

KIC 005371777

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})
005371777-01	OBS	4327.01	0.991642	131.544036	58.1	2.192	11.1	10.2	1.24	6117	1.09	4625.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005371777-01	OBS	PC	0.99	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.

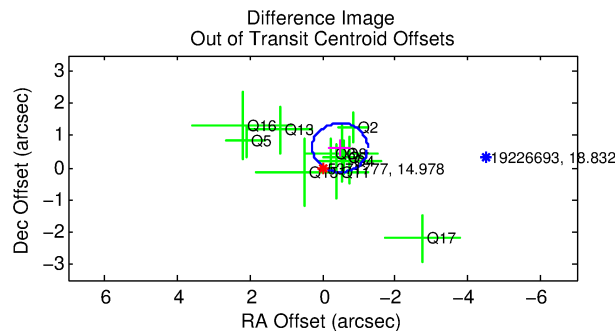
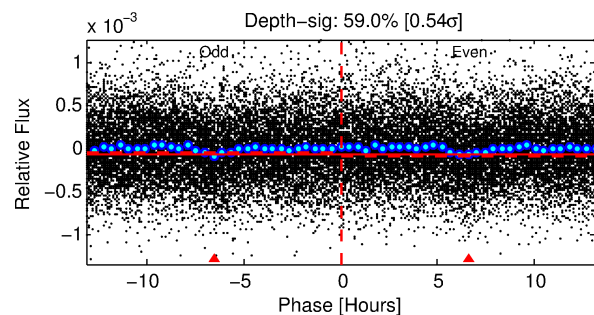
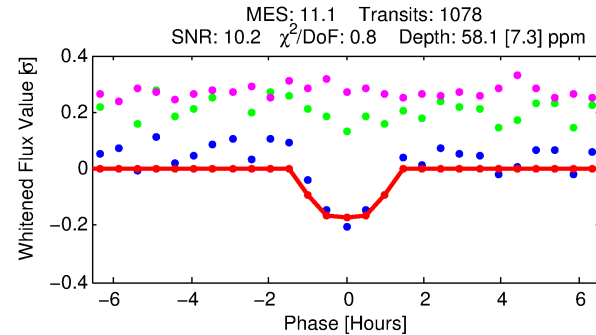
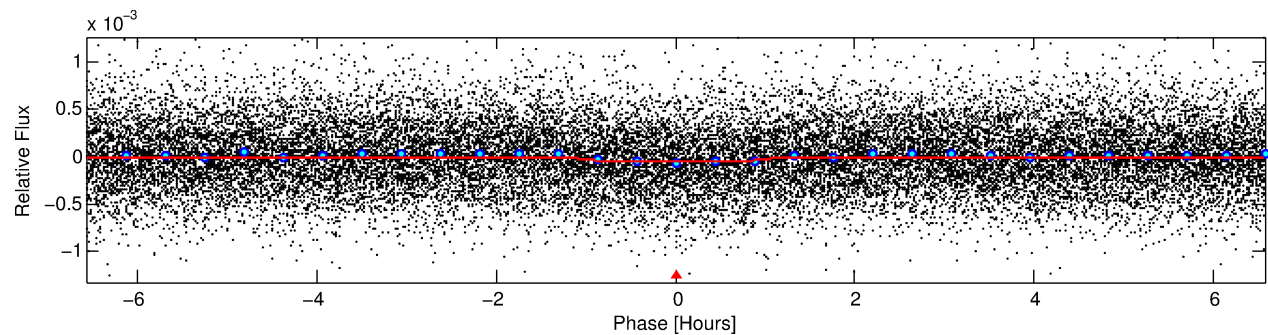
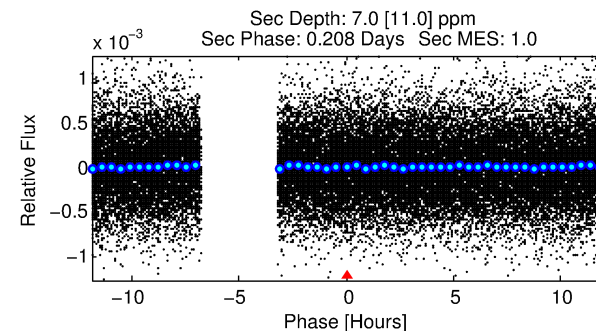
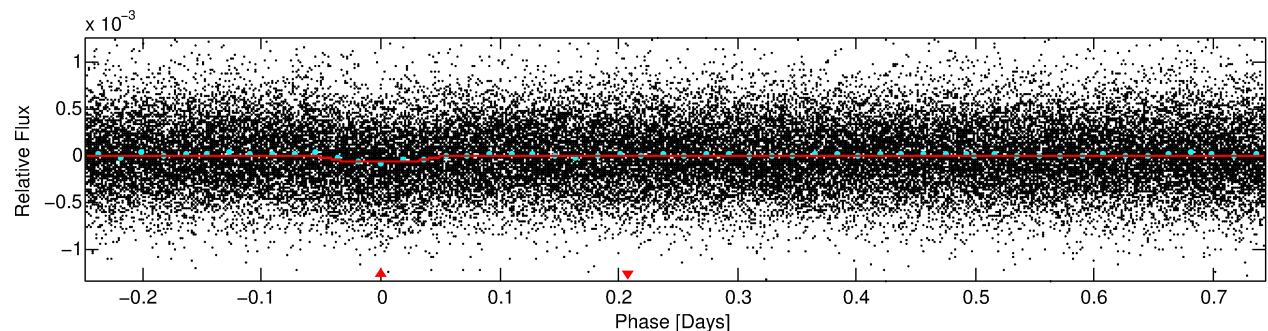
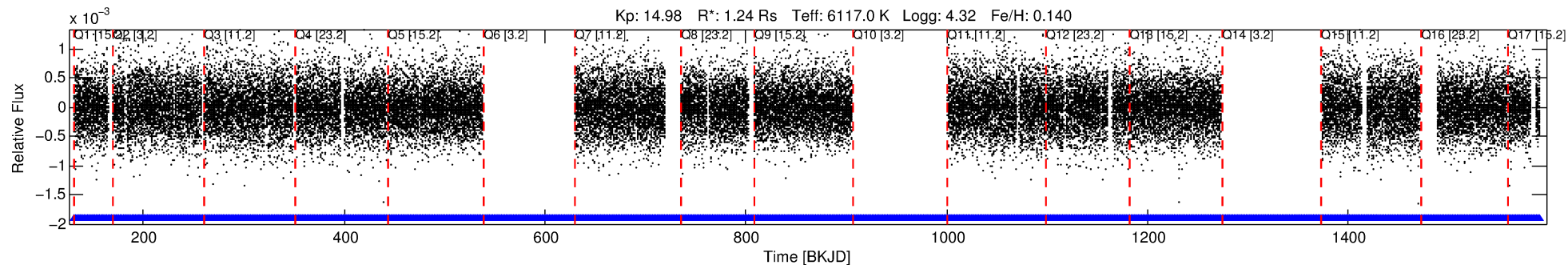
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005371777-01

No Significant Match Found

DV One-Page Summary

KIC: 5371777 Candidate: 1 of 1 Period: 0.992 d
KOI: K04327.01 Corr: 0.888



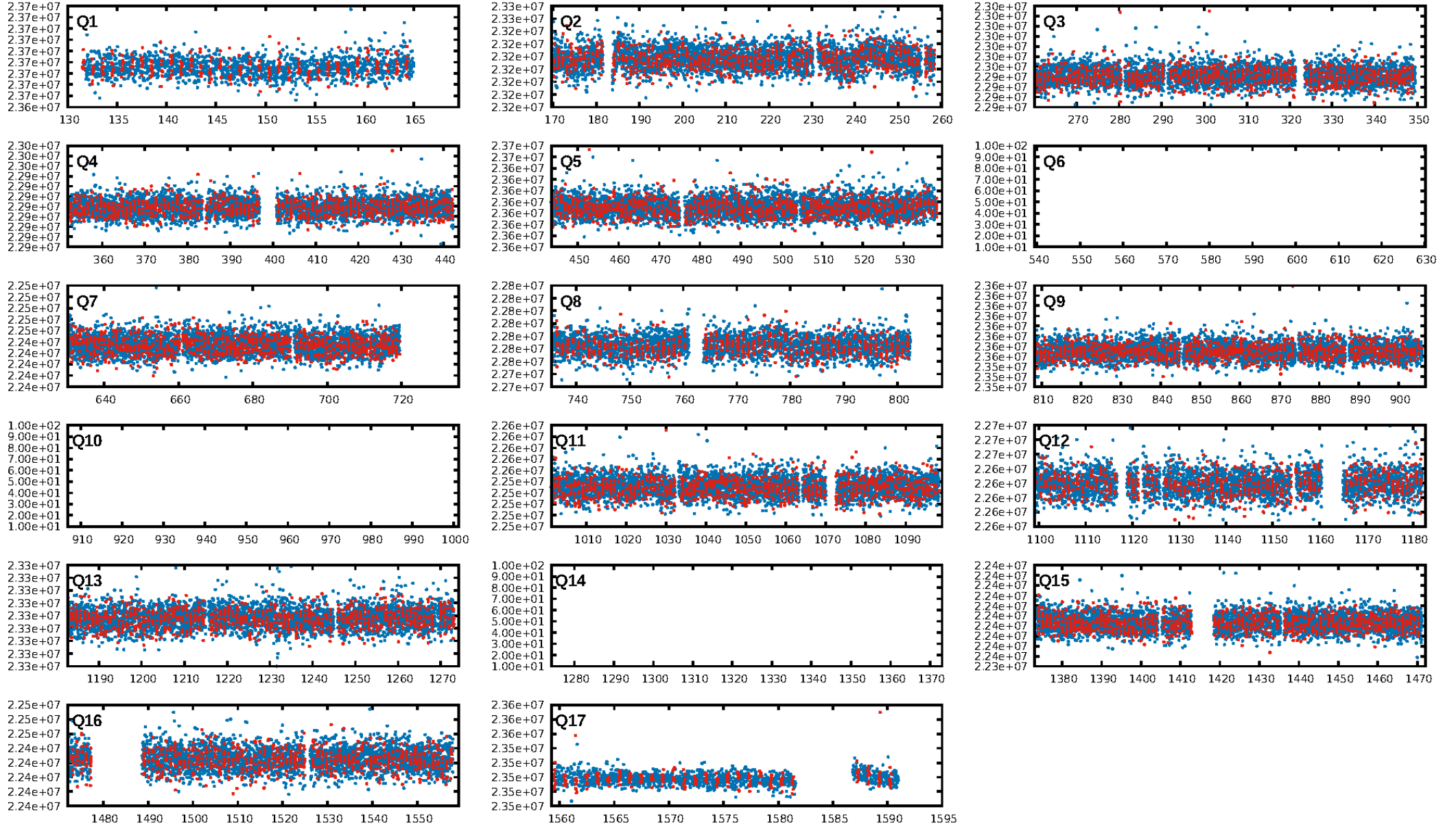
DV Fit Results:

Period = 0.99164 [0.00001] d
Epoch = 131.5440 [0.0031] BKJD
Rp/R* = 0.0081 [0.0053]
a/R* = 1.99 [4.88]
b = 0.87 [0.94]
Seff = 4625.11 [1065.77]
Teq = 2103 [121] K
Rp = 1.09 [0.74] Re
a = 0.0205 [0.0030] AU
Ag = 1.36 [2.78] [0.13σ]
Teffp = 3510 [1785] K [0.79σ]

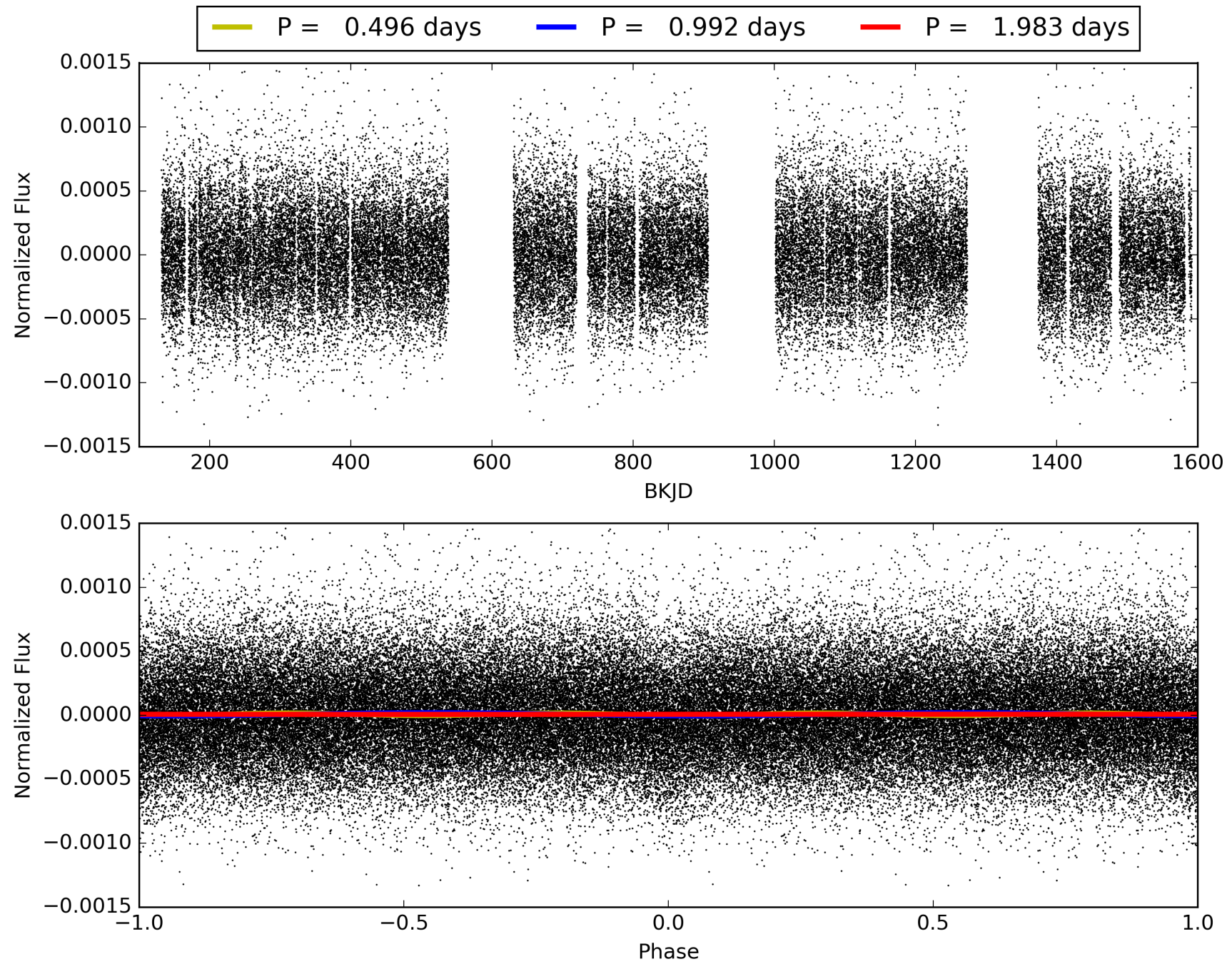
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.64e-29
RollingBand-fgt: 1.00 [1017/1017]
GhostDiagnostic-chr: 2.612
Centroid-sig: 50.1%
Centroid-so: 1.353 arcsec [0.86σ]
OotOffset-rm: 0.788 arcsec [3.10σ]
OotOffset-st: 1/4/3/3 [11]
KicOffset-st: 1/4/3/3 [11]
DiffImageQuality-fgm: 0.73 [8/11]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 005371777-01, PDC Light Curves

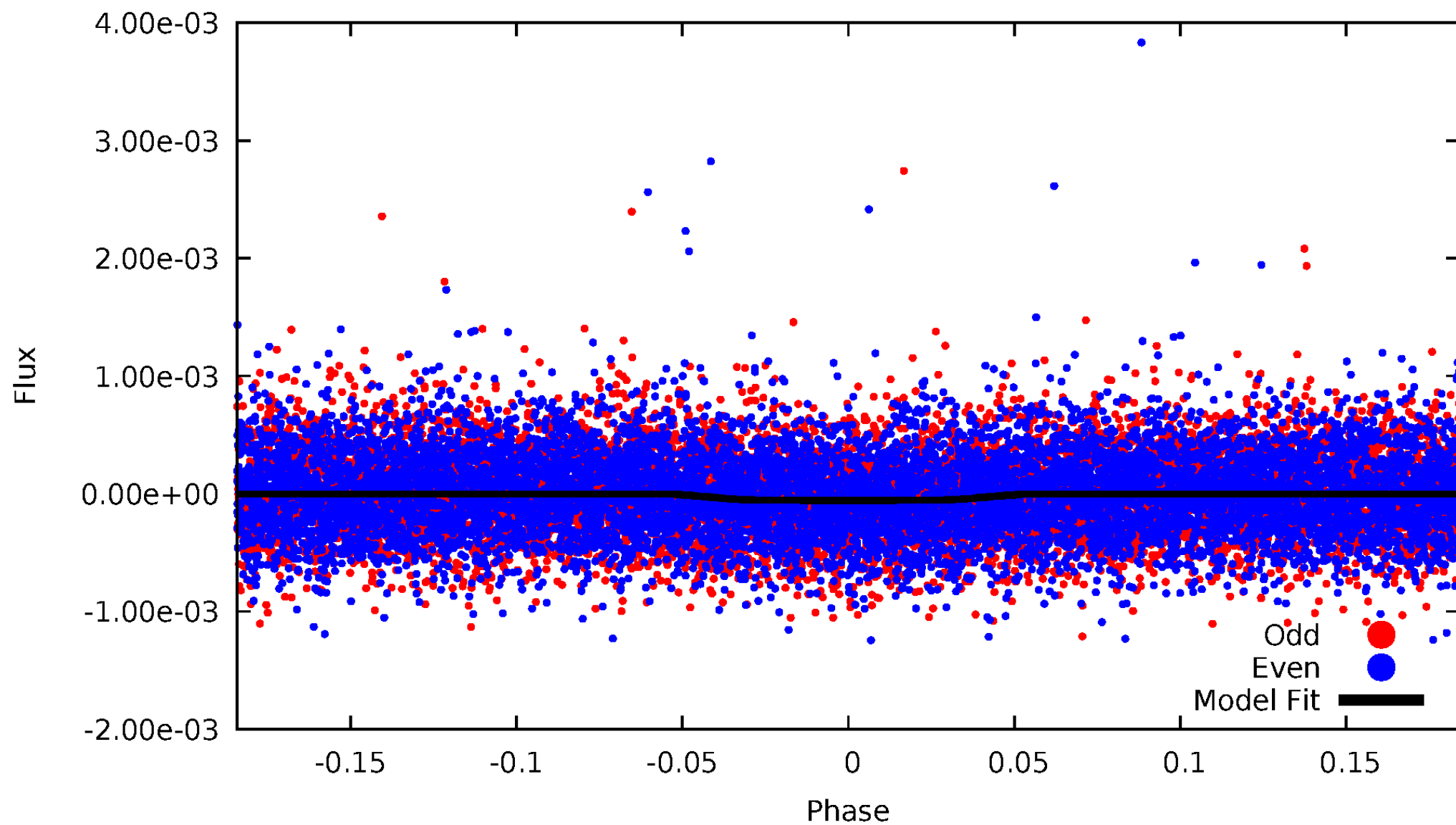


TCE 005371777-01



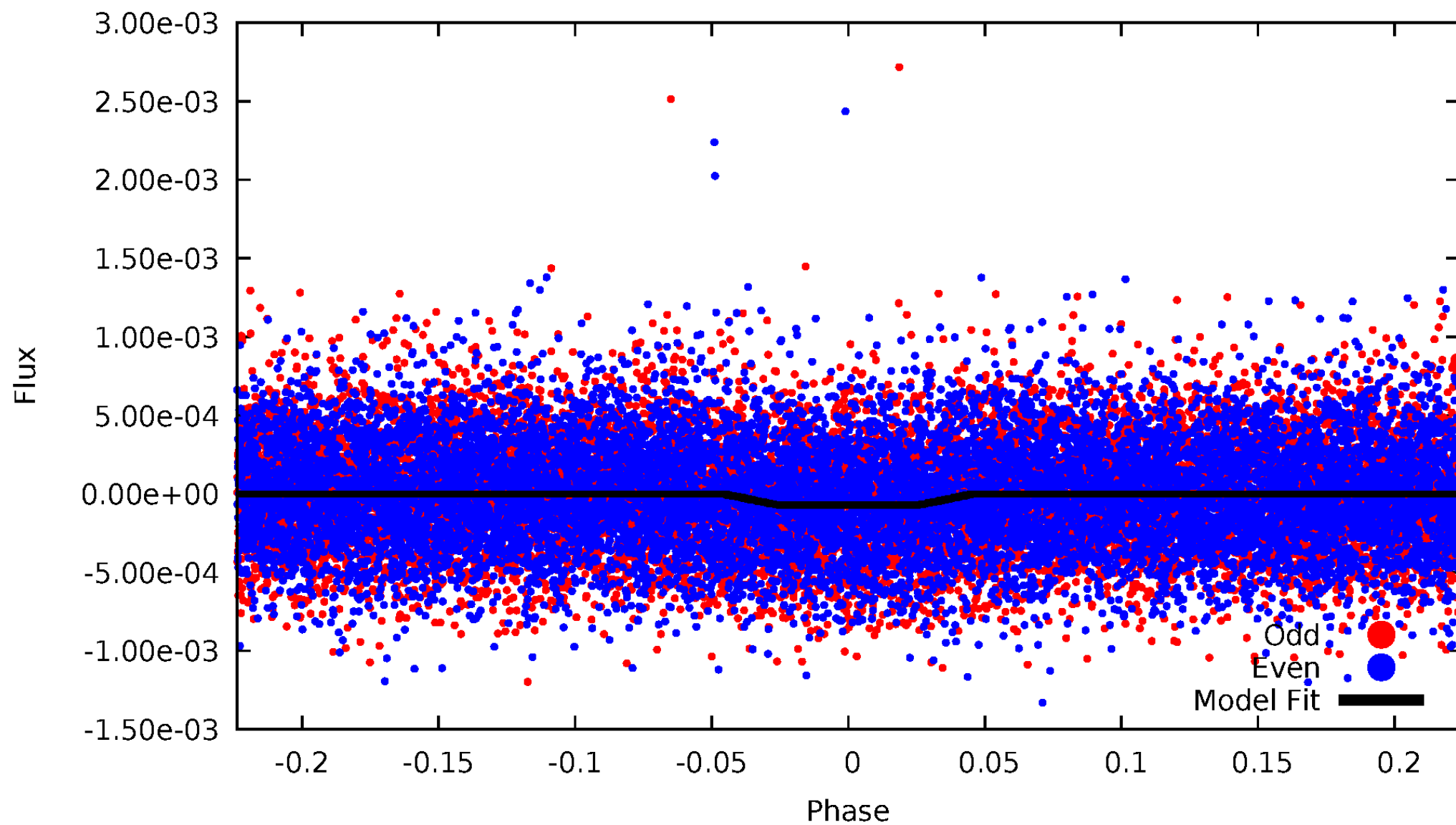
DV Odd/Even

TCE 005371777-01



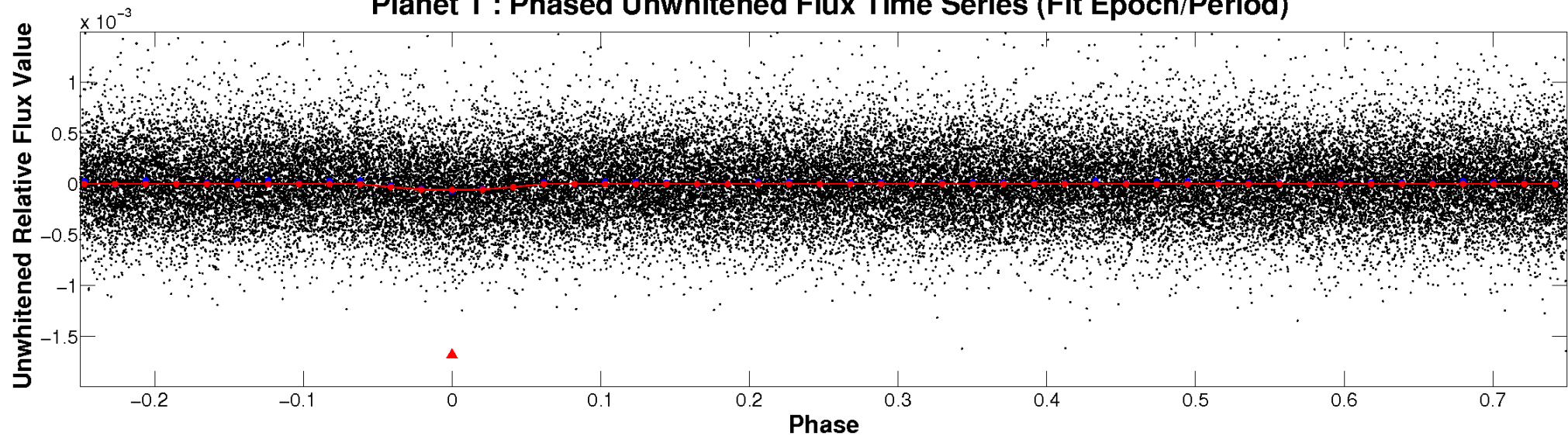
ALT Odd/Even

TCE 005371777-01

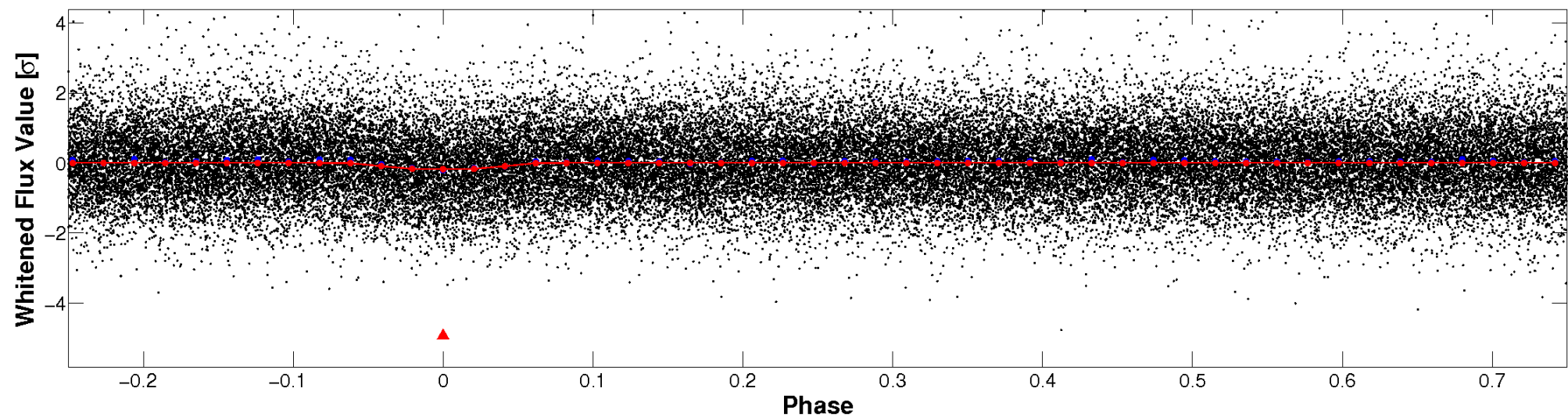


Non-Whitened Vs. Whitened Light Curve

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

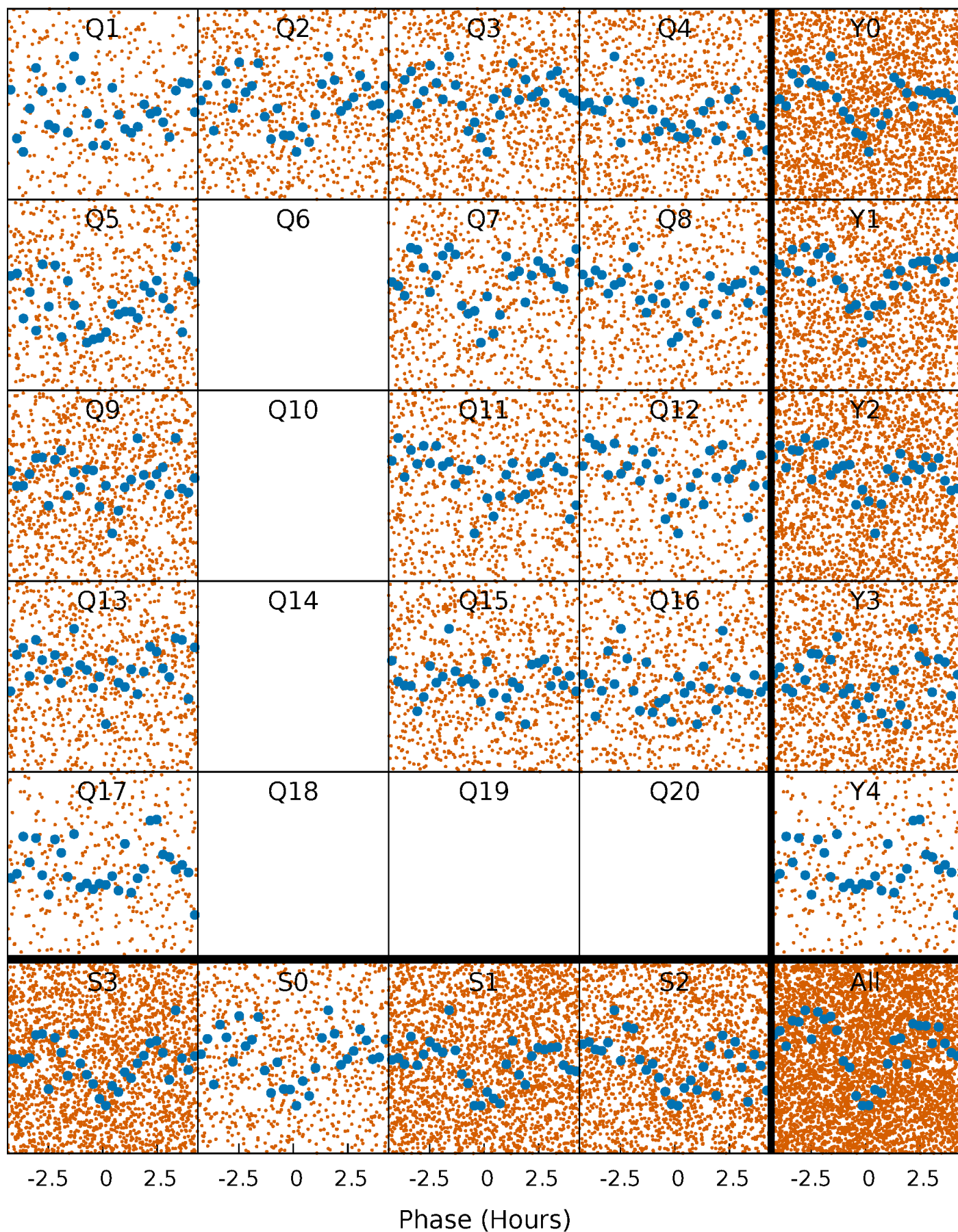


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



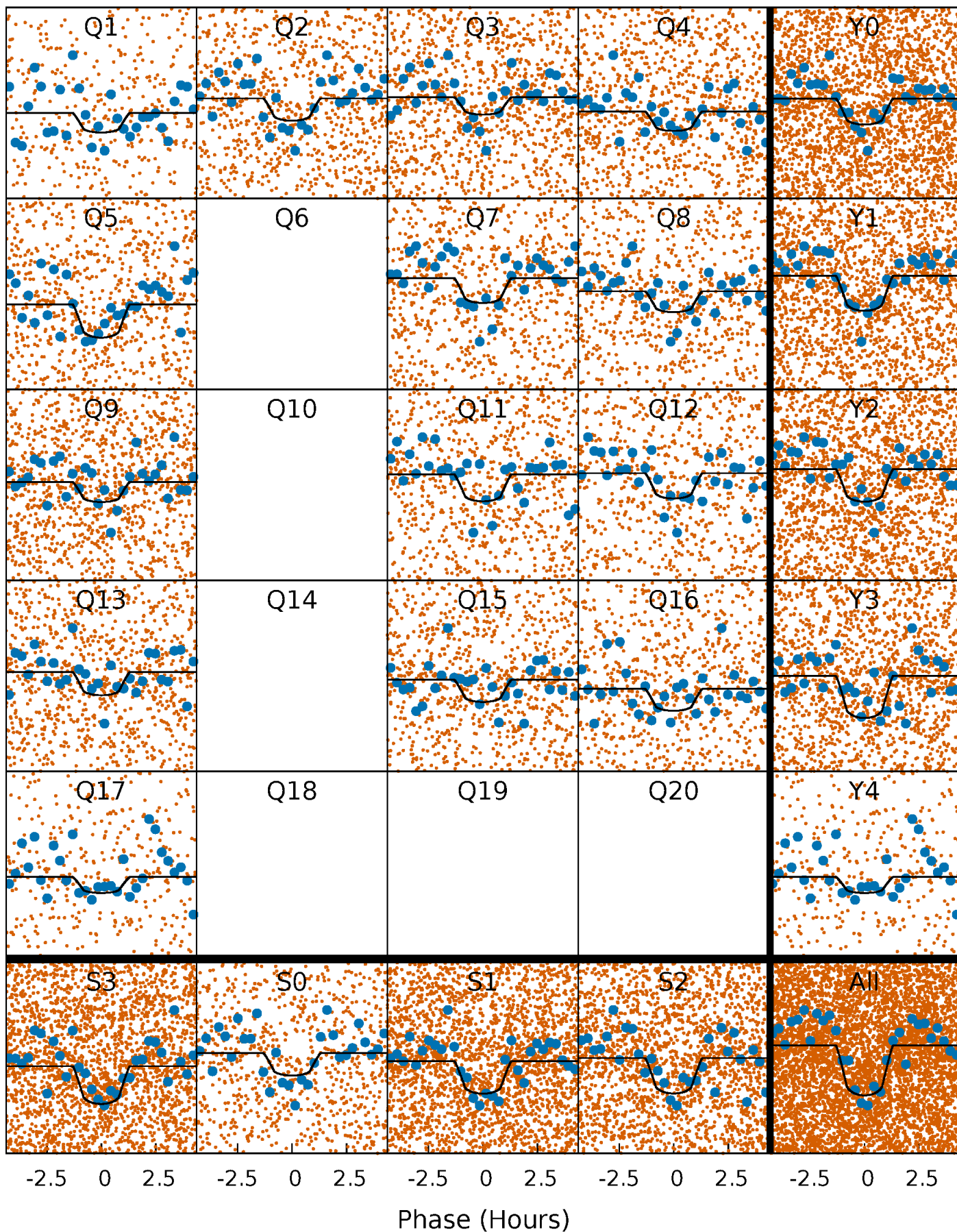
PDC Quarter-Phased Transit Curves

TCE 005371777-01 P= 0.991642 Days $T_0=131.544036$ (BKJD)



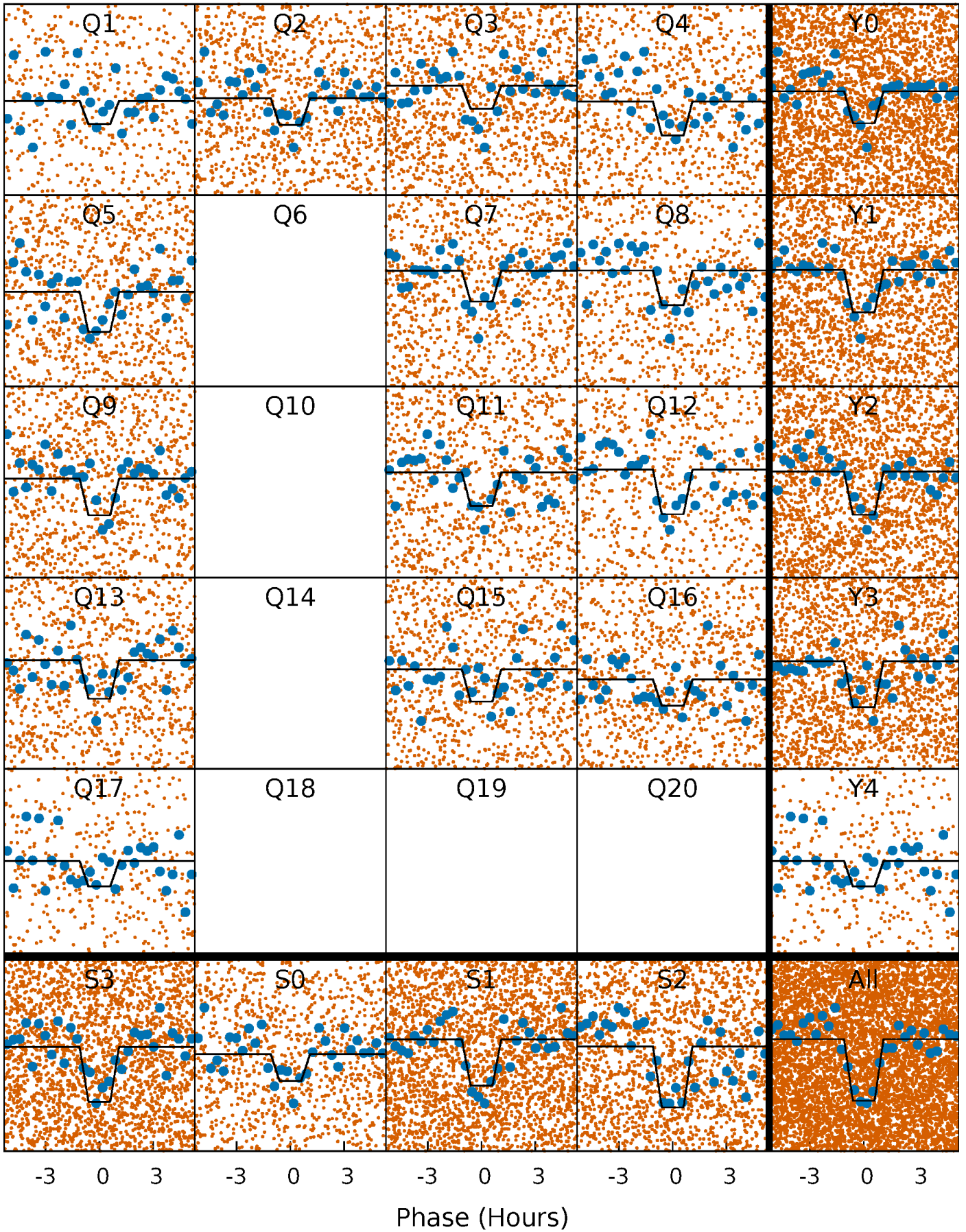
DV Quarter-Phased Transit Curves

TCE 005371777-01 P= 0.991642 Days $T_0=131.544036$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

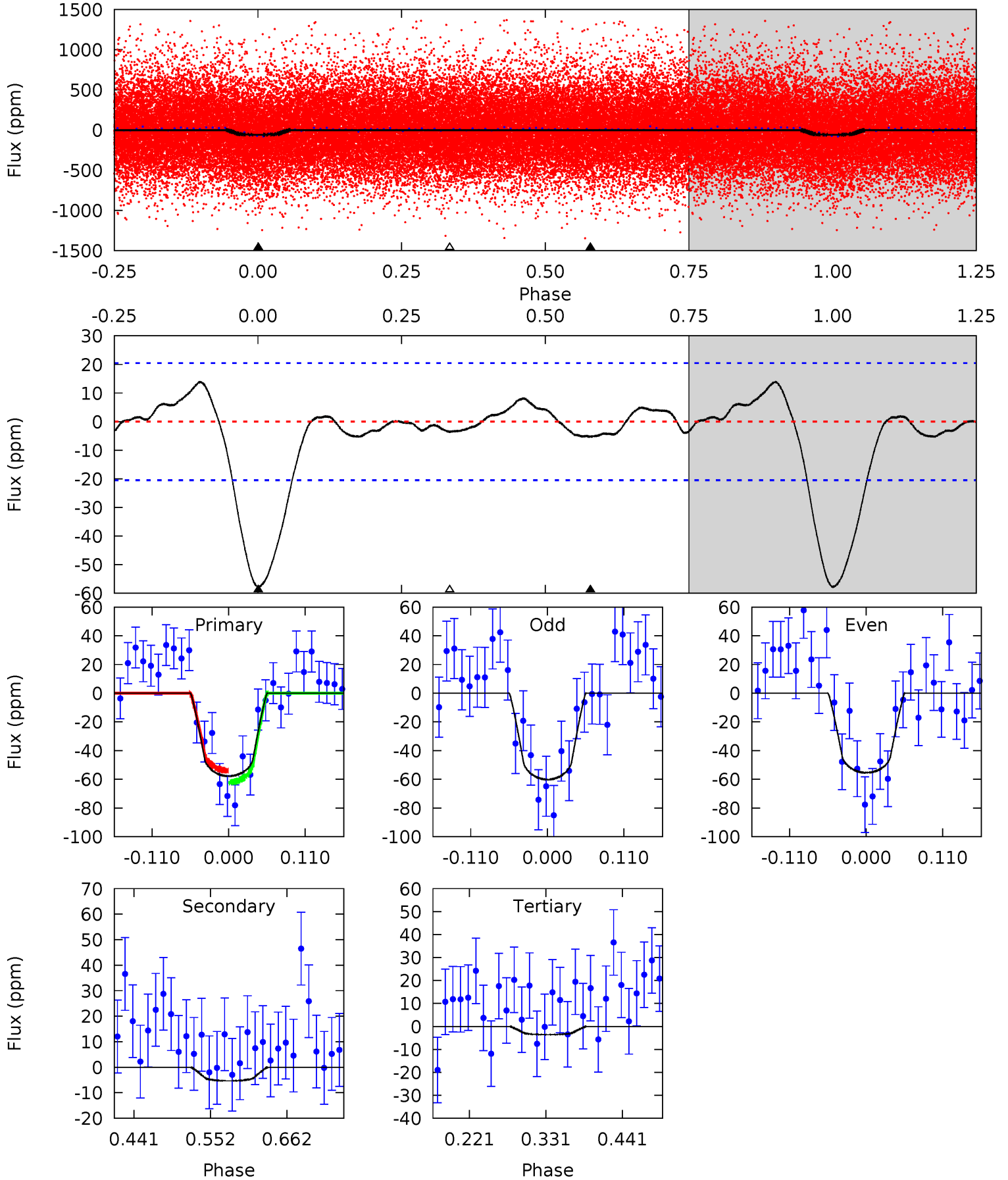
TCE 005371777-01 P= 0.991655 Days $T_0=131.539999$ (BKJD)



DV Model-Shift Uniqueness Test

005371777-01, P = 0.991642 Days, E = 130.552394 Days

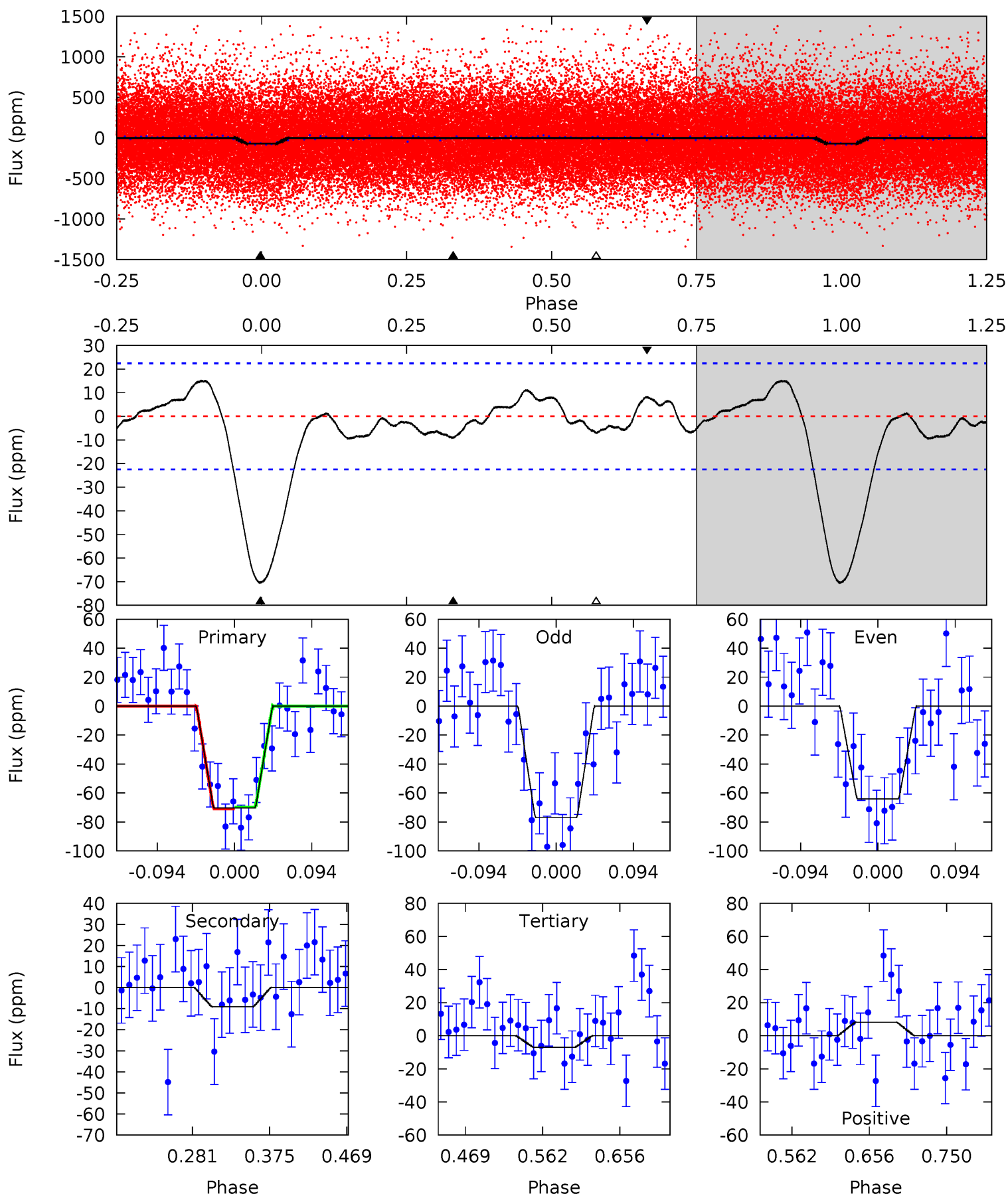
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	1.18	0.80	0	4.54	1.60	0.86	12.0	12.8	0.39	1.18	0.52	0.91	0.19	0.91



Alt Model-Shift Uniqueness Test

005371777-01, P = 0.991655 Days, E = 130.548344 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	1.85	1.43	1.67	4.58	1.68	1.26	12.9	12.7	0.42	0.18	1.32	0.89	0.18	0.11



Stellar Parameters For KIC 005371777

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6117^{+73}_{-92}	$4.315^{+0.084}_{-0.126}$	$0.140^{+0.150}_{-0.150}$	$1.244^{+0.205}_{-0.136}$	$1.170^{+0.081}_{-0.089}$	$0.855^{+0.298}_{-0.310}$
	+1%/-2%	+2%/-3%	+107%/-107%	+16%/-11%	+7%/-8%	+35%/-36%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005371777-01 / KOI 4327.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5 ± 5	$1.21^{+0.71}_{-0.63}$	2952^{+136}_{-111}	3242^{+1262}_{-6188}	$0.728^{+2.551}_{-0.639}$
Alt.	-9 ± 5	$1.22^{+0.70}_{-0.62}$	2942^{+135}_{-94}	3706^{+1443}_{-1103}	$1.304^{+4.936}_{-0.907}$

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

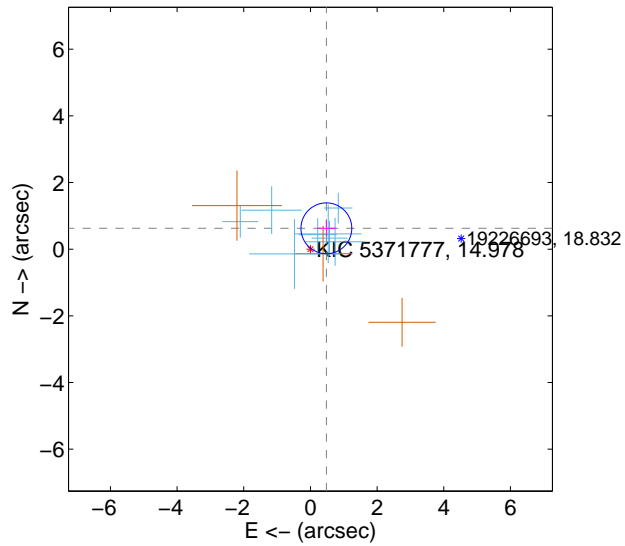
Supplemental centroid analysis for 005371777-01. Kepler magnitude: 14.98. Transit SNR 10.20

There are 8 quarters with good PRF difference image offsets

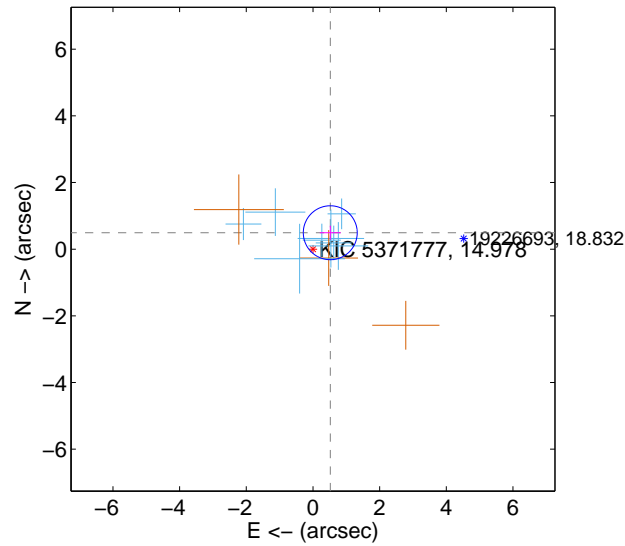
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.788 ± 0.254	3.10	-0.478 ± 0.283	0.626 ± 0.236
PRF-fit source offset from KIC position	0.716 ± 0.270	2.65	-0.519 ± 0.314	0.493 ± 0.210
photometric centroid source offset	1.35 ± 1.57	0.86	-1.30 ± 1.57	0.37 ± 1.56

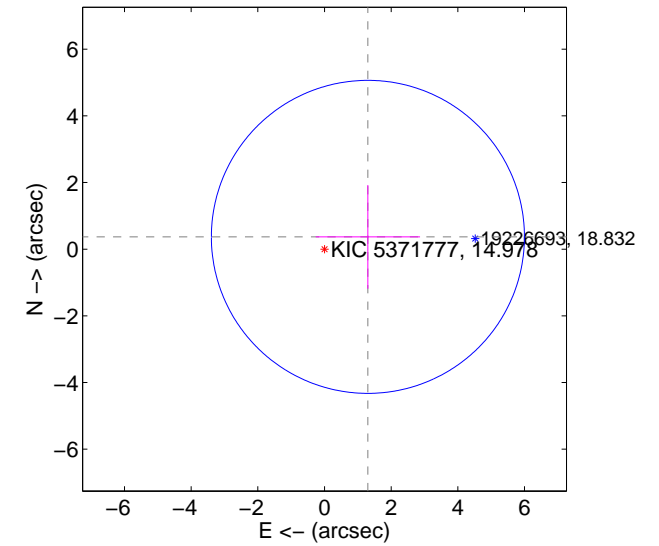
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

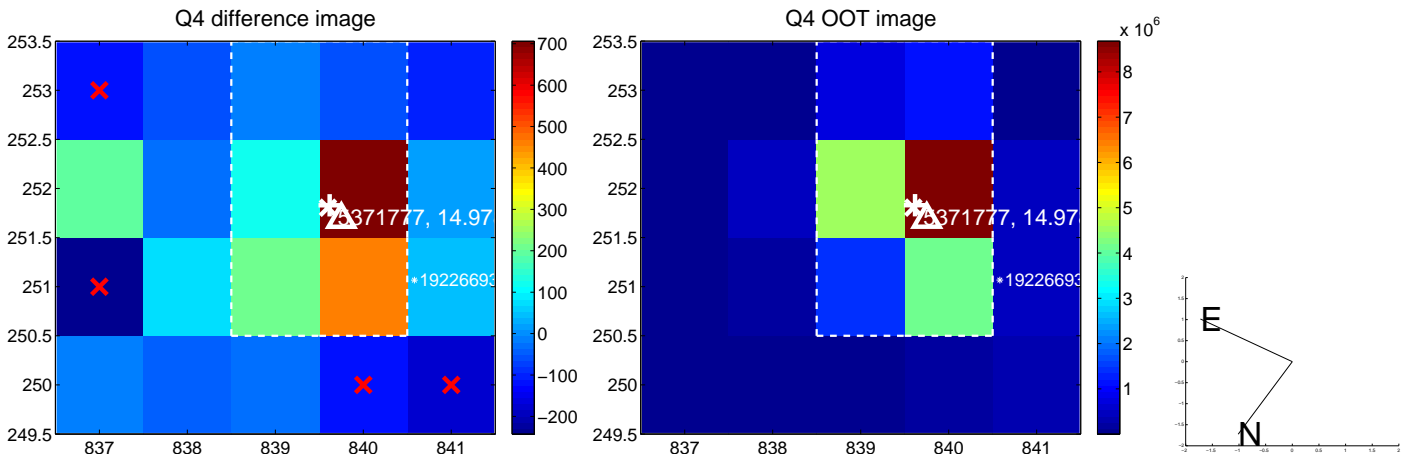
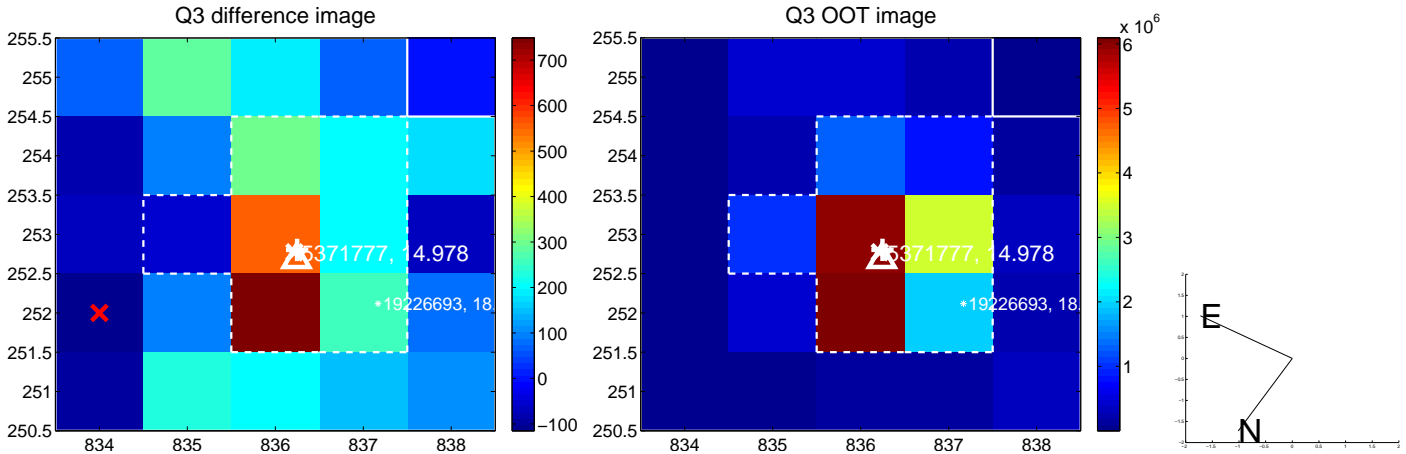
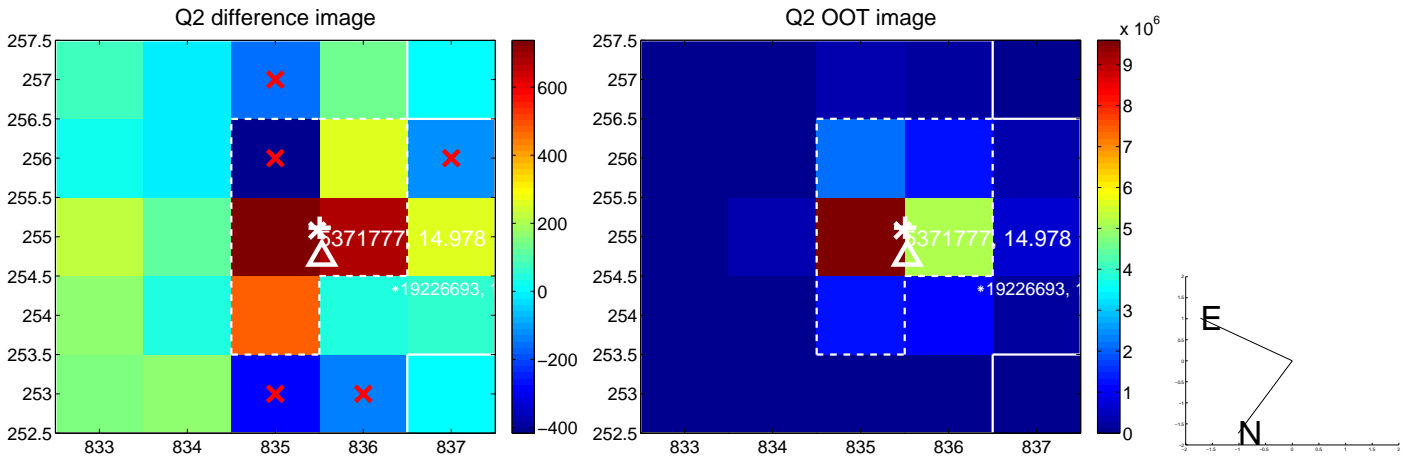
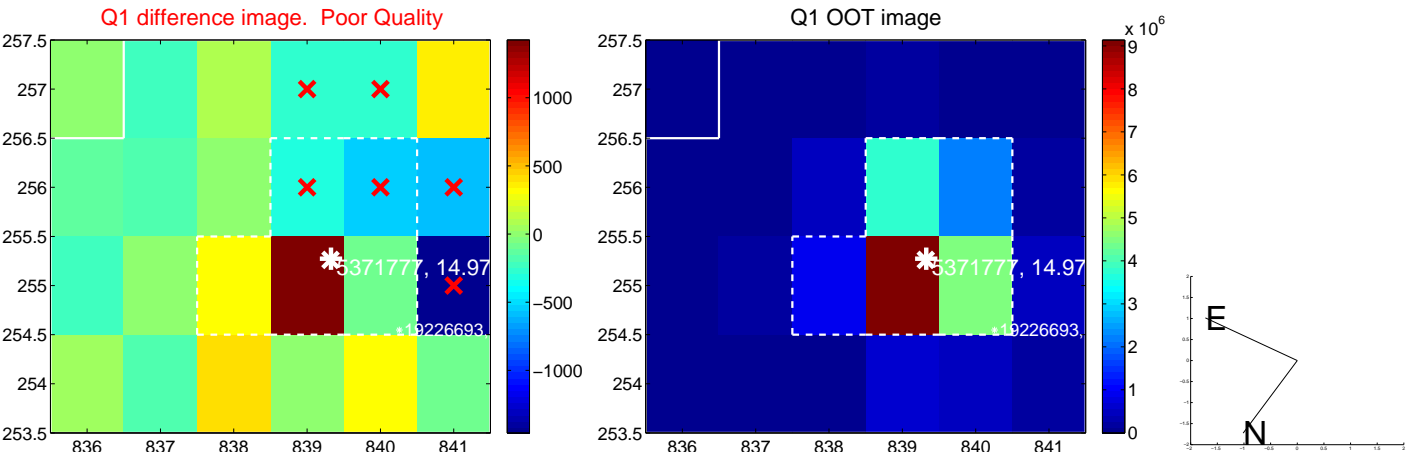


offset from photometric centroids

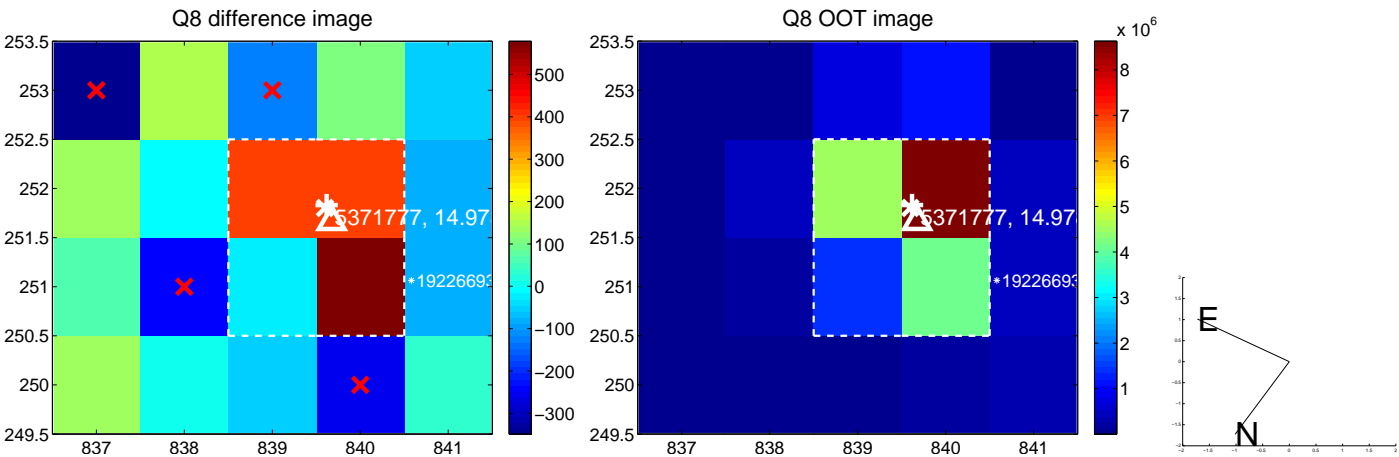
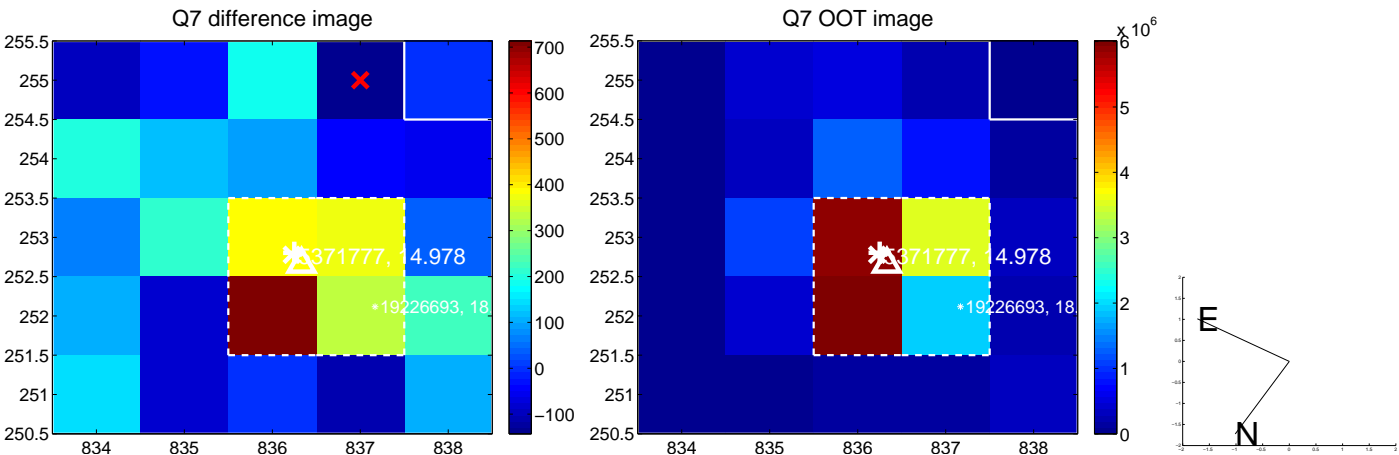
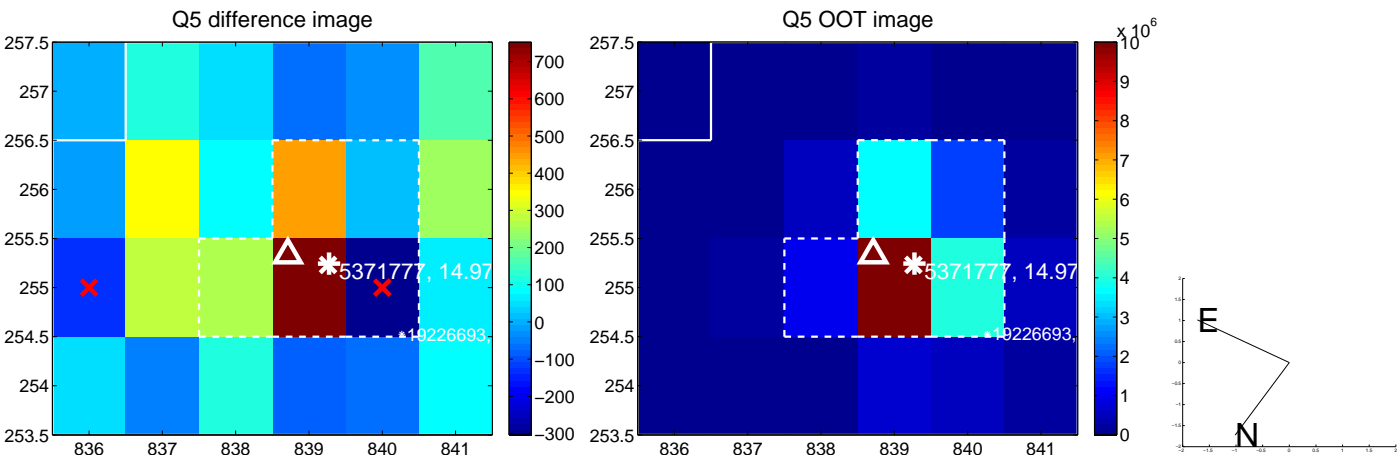


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

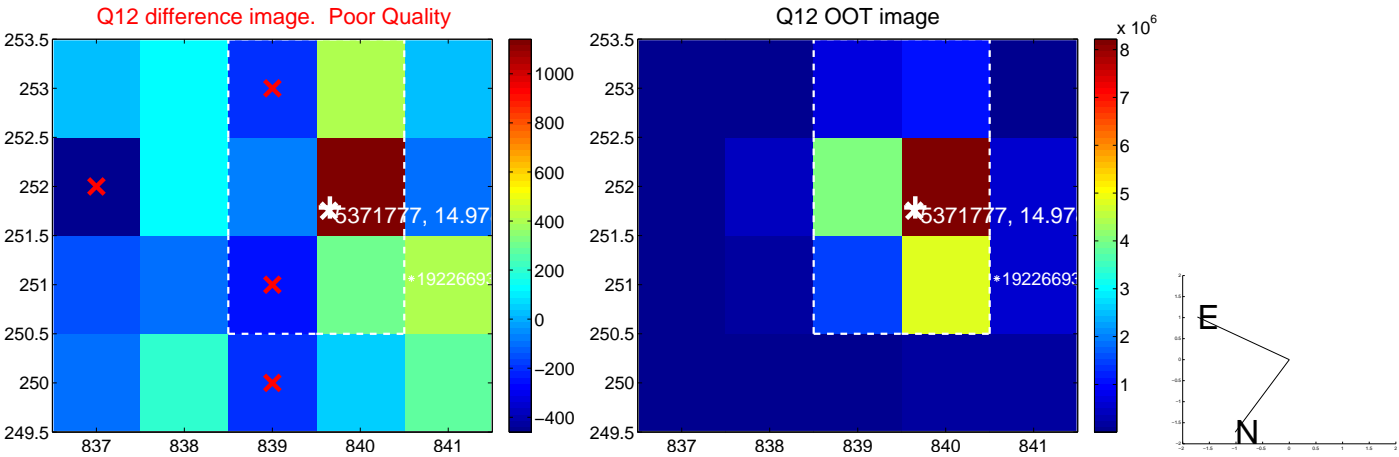
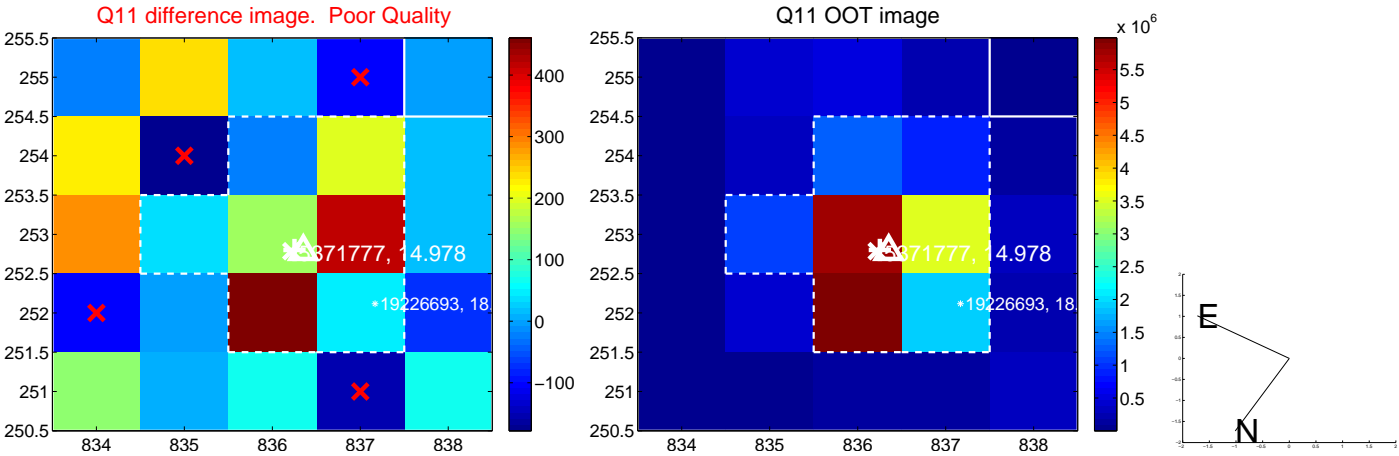
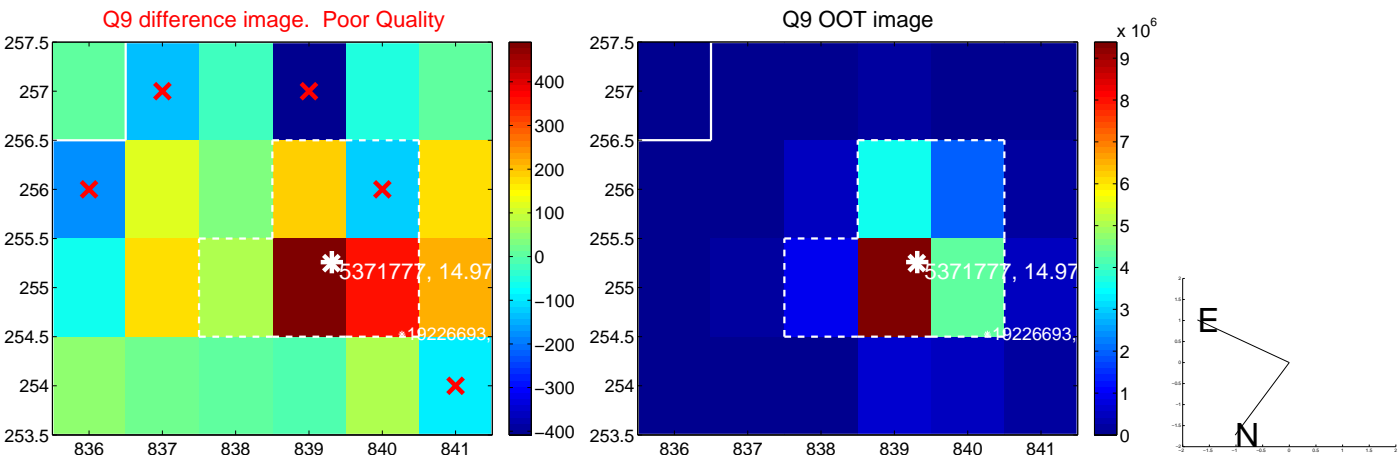
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



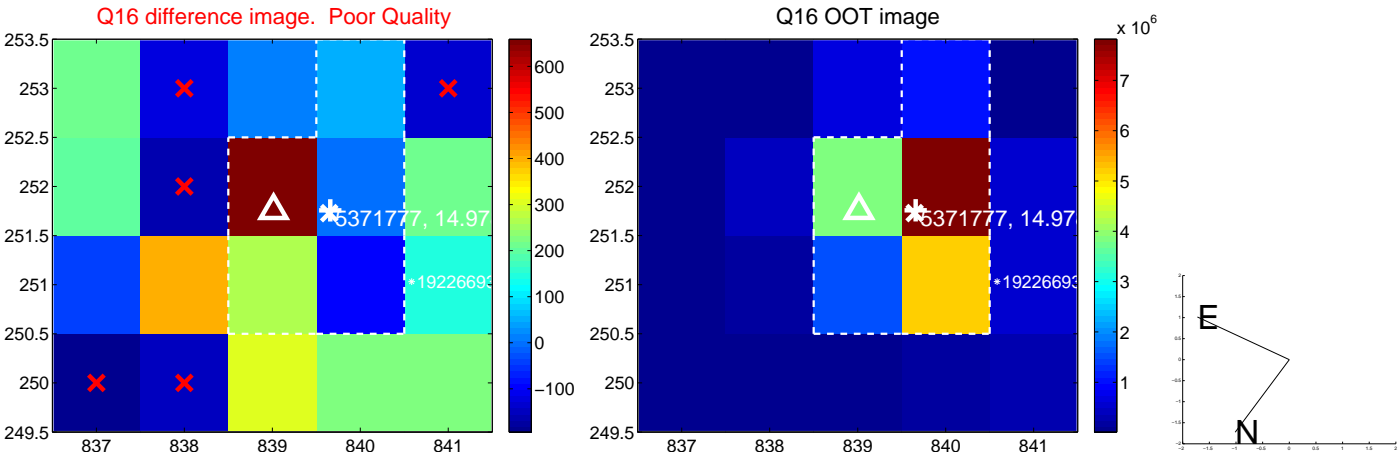
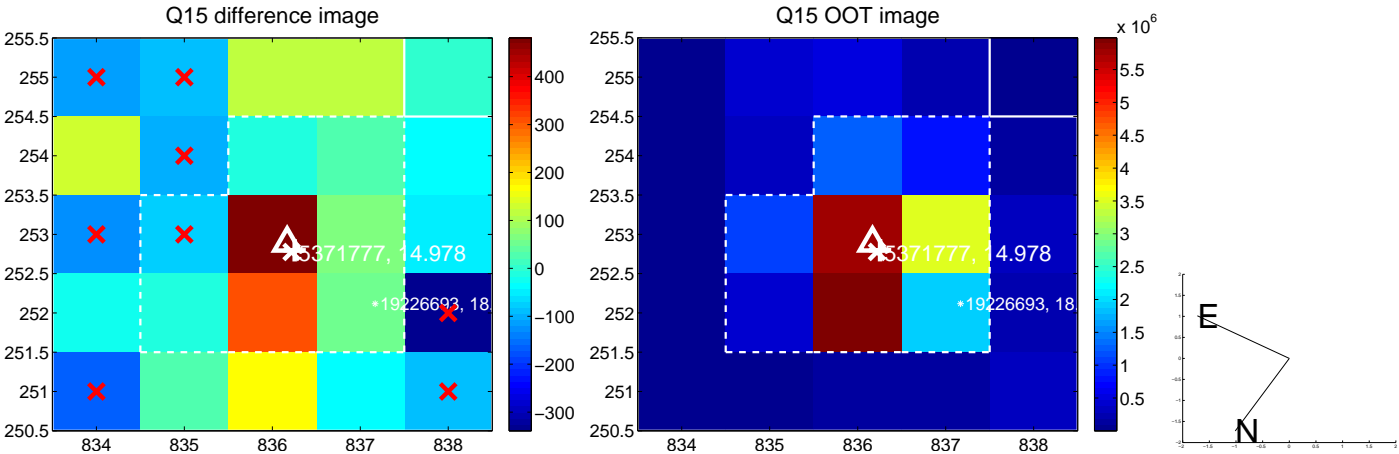
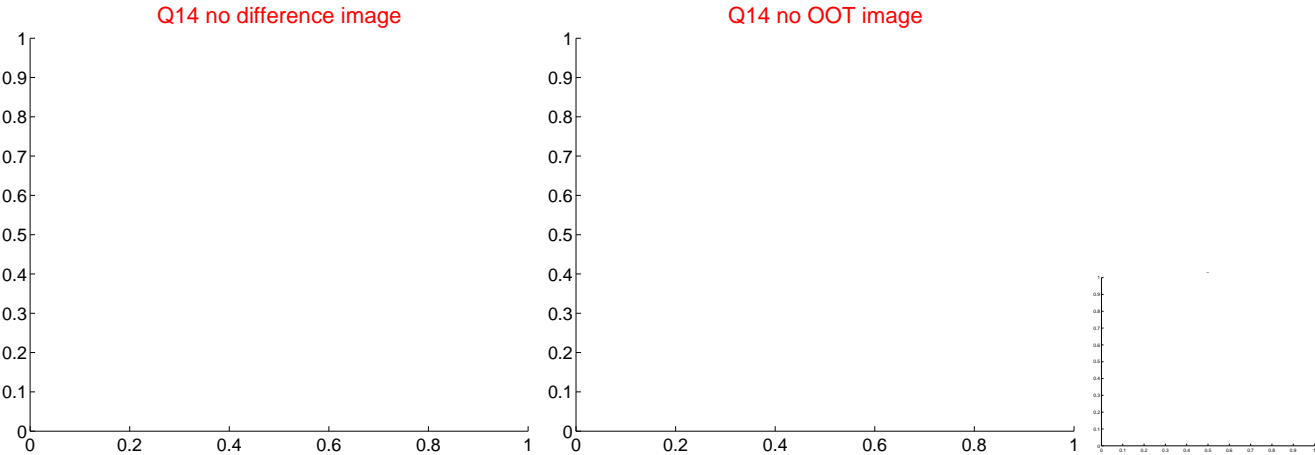
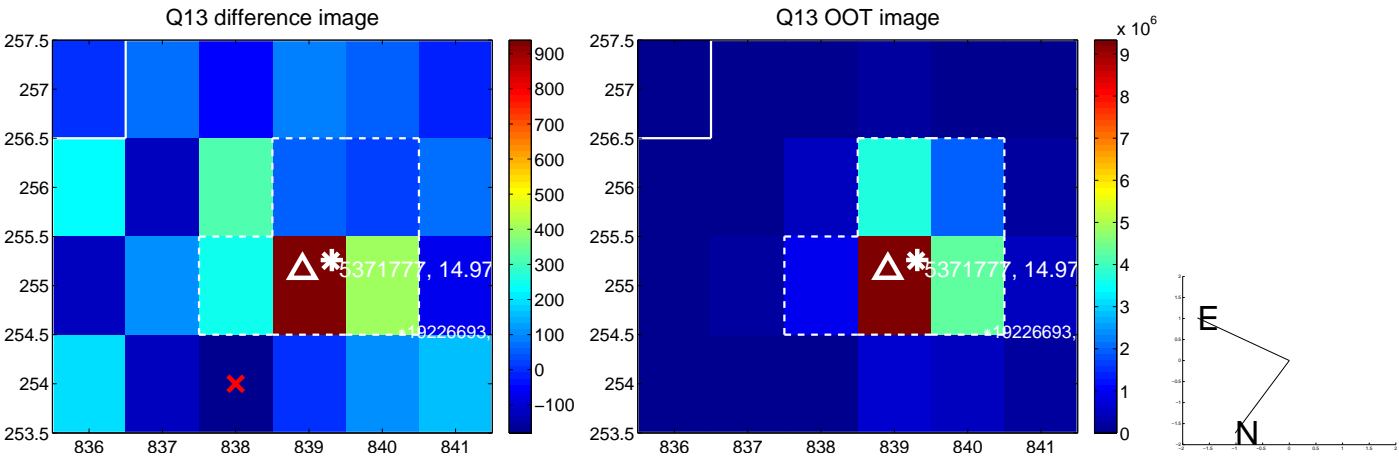
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



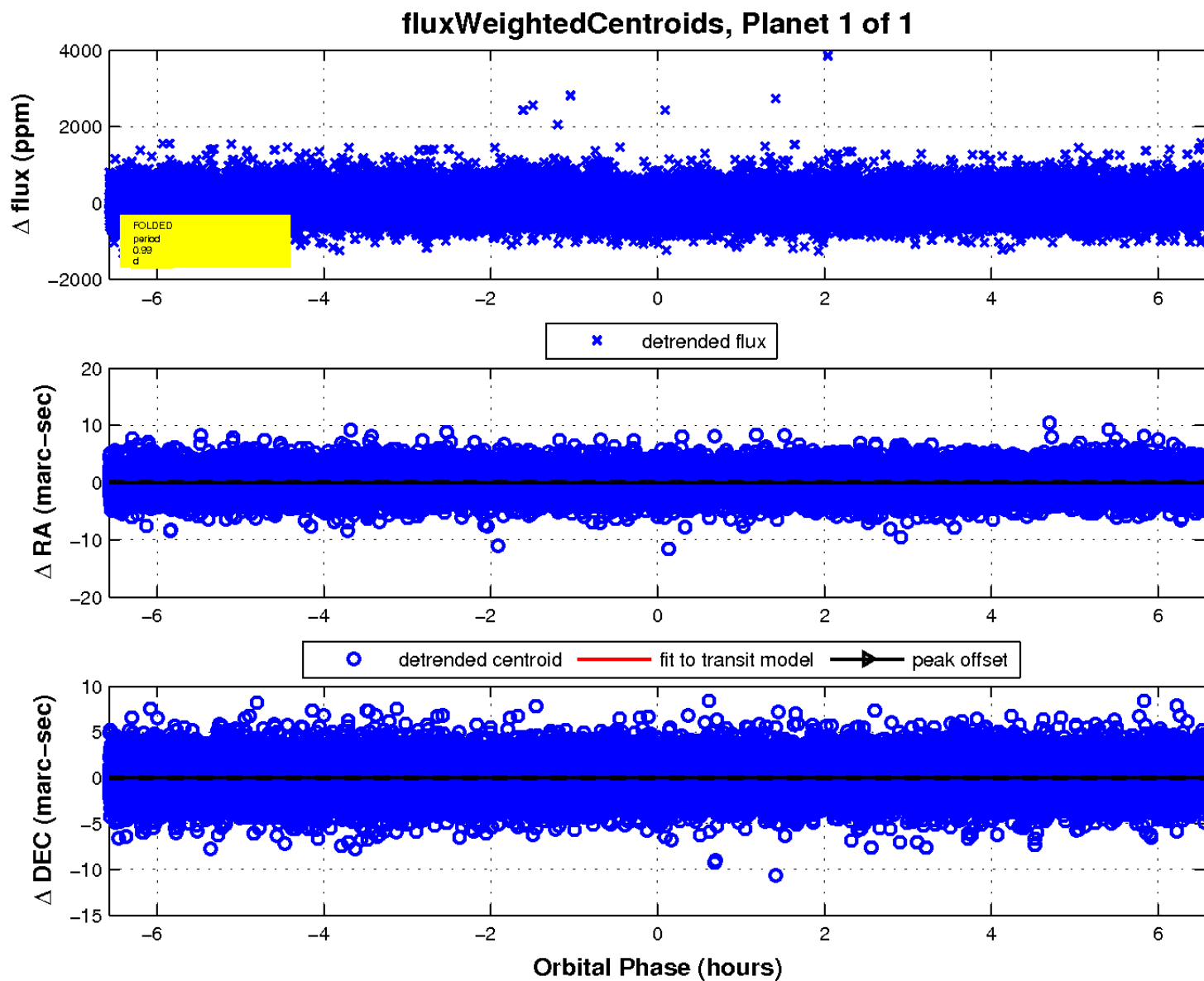
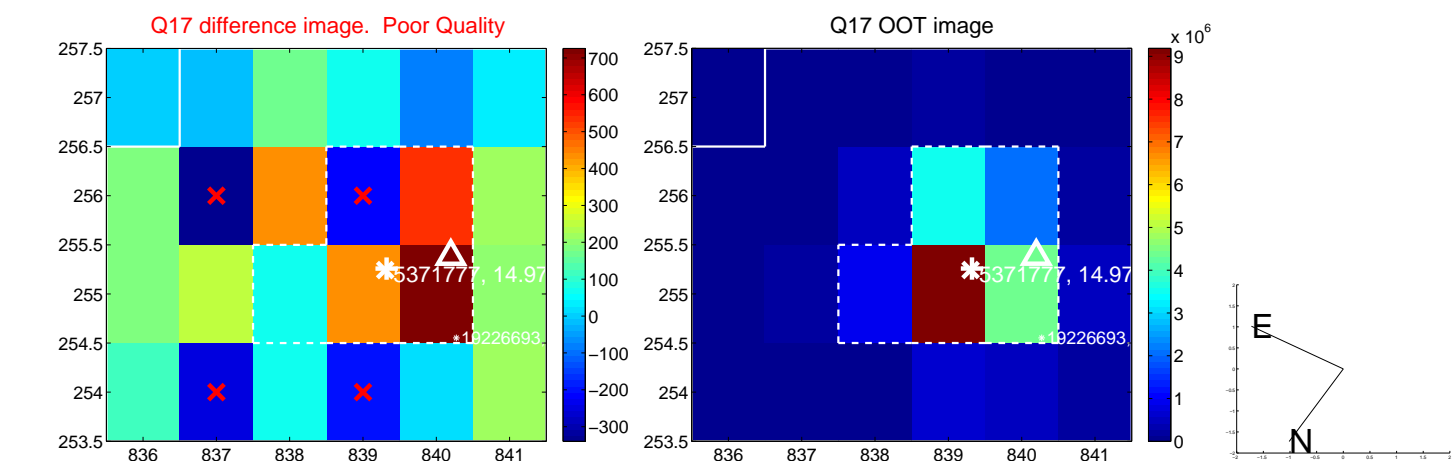
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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.



UKIRT Image

Declination

