

KIC 007885494

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
007885494-01	OBS	7854.01	1.729274	132.553469	75.1	4.555	9.0	9.1	0.94	5910	0.94	1189.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007885494-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH

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.

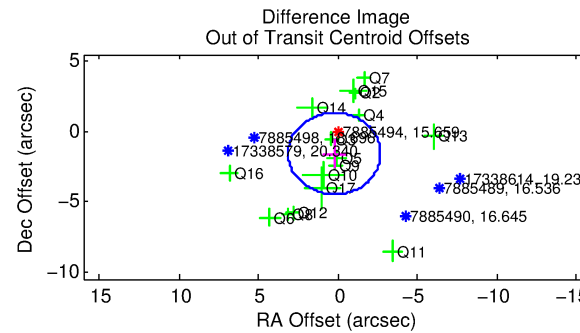
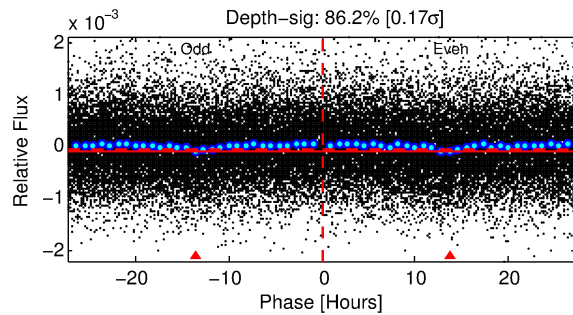
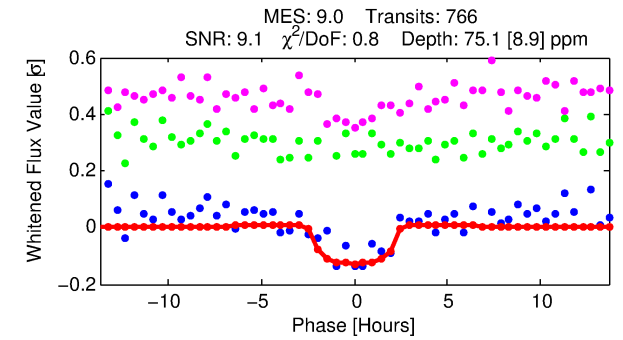
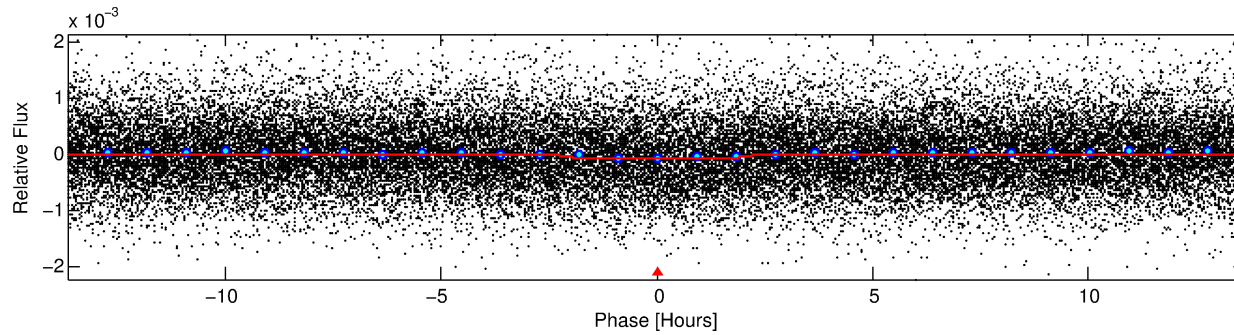
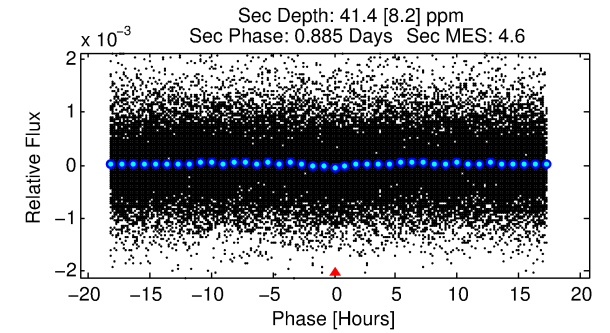
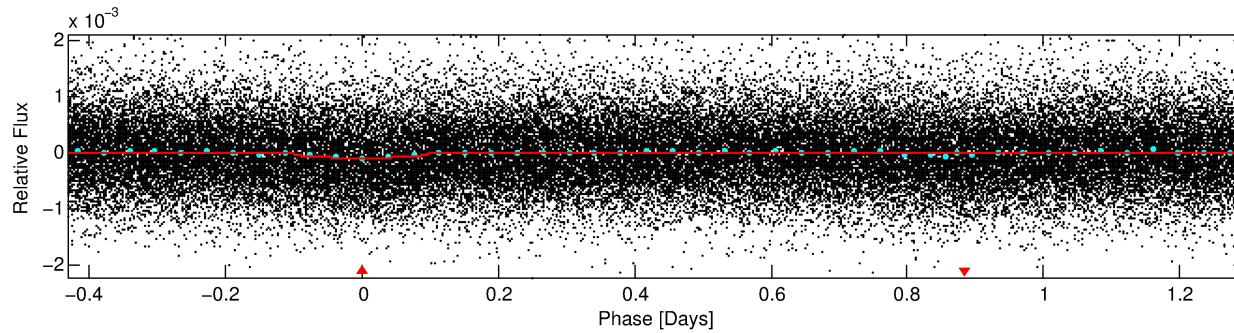
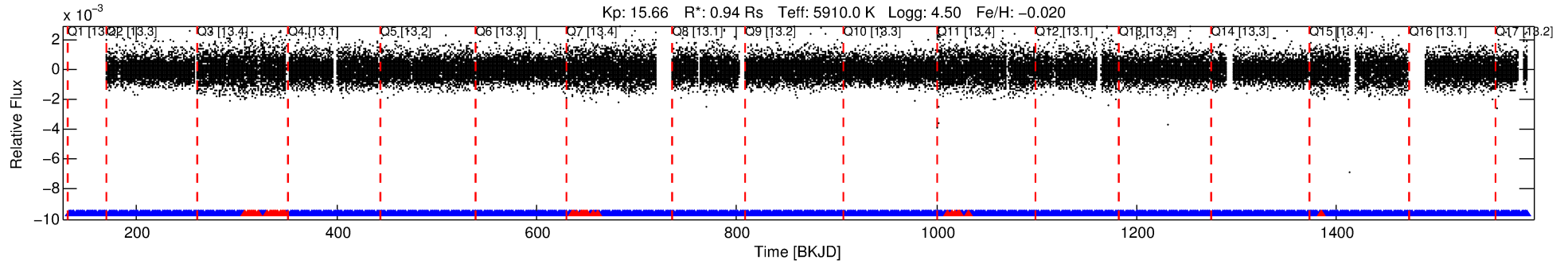
Ephemeris Match Information For 007885494-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
007885494-01	7885494	007885570-pri	7885570	1:1	85.3	-10	20	11.68	15.66	2190.70	Direct-PRF	0	2.72	1.16

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant σ_P < 5.0 and σ_T < 5.0. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7885494 Candidate: 1 of 1 Period: 1.729 d



DV Fit Results:

Period = 1.72927 [0.00002] d
Epoch = 132.5535 [0.0062] BKJD
Rp/R* = 0.0091 [0.0065]
a/R* = 1.77 [4.17]
b = 0.86 [1.03]
Seff = 1189.90 [445.31]
Teff = 1498 [140] K
Rp = 0.94 [0.72] Re
a = 0.0285 [0.0069] AU
Ag = 21.05 [31.11] [0.64σ]
Teffp = 4959 [1788] K [1.93σ]

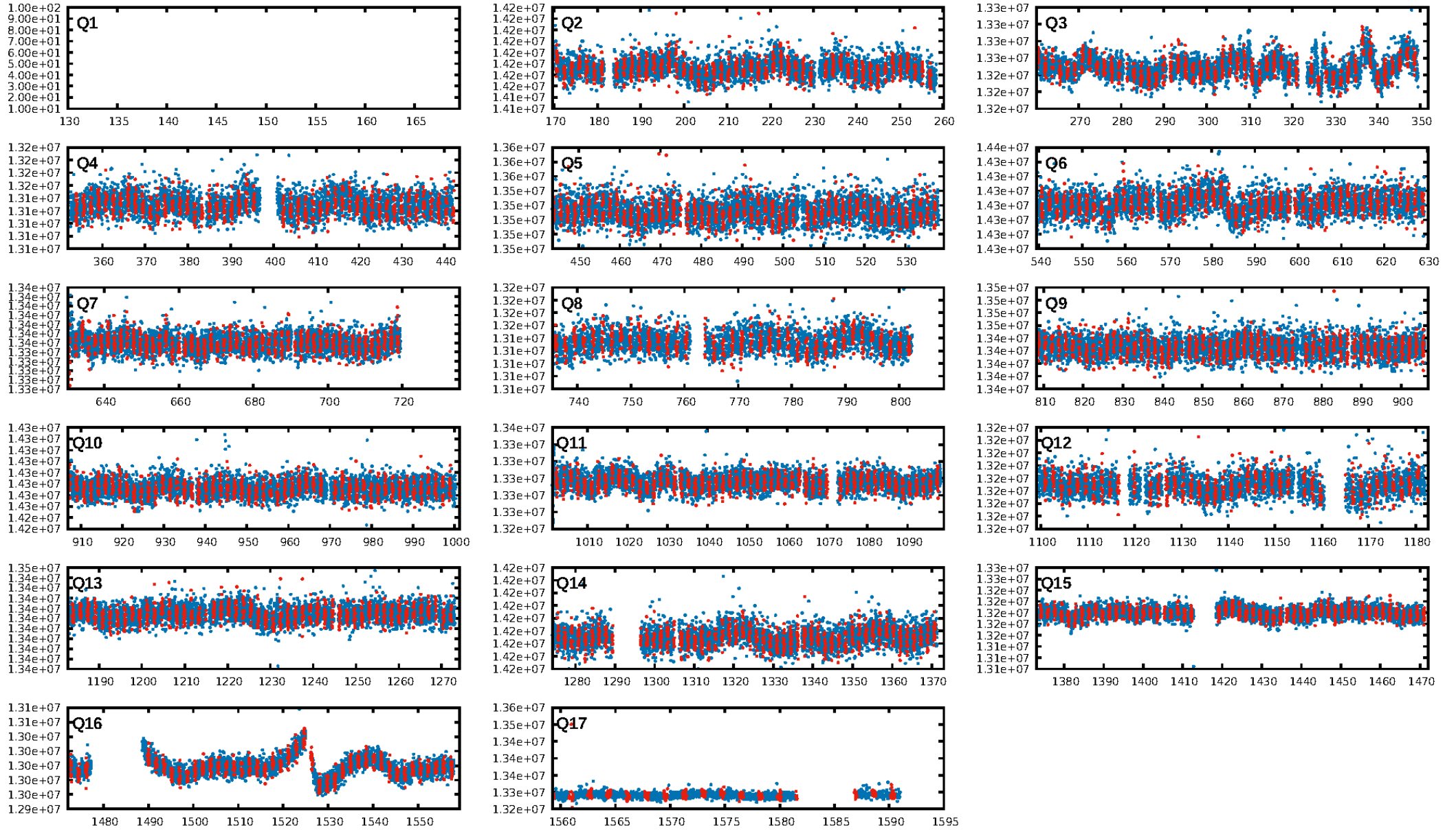
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.22e-18
RollingBand-fgt: 0.95 [713/749]
GhostDiagnostic-chr: -0.004135
Centroid-sig: 0.0%
Centroid-so: 3.150 arcsec [2.31σ]
OotOffset-rm: 1.585 arcsec [1.64σ]
KicOffset-rm: 1.991 arcsec [2.04σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.00 [0/16]
DiffImageOverlap-fno: 1.00 [16/16]

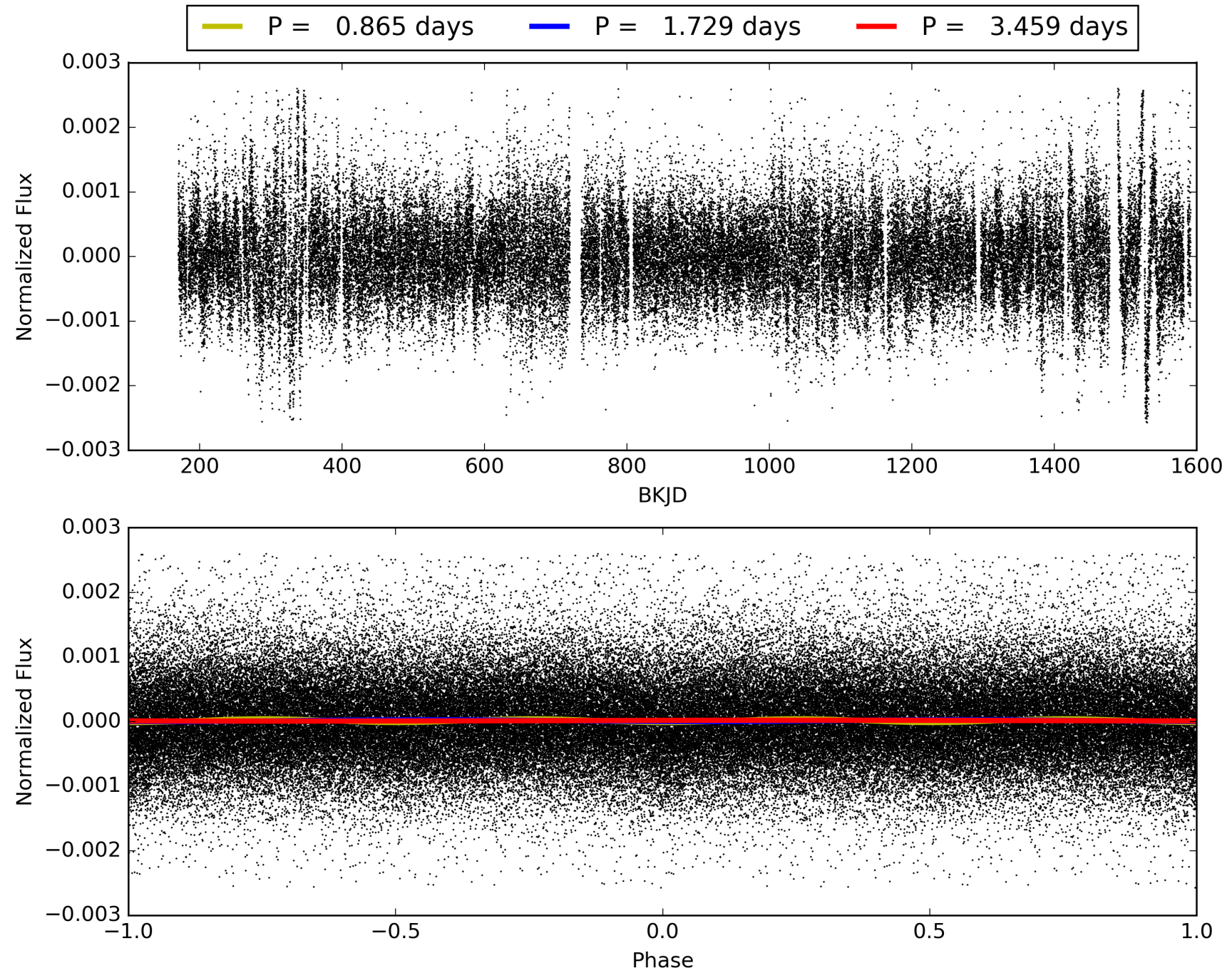
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:31:38 Z

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

TCE 007885494-01, PDC Light Curves

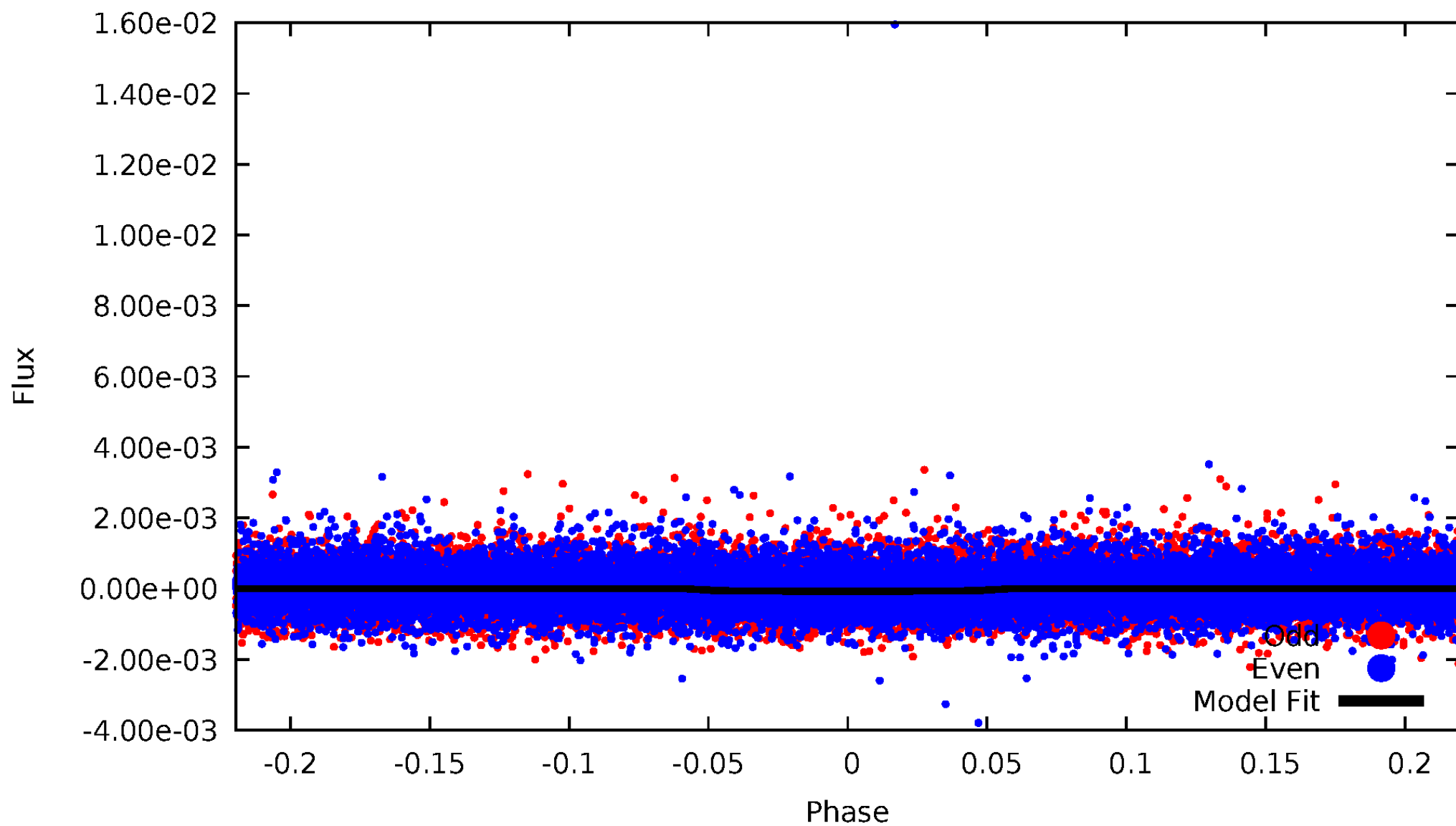


TCE 007885494-01



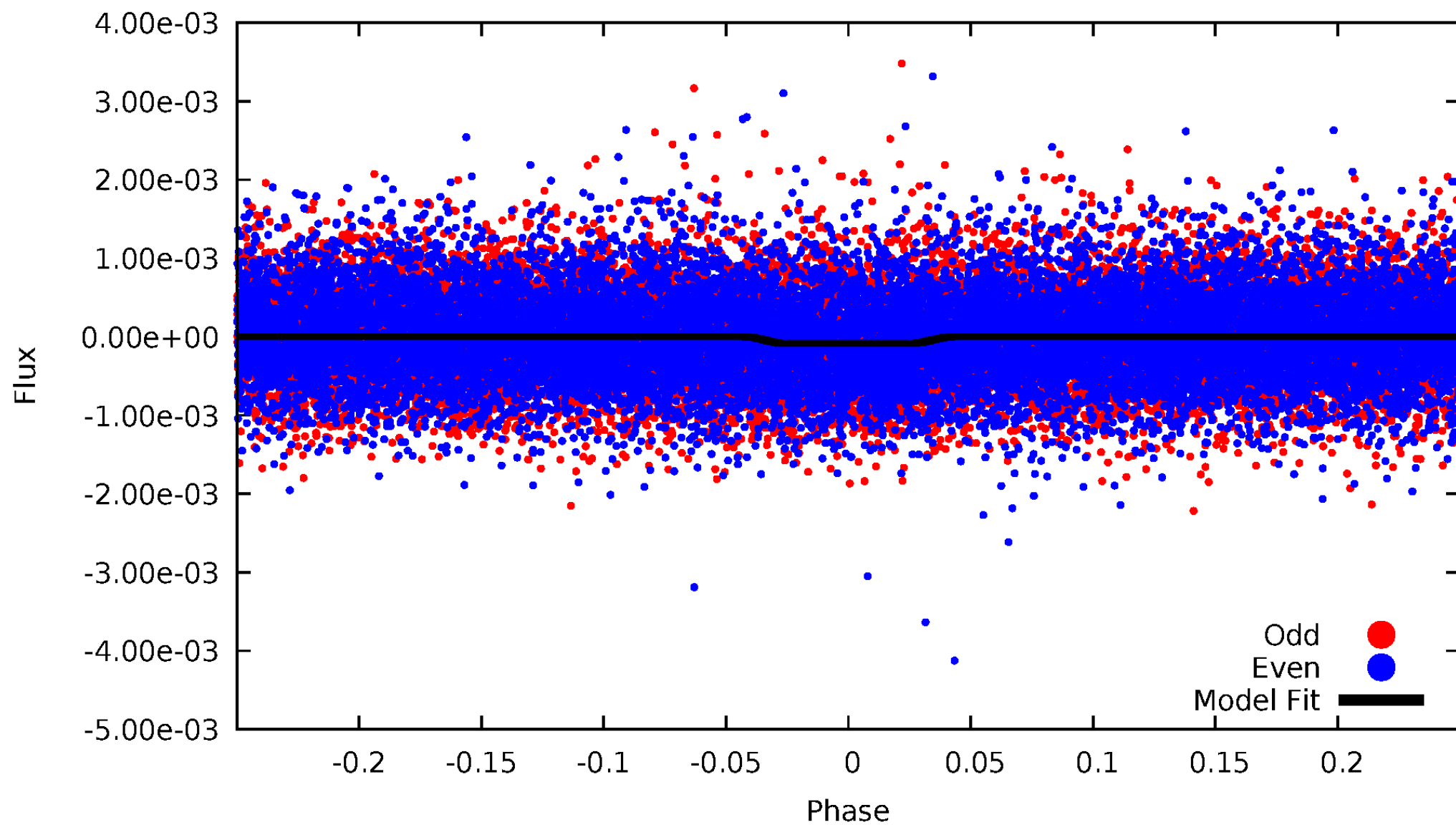
DV Odd/Even

TCE 007885494-01

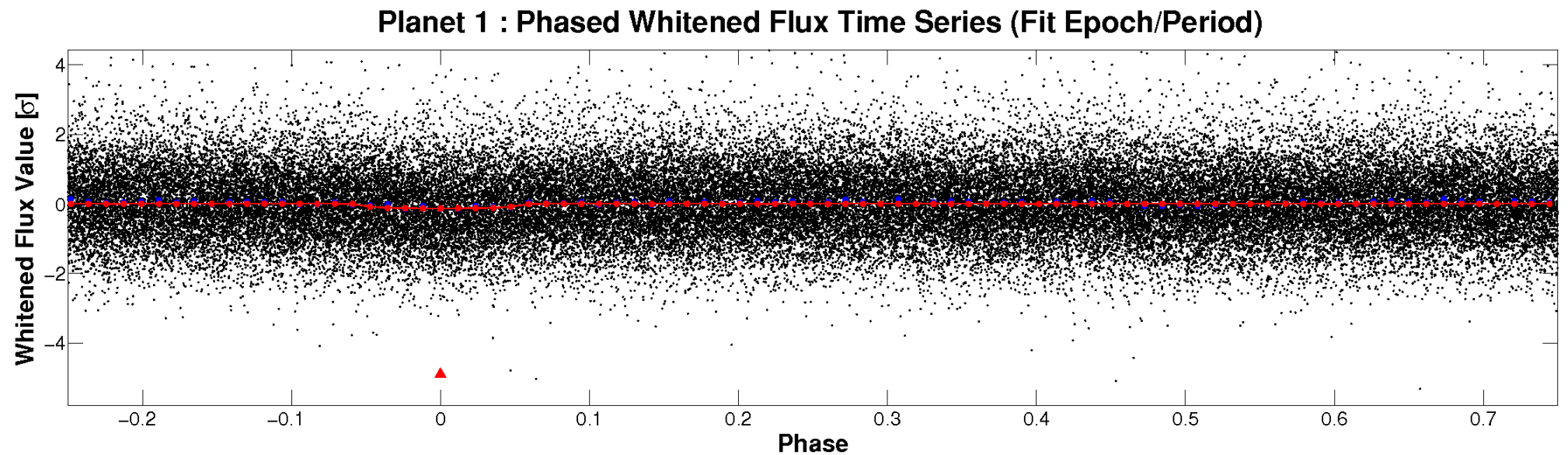
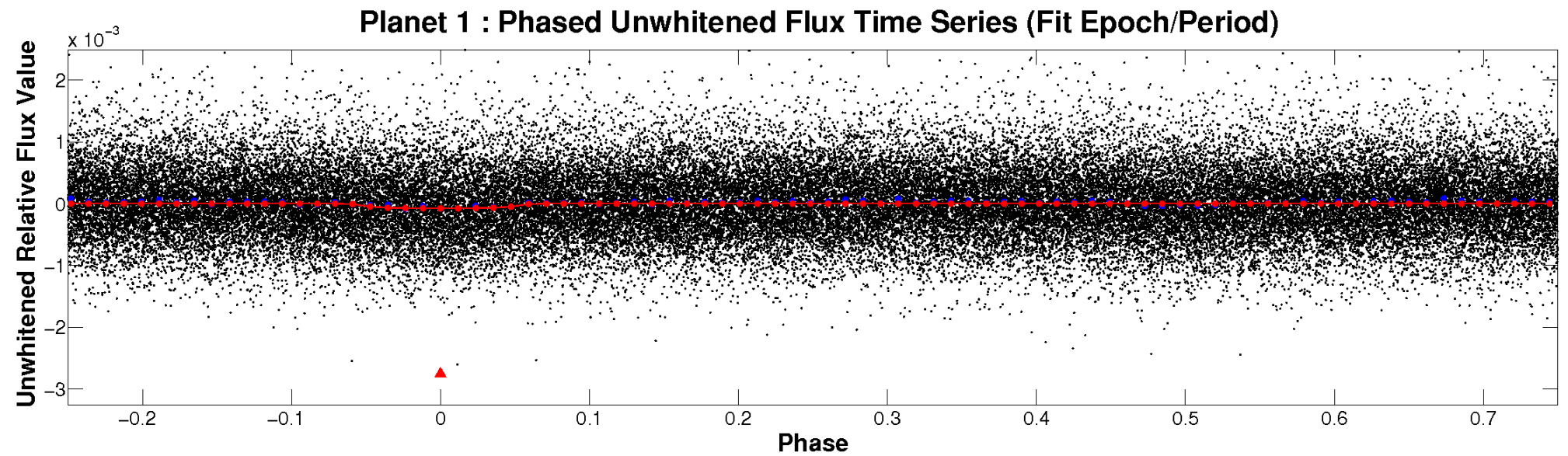


ALT Odd/Even

TCE 007885494-01

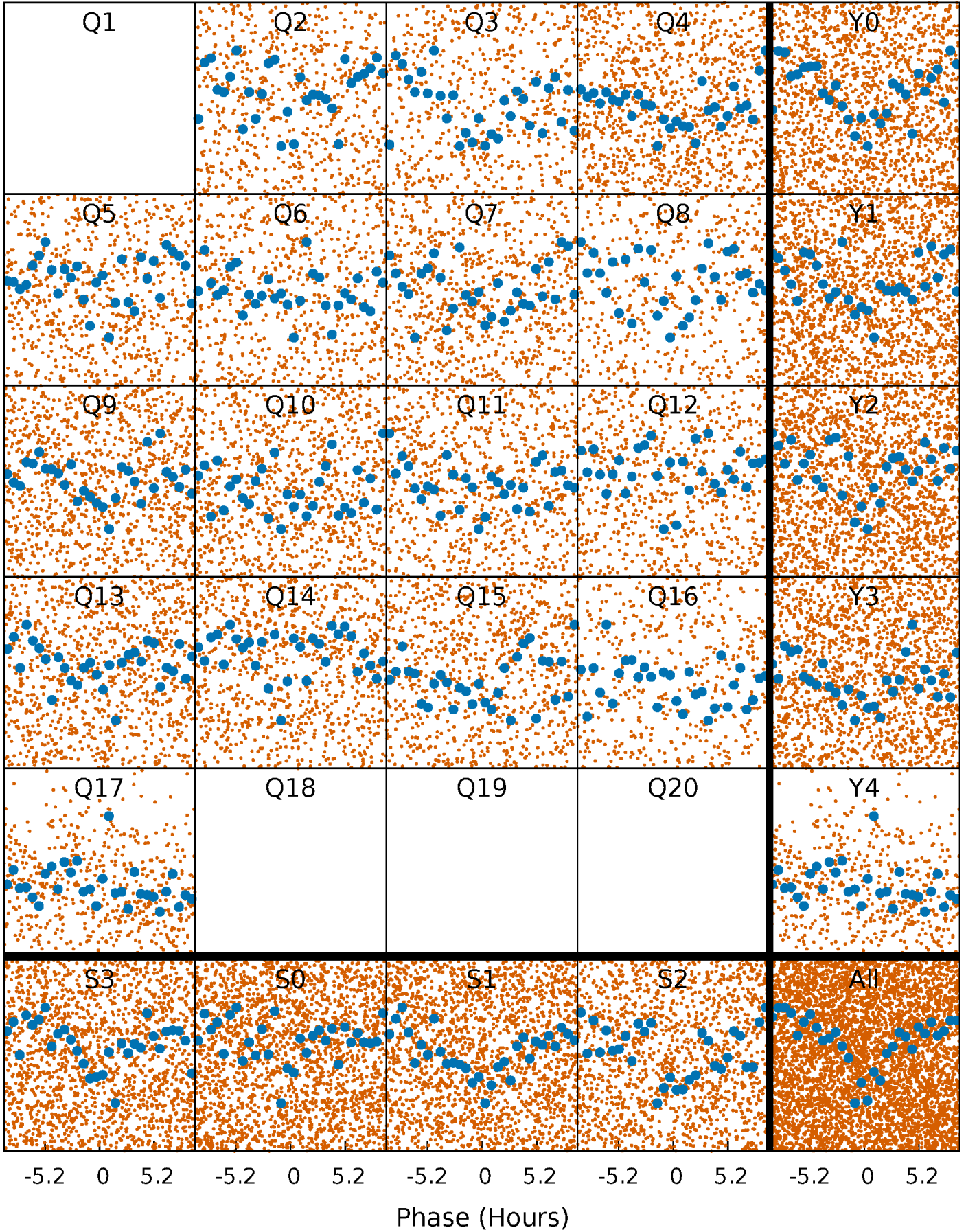


Non-Whitened Vs. Whitened Light Curve



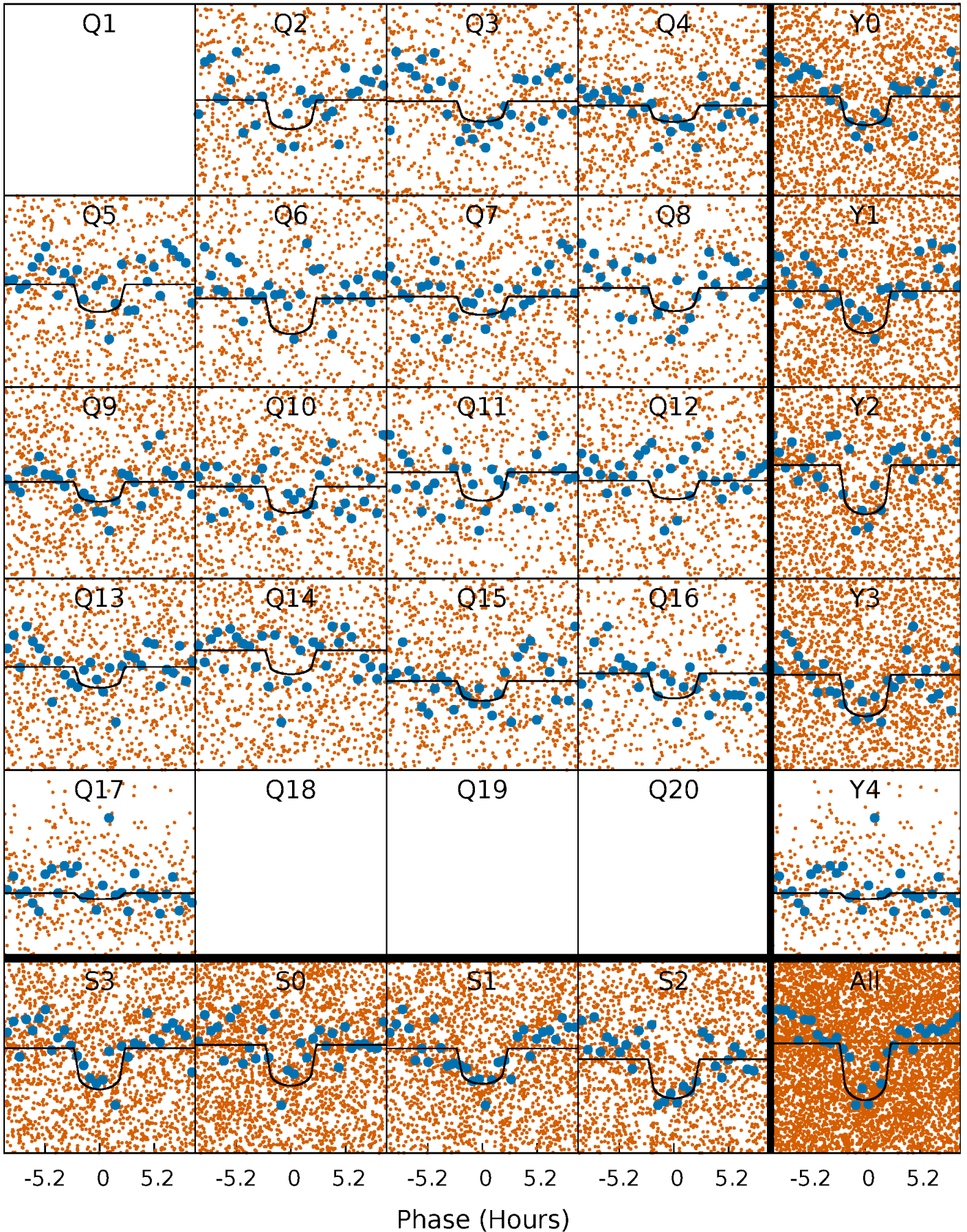
PDC Quarter-Phased Transit Curves

TCE 007885494-01 P= 1.729274 Days $T_0=132.553469$ (BKJD)



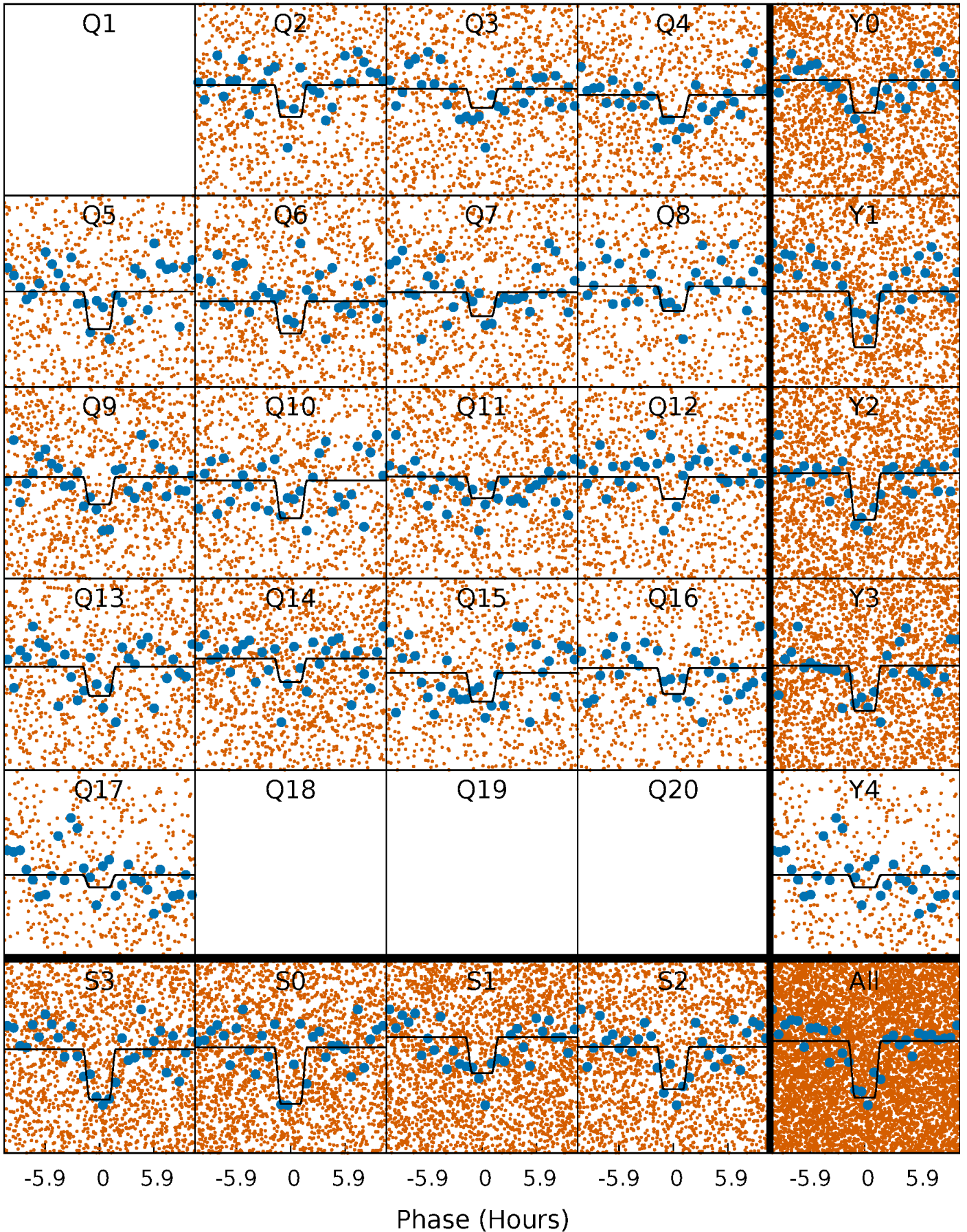
DV Quarter-Phased Transit Curves

TCE 007885494-01 P= 1.729274 Days $T_0=132.553469$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

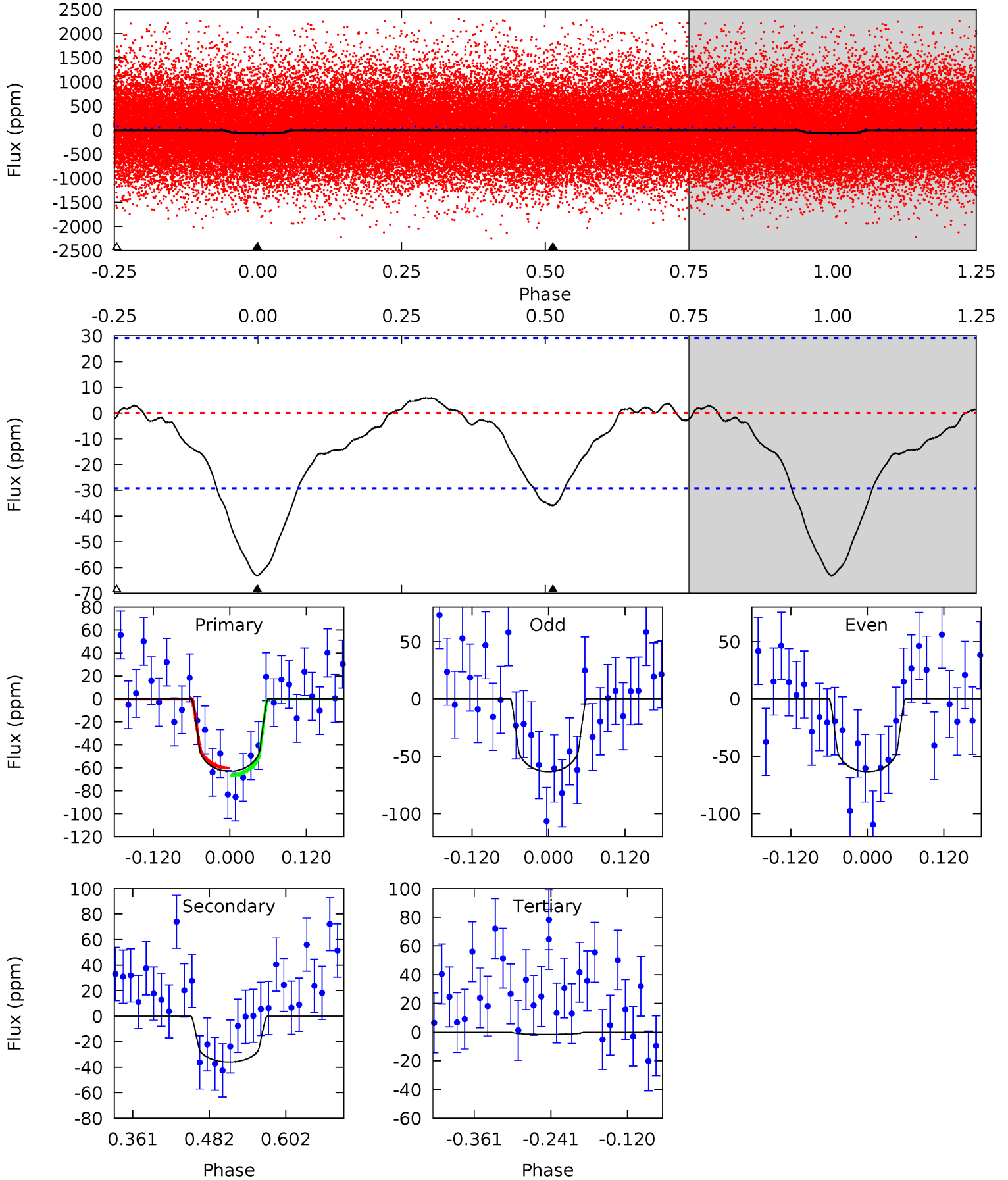
TCE 007885494-01 P= 1.729258 Days $T_0=132.564045$ (BKJD)



DV Model-Shift Uniqueness Test

007885494-01, P = 1.729274 Days, E = 132.553469 Days

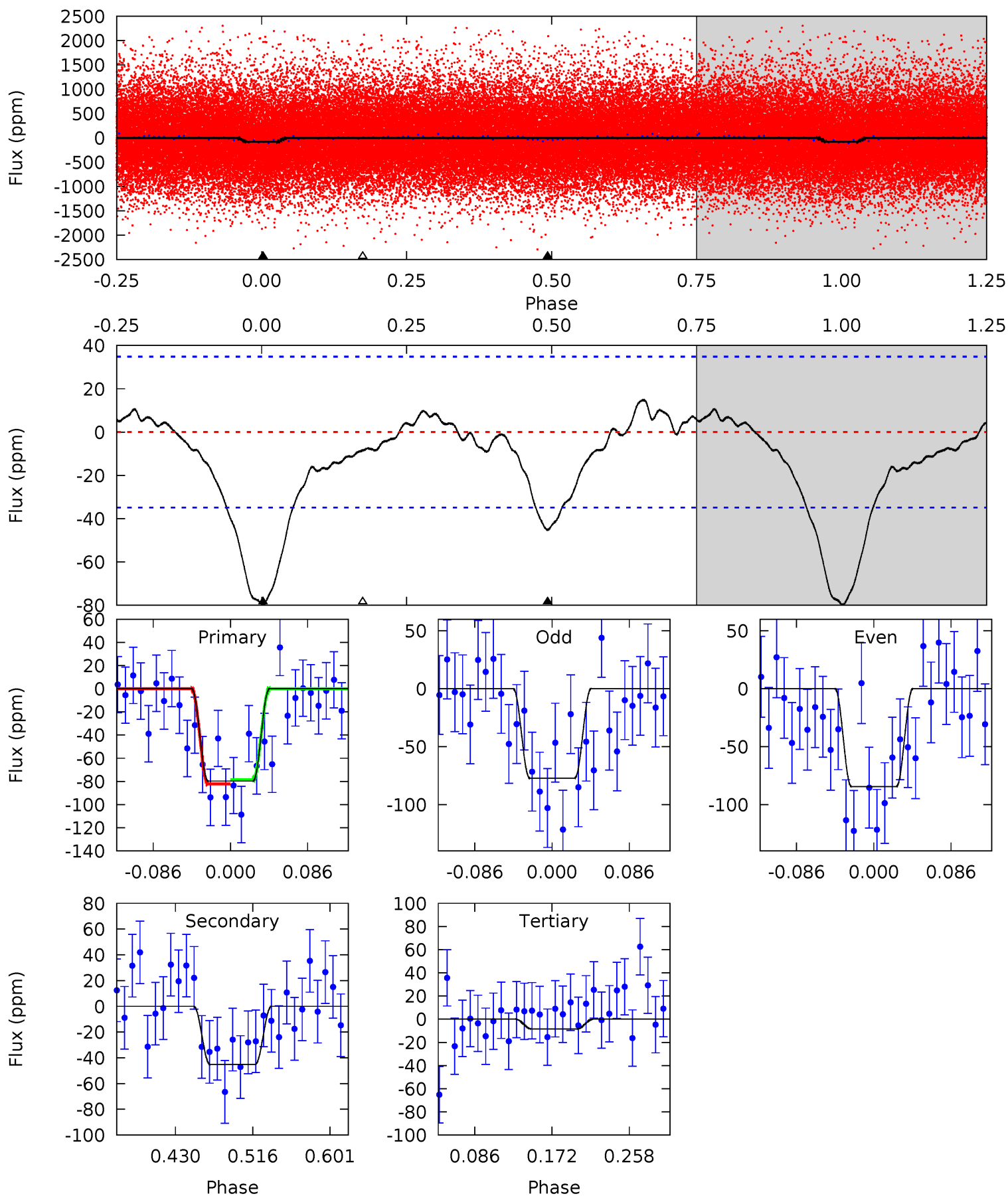
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.77	5.56	0.21	0	4.53	1.55	0.85	9.55	9.77	5.34	5.56	0.00	0.70	0.09	0.49



Alt Model-Shift Uniqueness Test

007885494-01, P = 1.729258 Days, E = 132.564045 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	5.95	1.12	0	4.60	1.72	1.07	9.39	10.5	4.83	5.95	0.48	0.87	0.16	0.24



Stellar Parameters For KIC 007885494

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5910^{+176}_{-193}	$4.505^{+0.048}_{-0.192}$	$-0.020^{+0.250}_{-0.350}$	$0.940^{+0.268}_{-0.089}$	$1.032^{+0.115}_{-0.140}$	$1.750^{+0.436}_{-0.898}$
	+3%/-3%	+1%/-4%	+1250%/-1750%	+29%/-9%	+11%/-14%	+25%/-51%
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 007885494-01 / KOI 7854.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-36 ± 6	$1.06^{+0.70}_{-0.61}$	2145^{+155}_{-112}	4689^{+2371}_{-799}	14^{+58}_{-9}
Alt.	-45 ± 8	$1.04^{+0.67}_{-0.54}$	2134^{+133}_{-101}	4978^{+2108}_{-906}	18^{+59}_{-11}

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 $A_{obs} \gg 1.0$

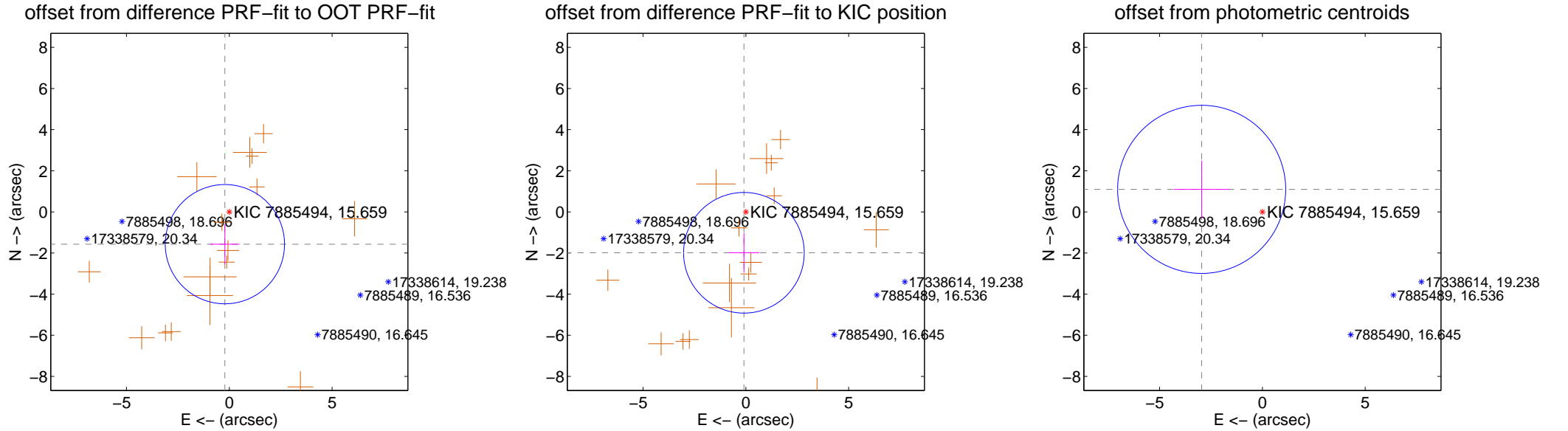
DV Centroid Data

Supplemental centroid analysis for 007885494-01. Kepler magnitude: 15.66. Transit SNR 9.14

There are 0 quarters with good PRF difference image offsets

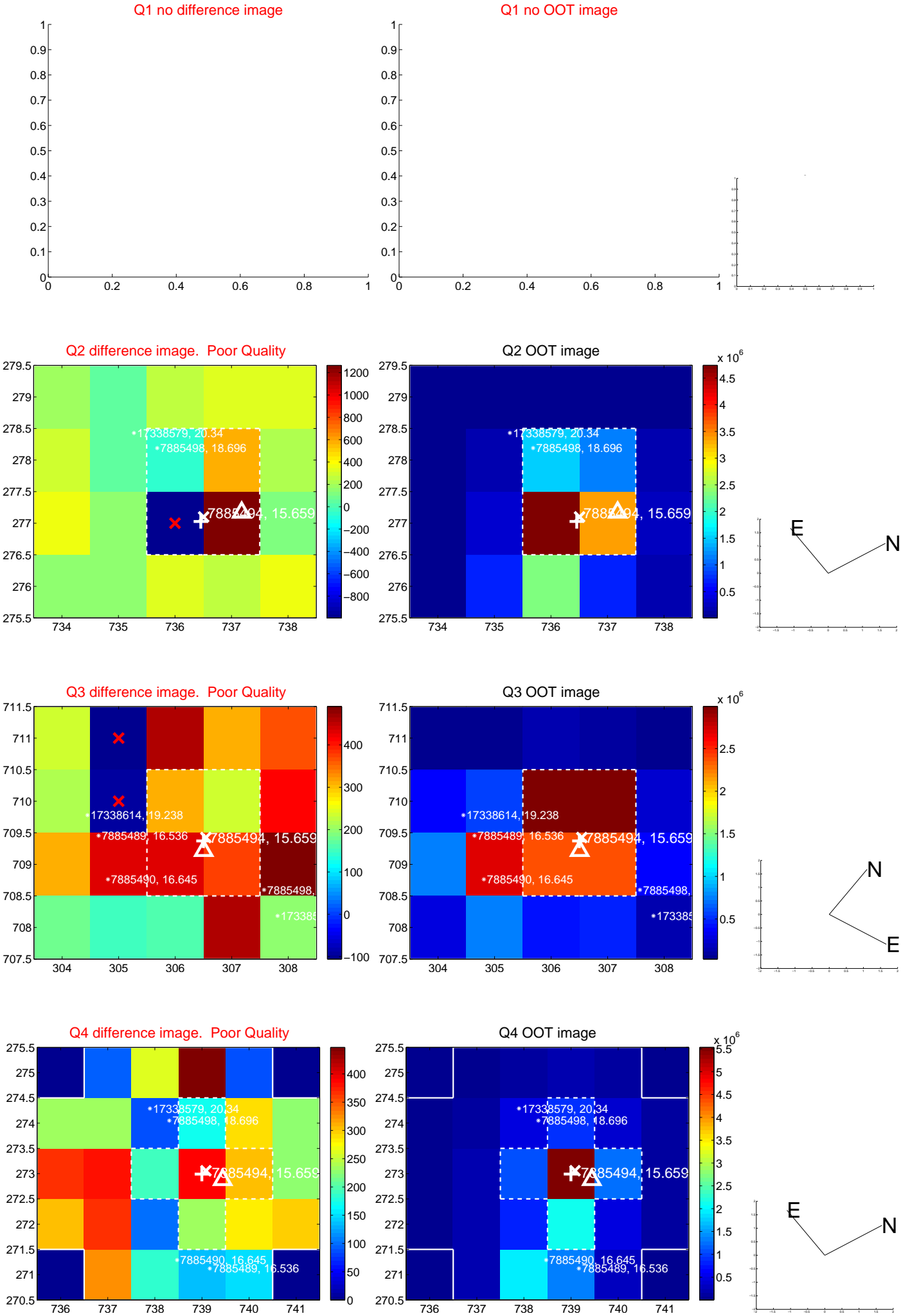
The direct PRF centroid is offset from the target star catalog position by about 0.64 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.585 ± 0.967	1.64	0.214 ± 0.719	-1.570 ± 0.971
PRF-fit source offset from KIC position	1.991 ± 0.978	2.04	0.094 ± 0.749	-1.989 ± 0.967
photometric centroid source offset	3.15 ± 1.36	2.31	2.95 ± 1.36	1.09 ± 1.40

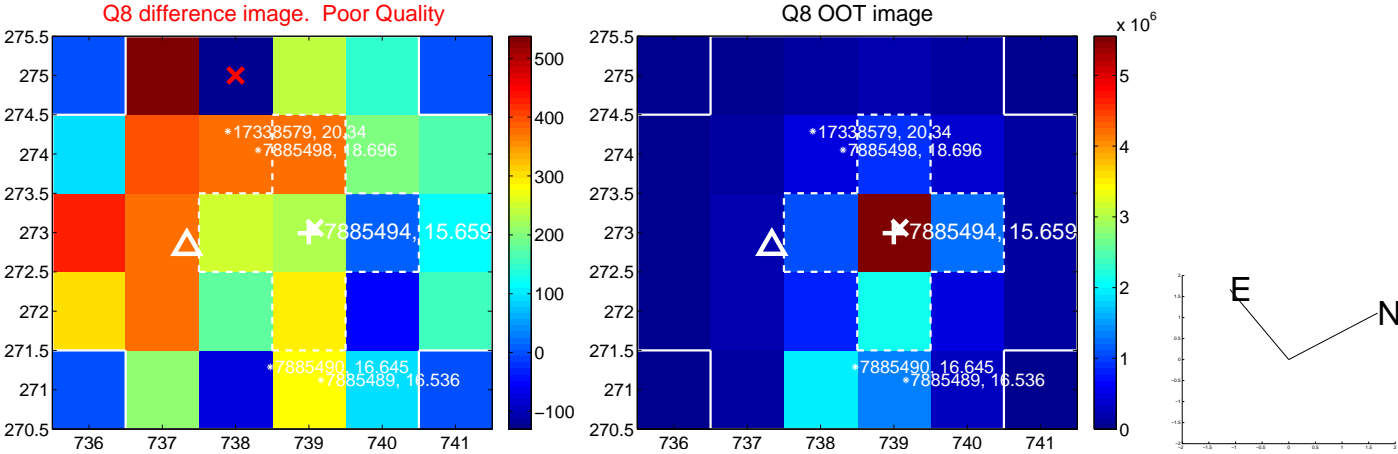
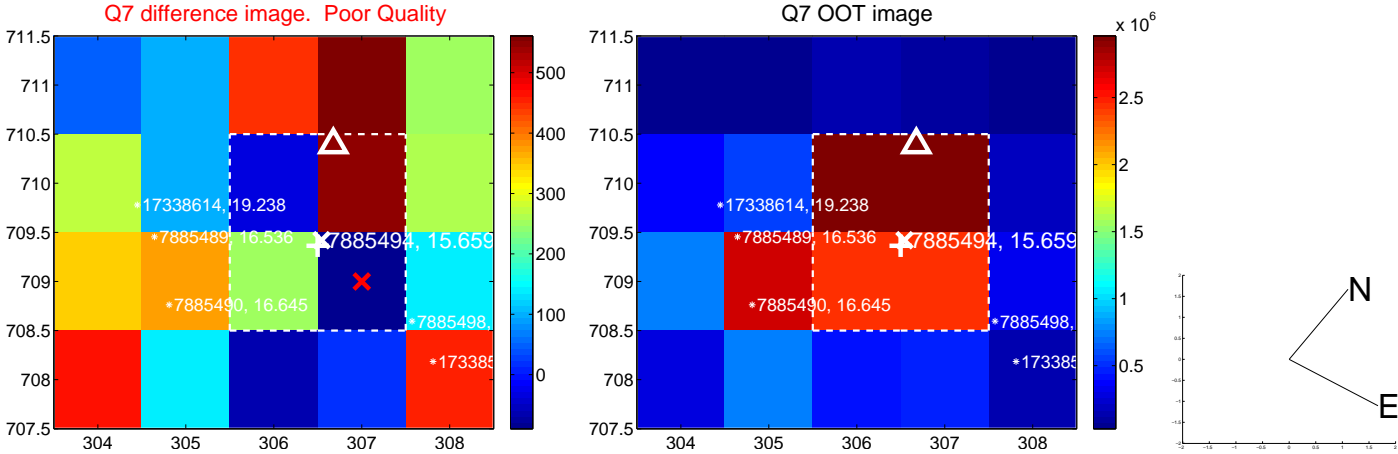
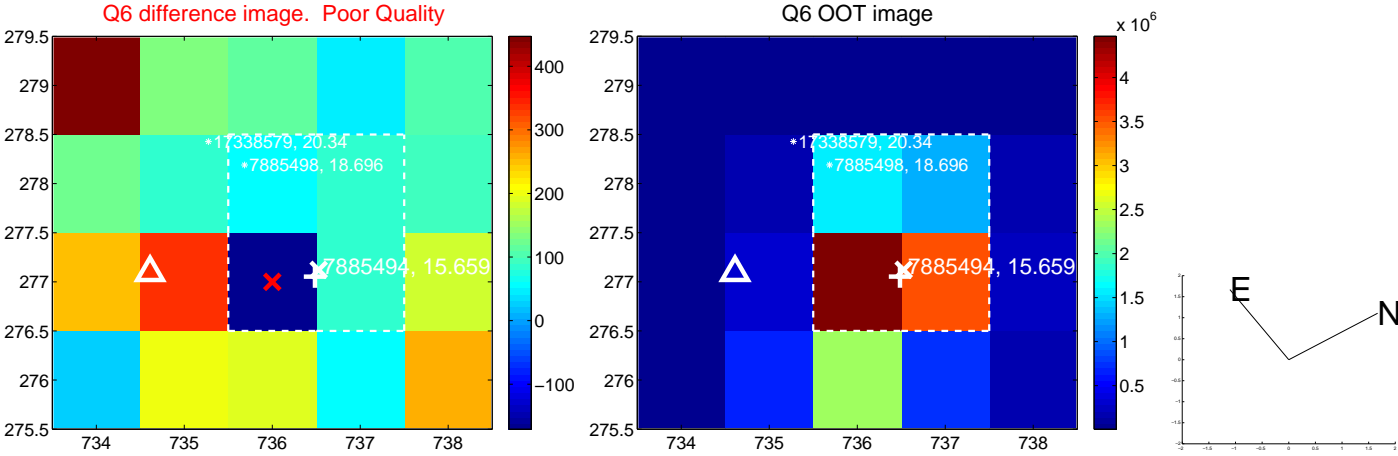
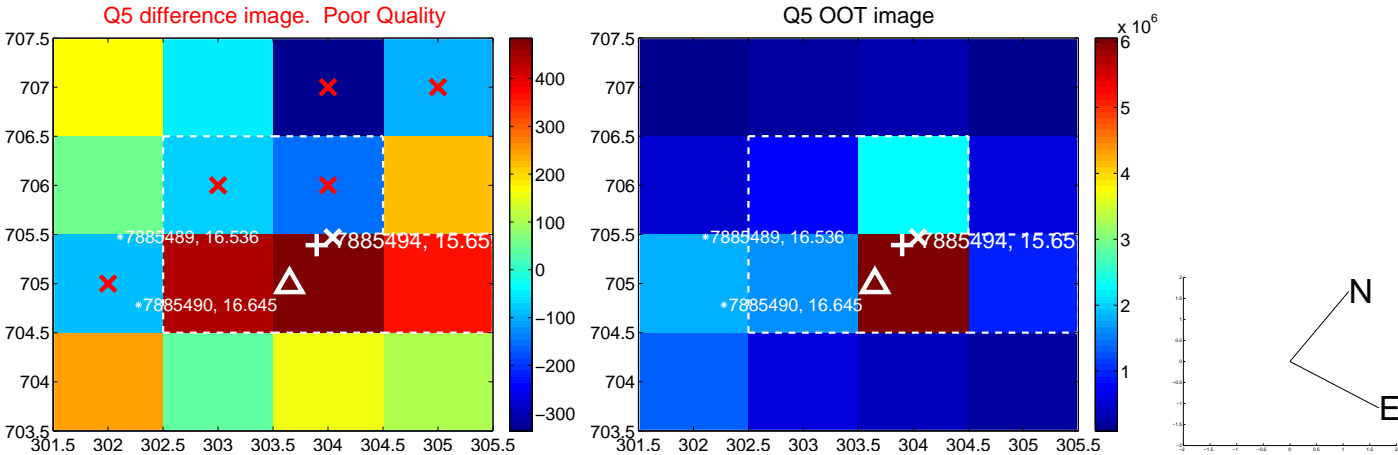


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

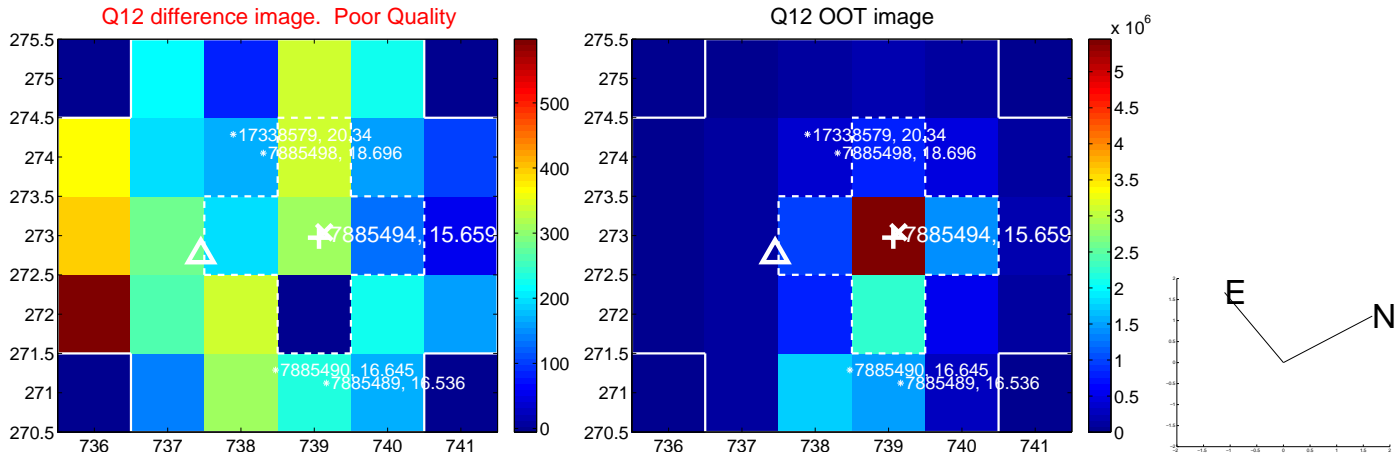
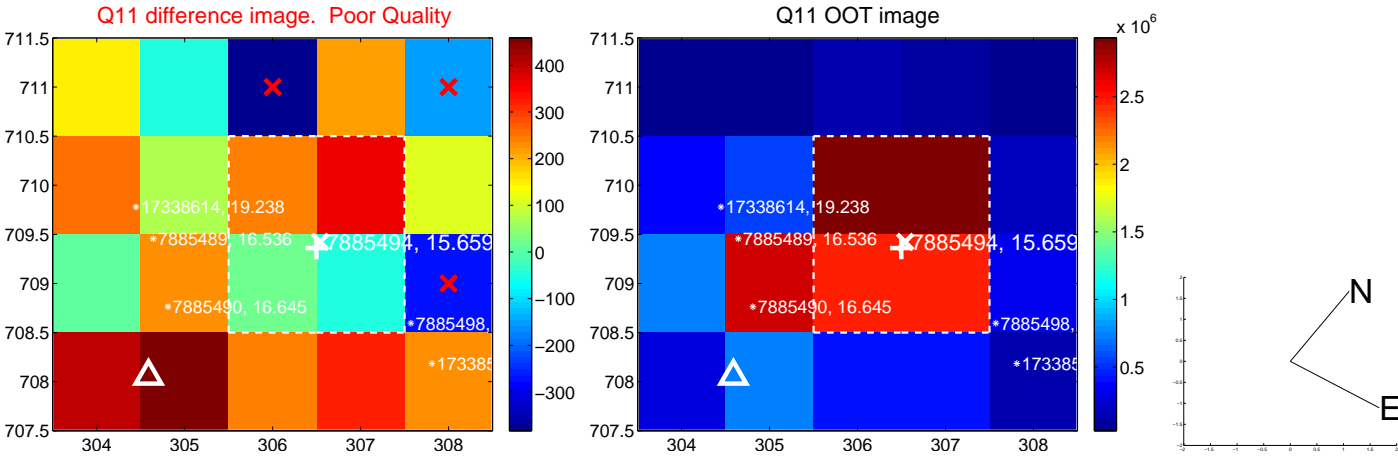
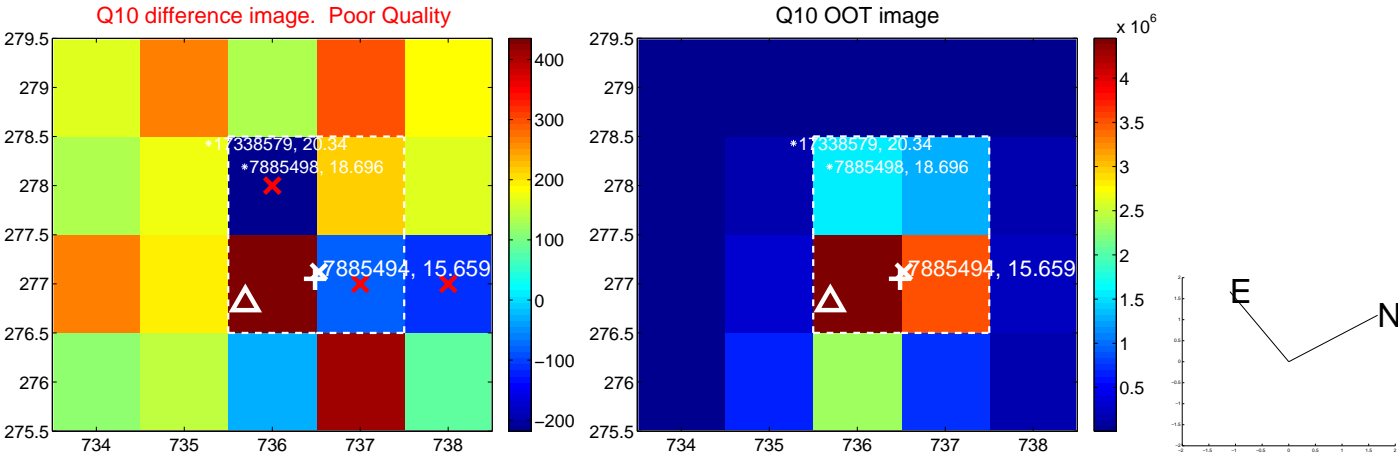
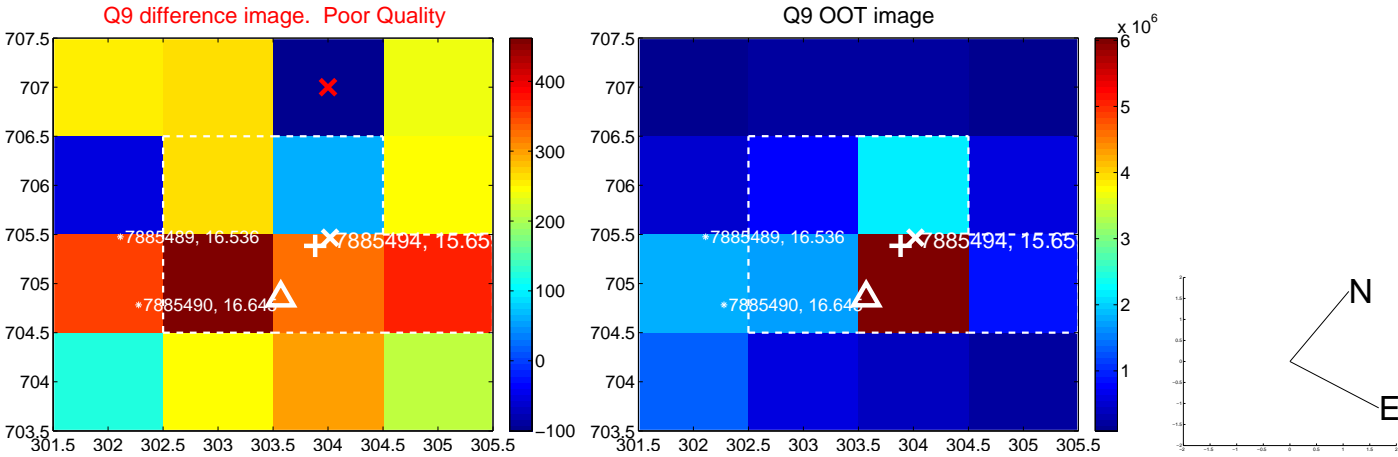
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



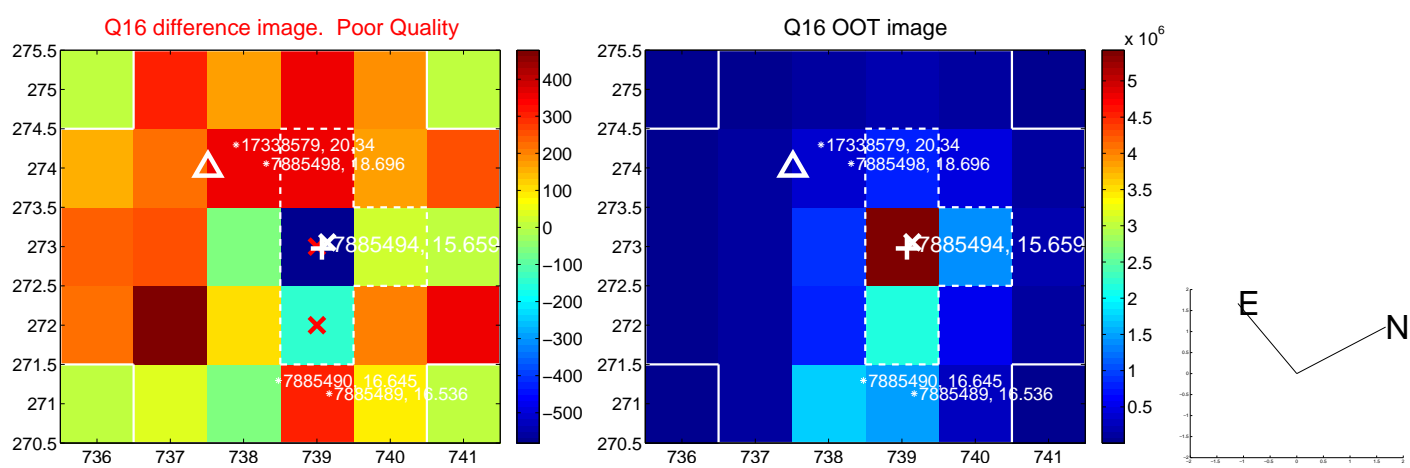
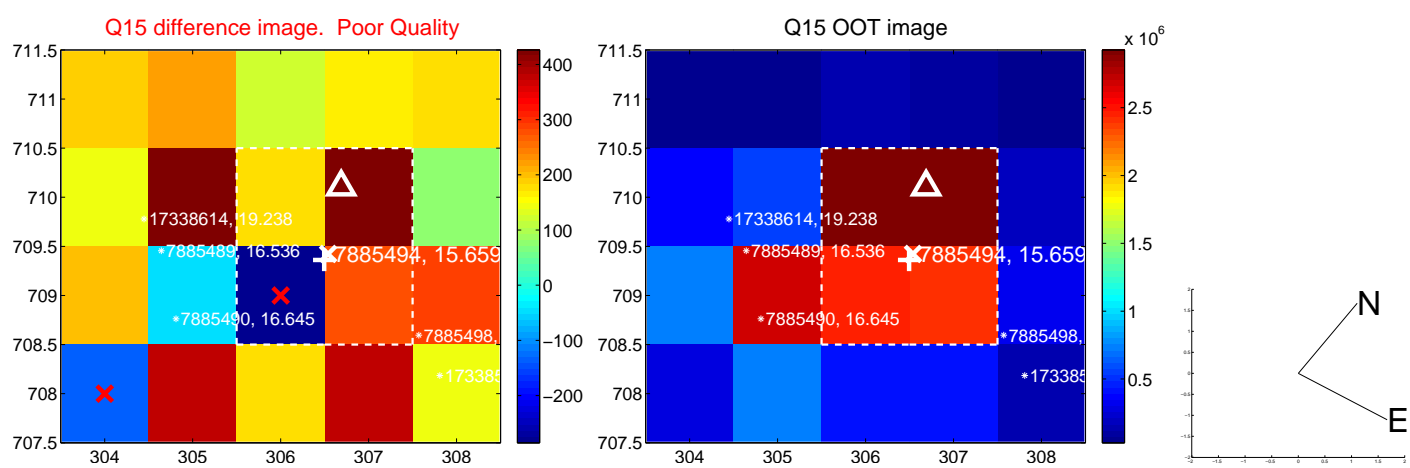
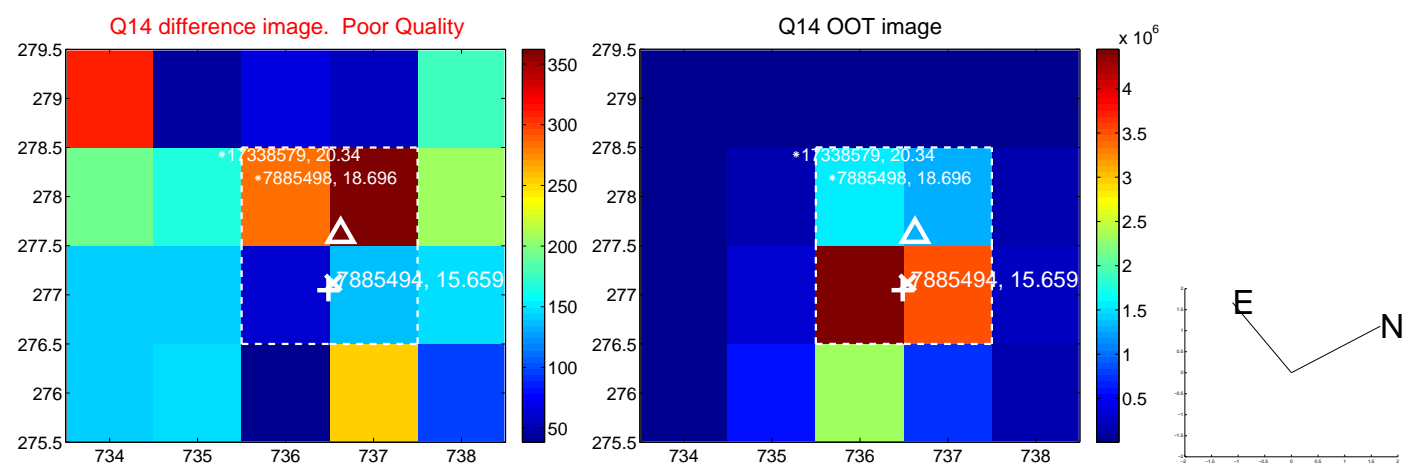
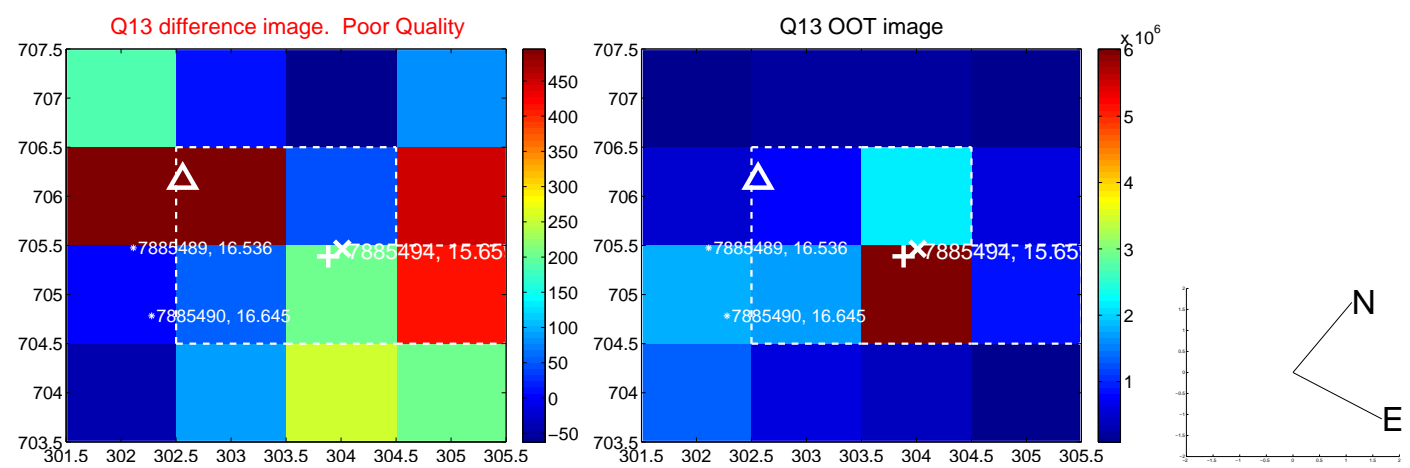
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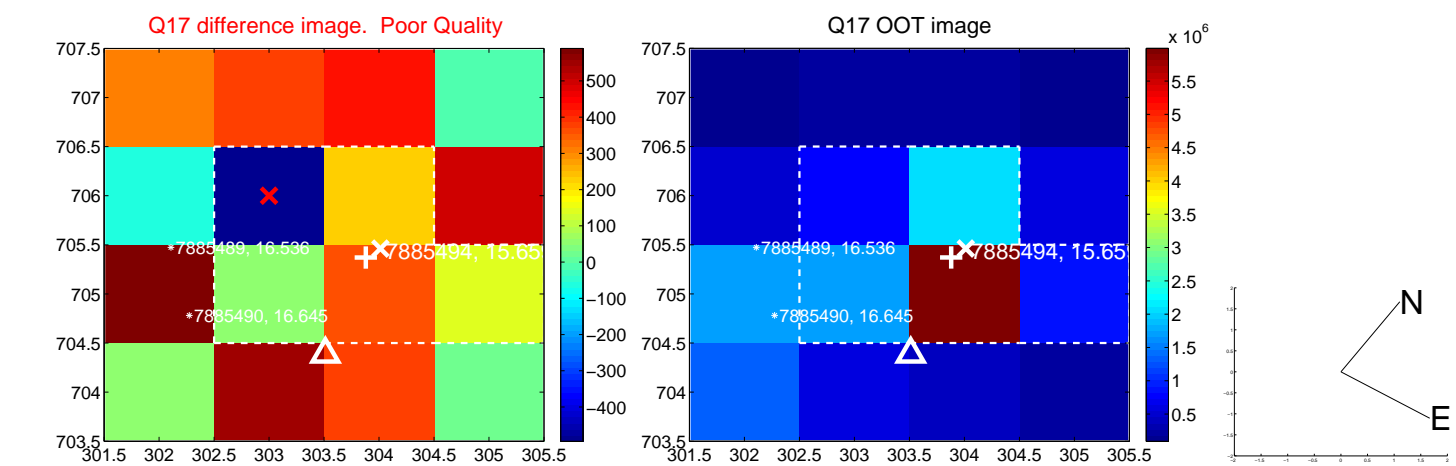
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



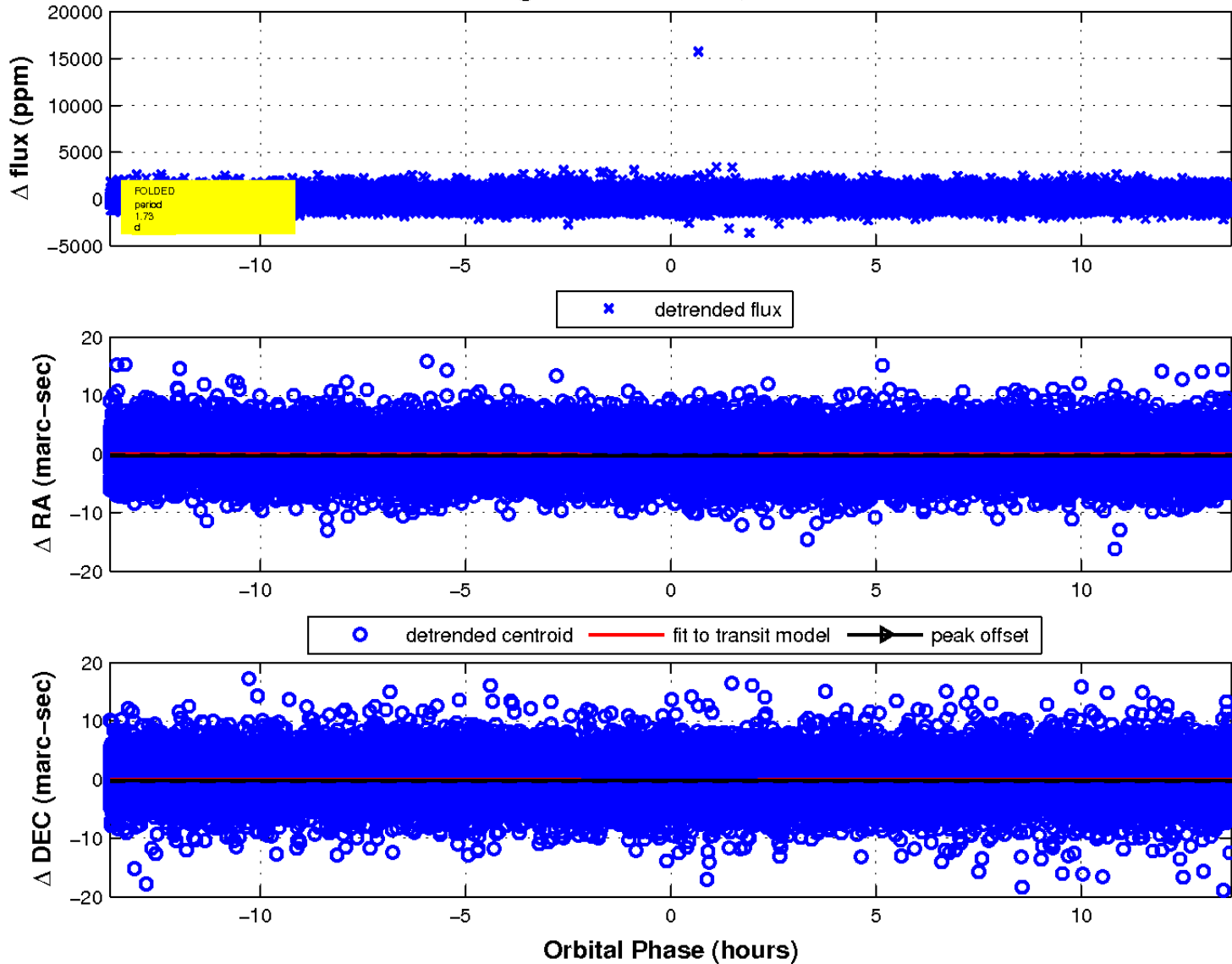
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

