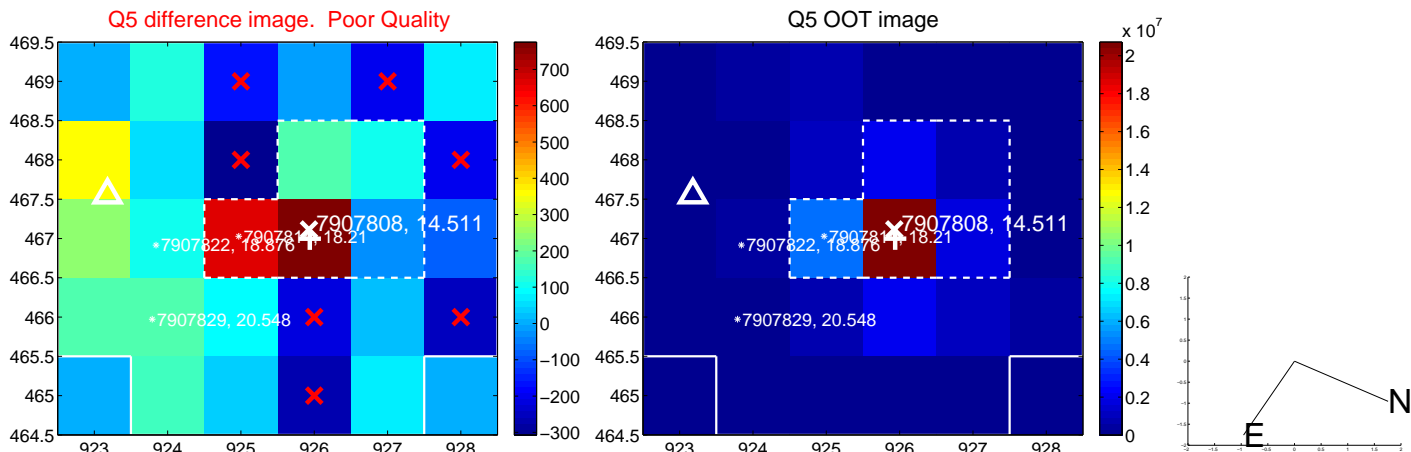


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

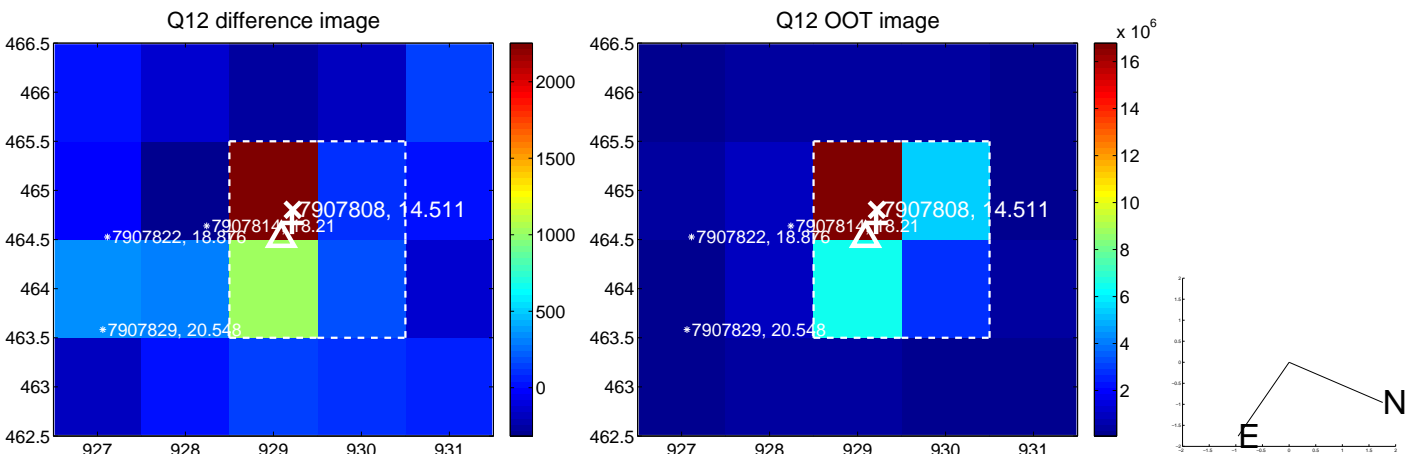
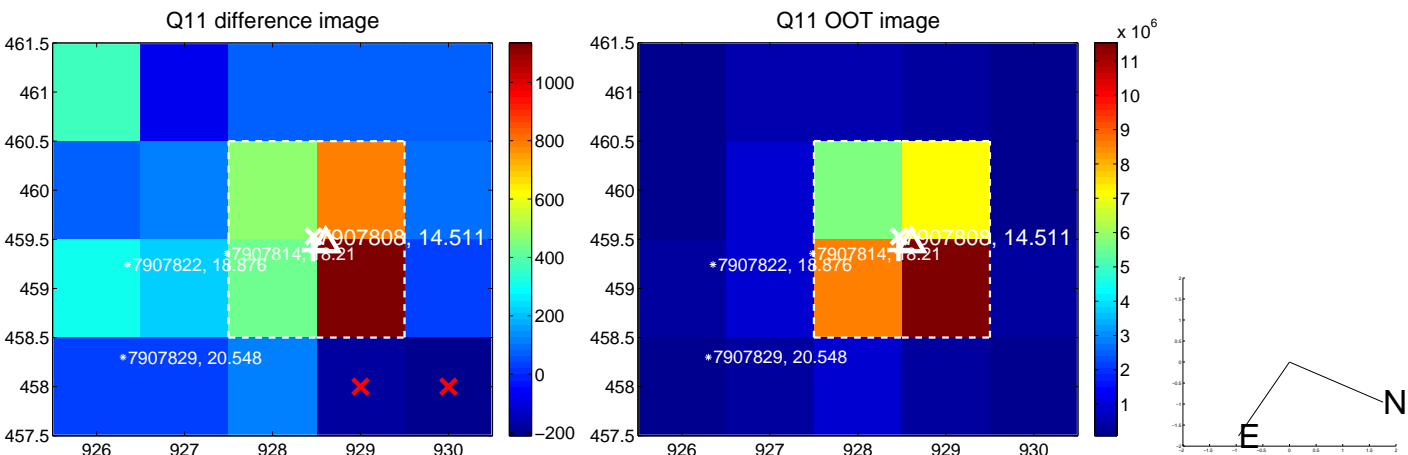
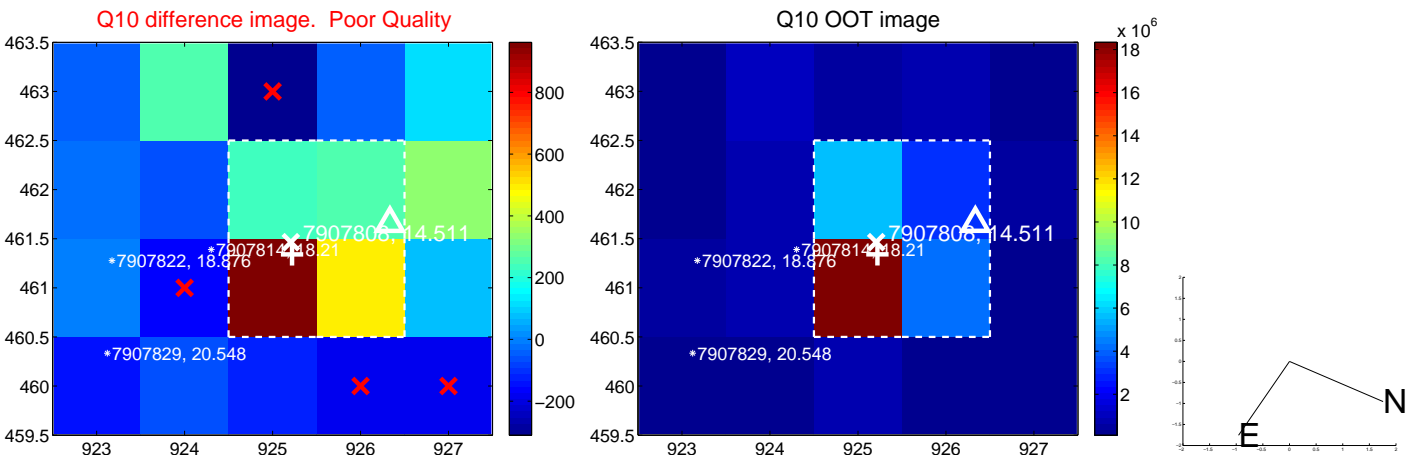
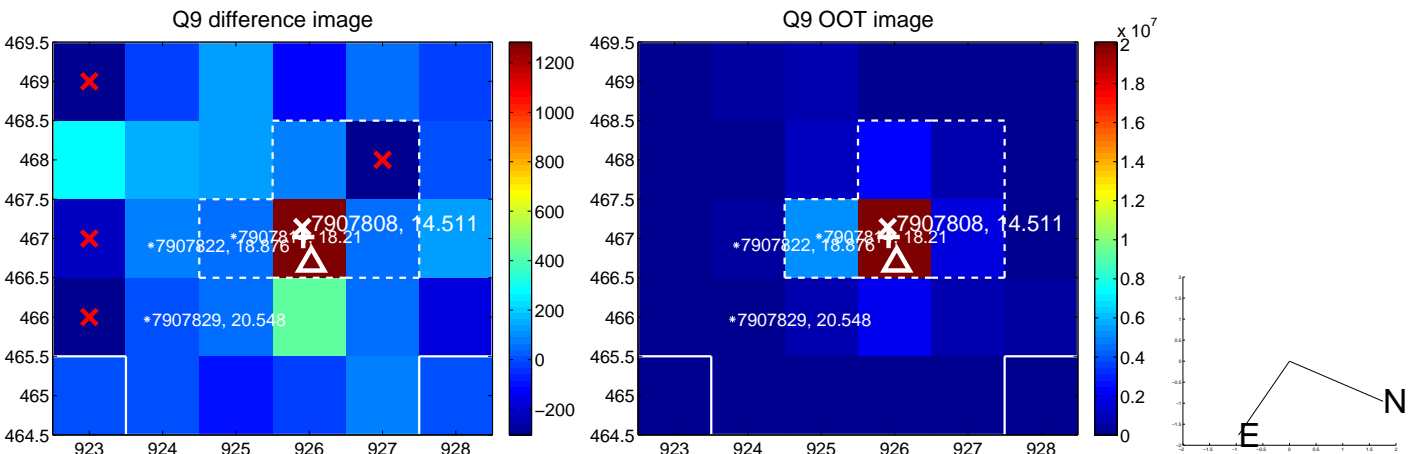
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



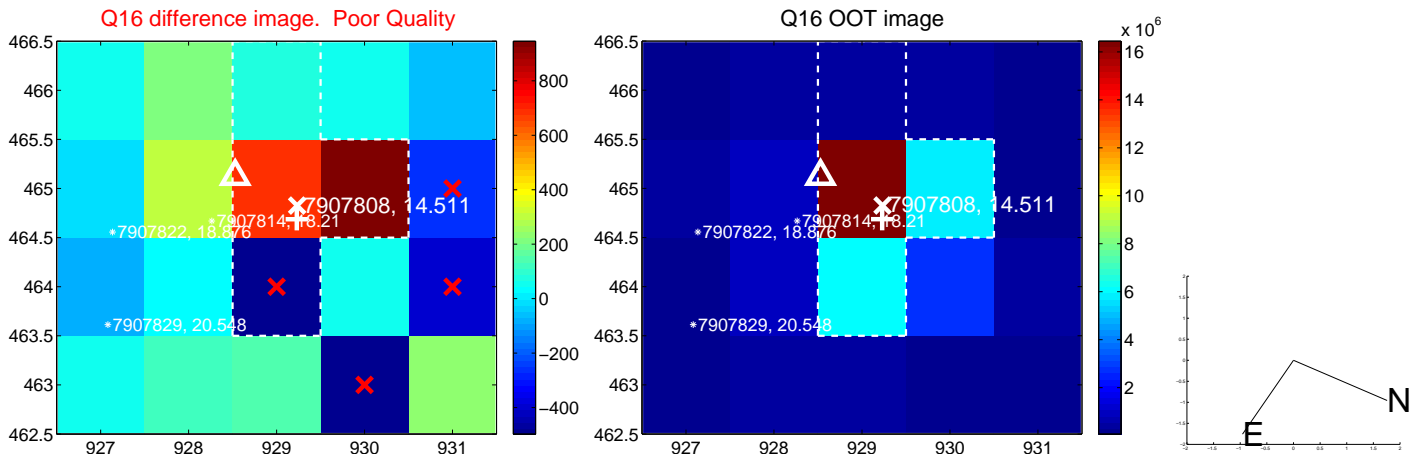
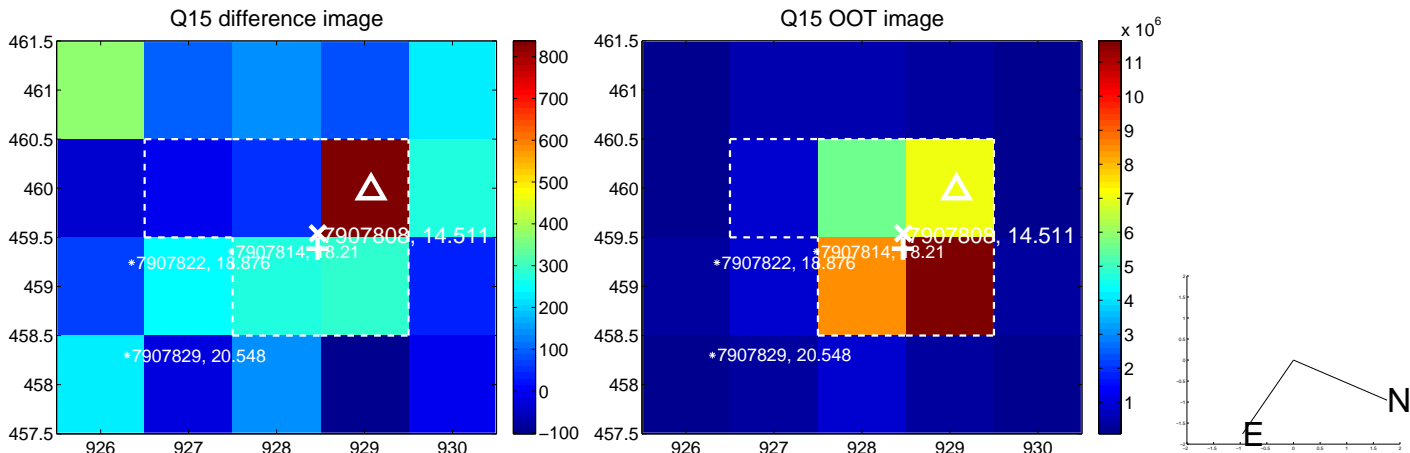
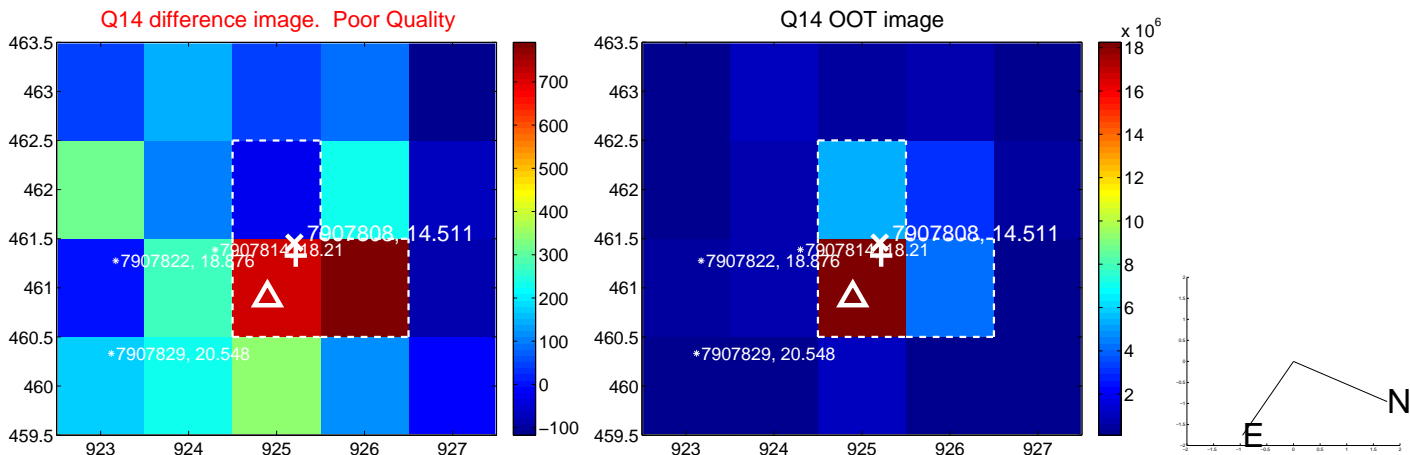
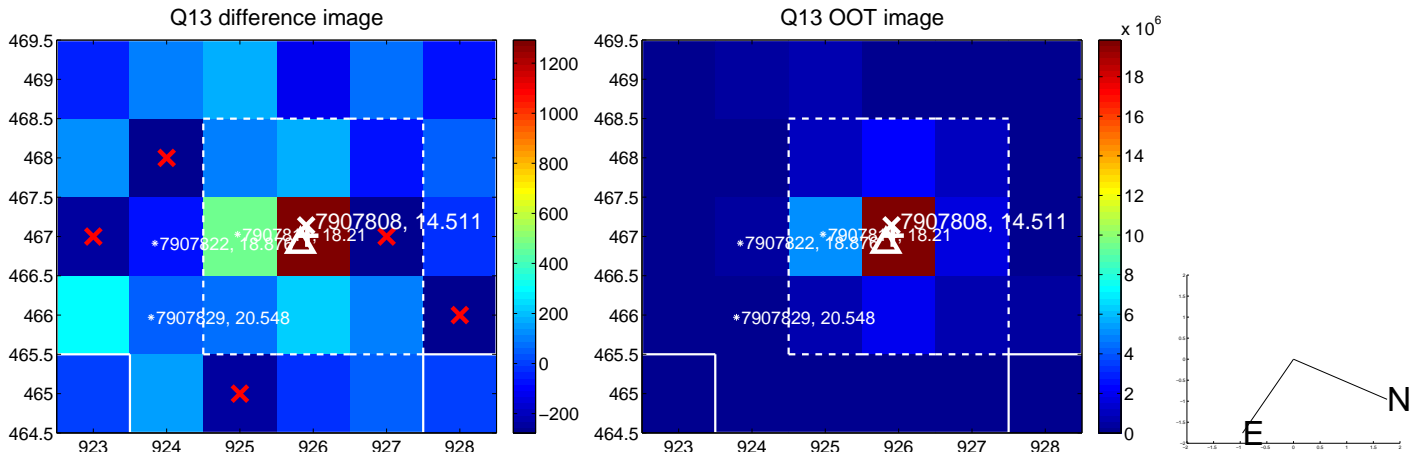
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



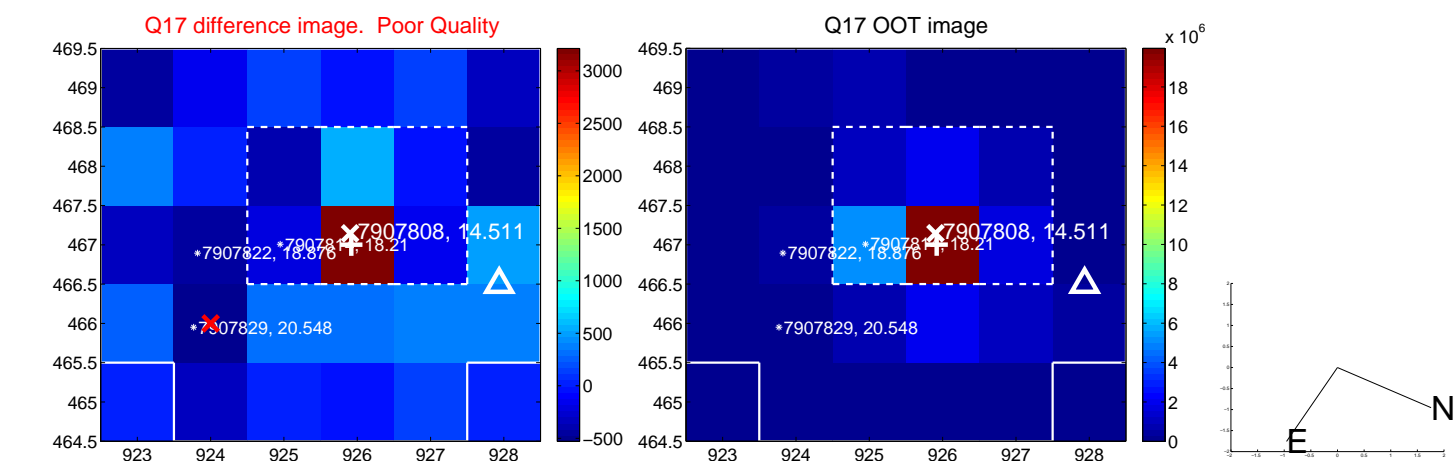
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



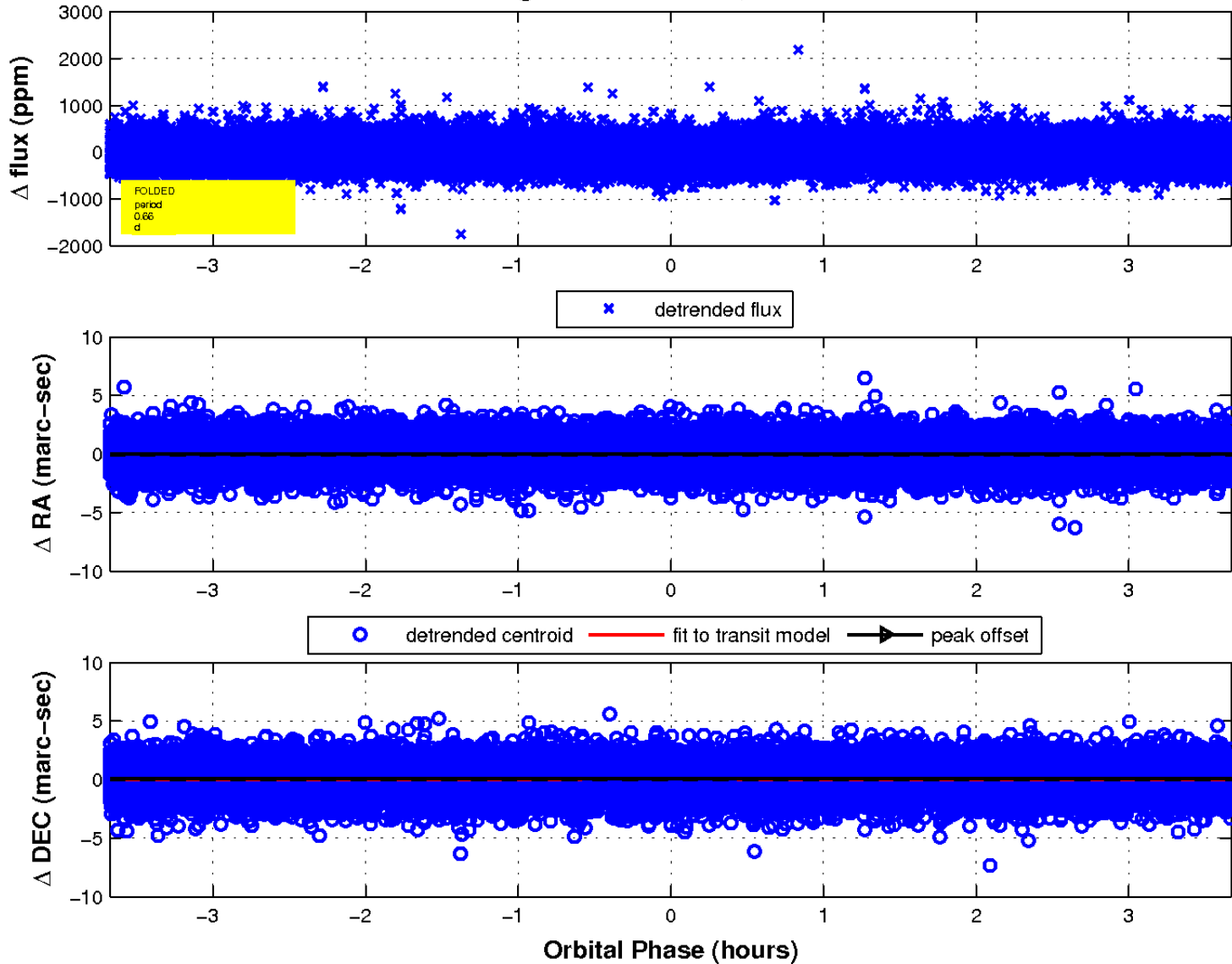
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

