

KIC 009574179

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})
009574179-01	OBS	2637.01	3.988600	134.841209	87.4	3.720	10.5	11.3	1.19	5692	1.32	547.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009574179-01	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.

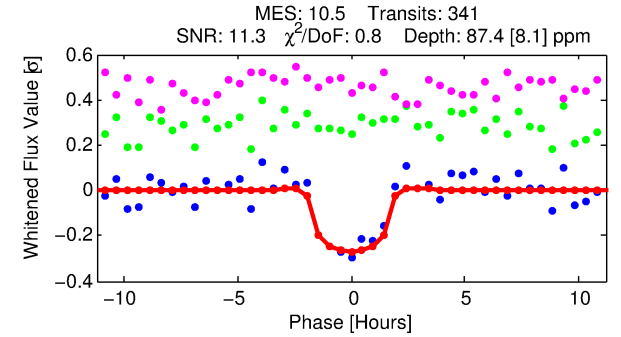
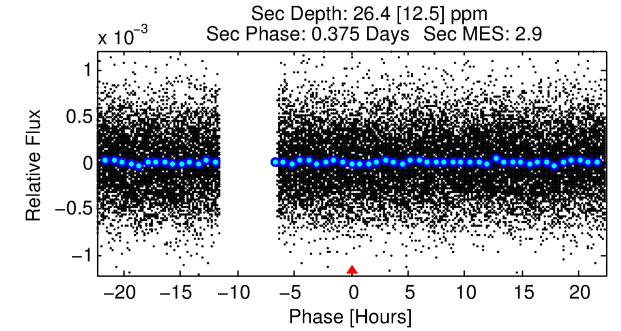
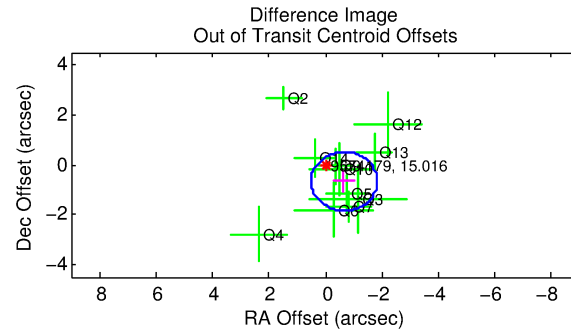
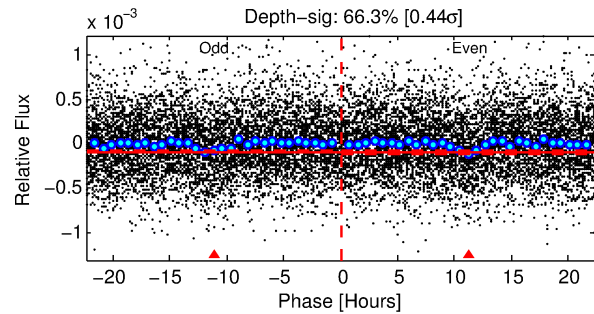
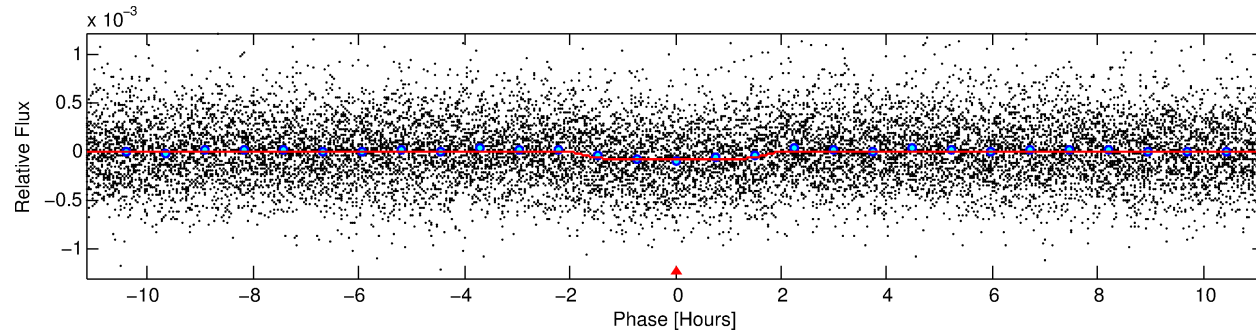
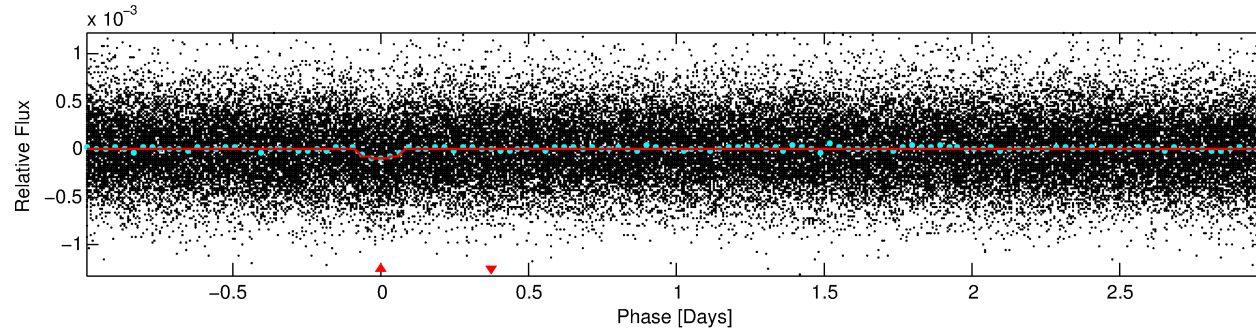
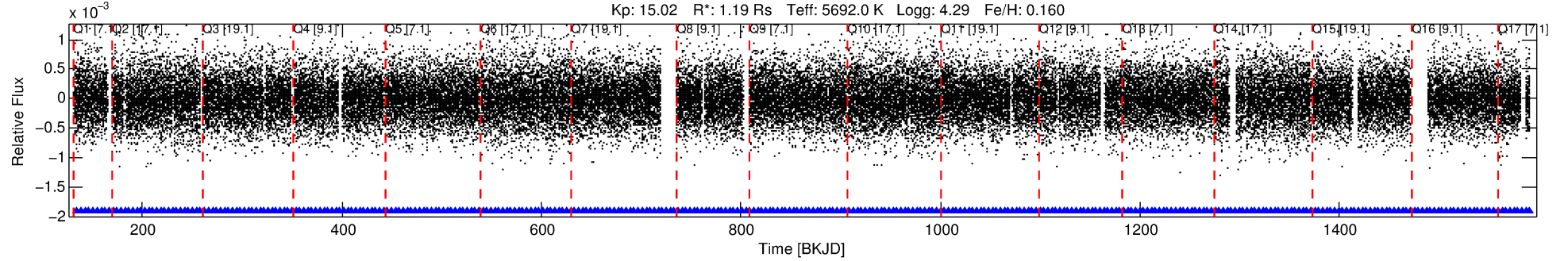
Ephemeris Match Information For 009574179-01

No Significant Match Found

DV One-Page Summary

KIC: 9574179 Candidate: 1 of 1 Period: 3.989 d

KOI: K02637.01 Corr: 0.971



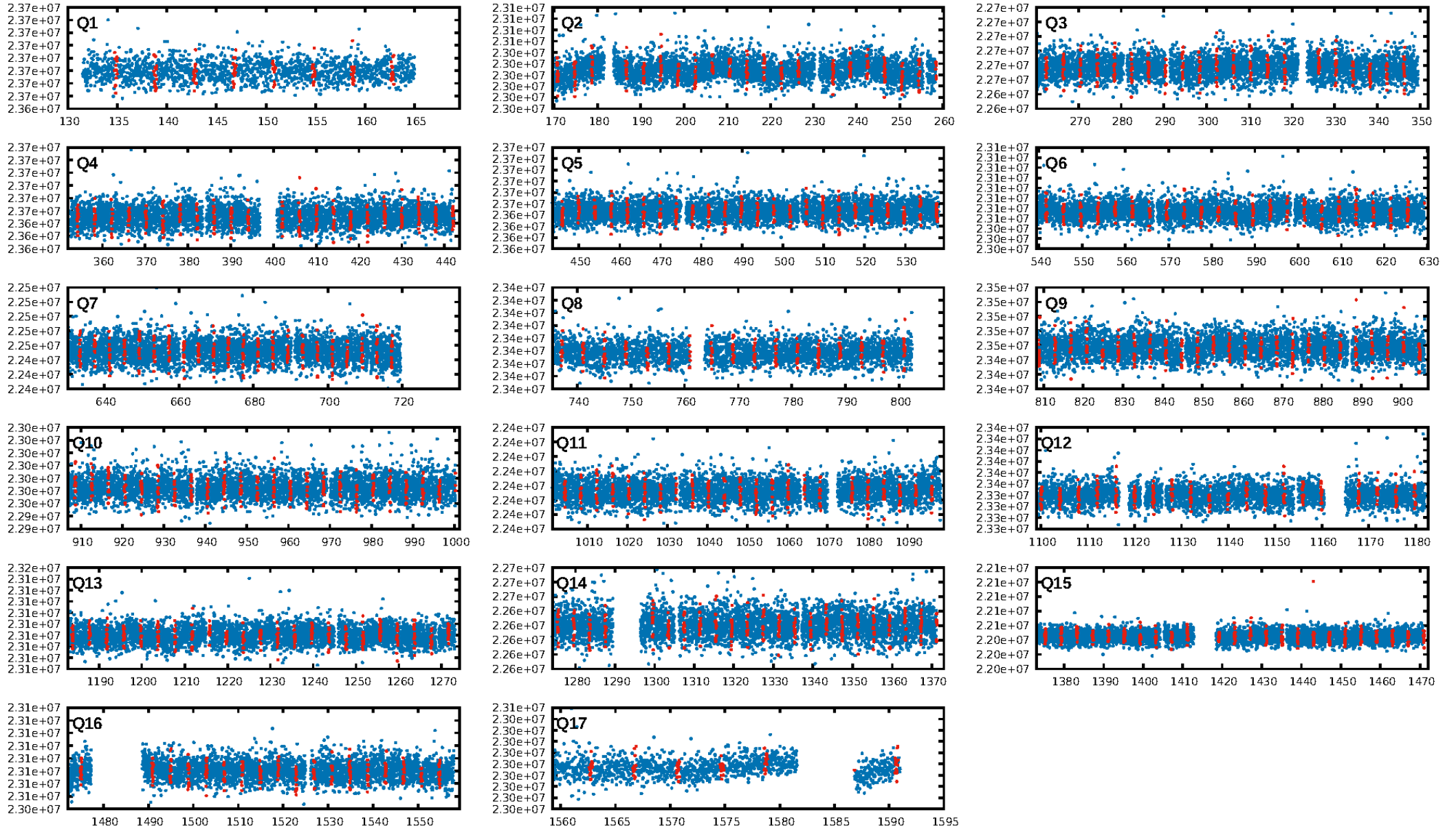
DV Fit Results:

Period = 3.98860 [0.00003] d
Epoch = 134.8412 [0.0054] BKJD
 R_p/R^* = 0.0102 [0.0061]
 a/R^* = 3.94 [10.34]
 b = 0.90 [0.63]
 S_{eff} = 547.95 [132.42]
 T_{eq} = 1234 [75] K
 R_p = 1.32 [0.82] R_e
 a = 0.0492 [0.0074] AU
 A_g = 20.20 [26.57] [0.72 σ]
 T_{eff} = 4044 [1309] K [2.14 σ]

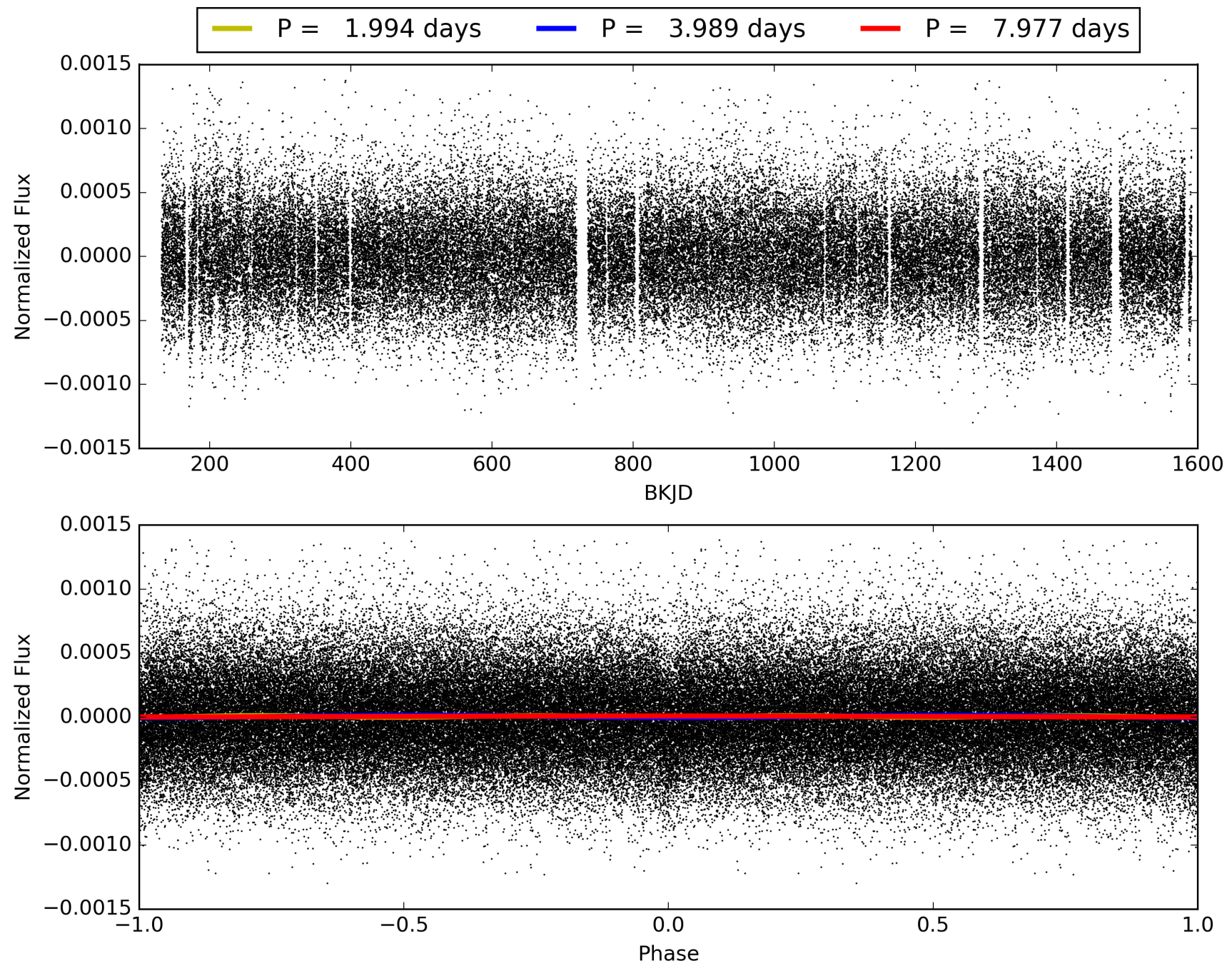
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.46e-25
RollingBand-fgt: 1.00 [327/327]
GhostDiagnostic-chr: 2.769
Centroid-sig: 3.0%
Centroid-so: 2.761 arcsec [2.24 σ]
OotOffset-rm: 0.937 arcsec [2.39 σ]
OotOffset-st: 4/2/2/3 [11]
KicOffset-rm: 1.175 arcsec [3.09 σ]
KicOffset-st: 4/2/2/3 [11]
DiffImageQuality-fgm: 0.64 [7/11]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009574179-01, PDC Light Curves

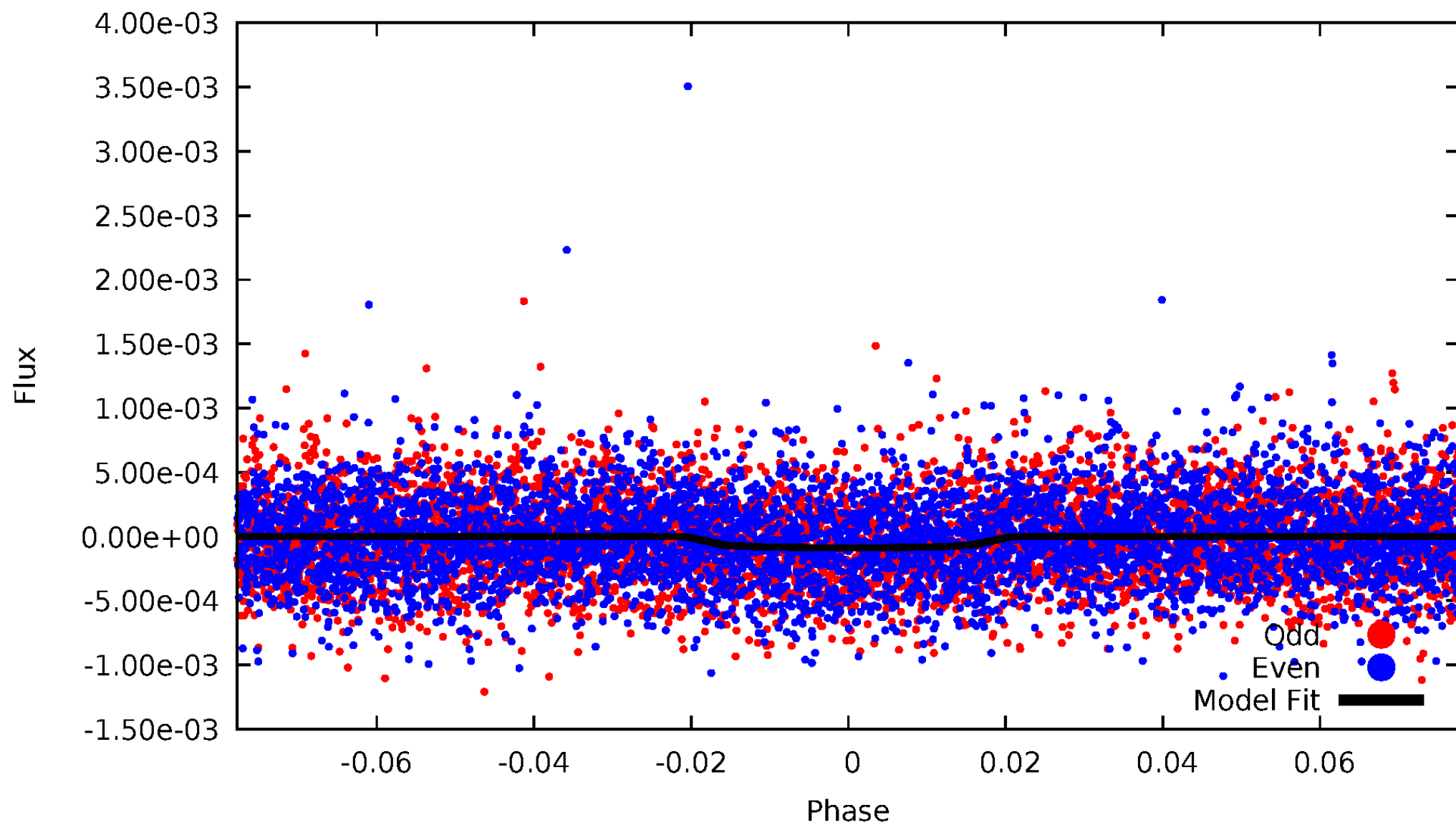


TCE 009574179-01



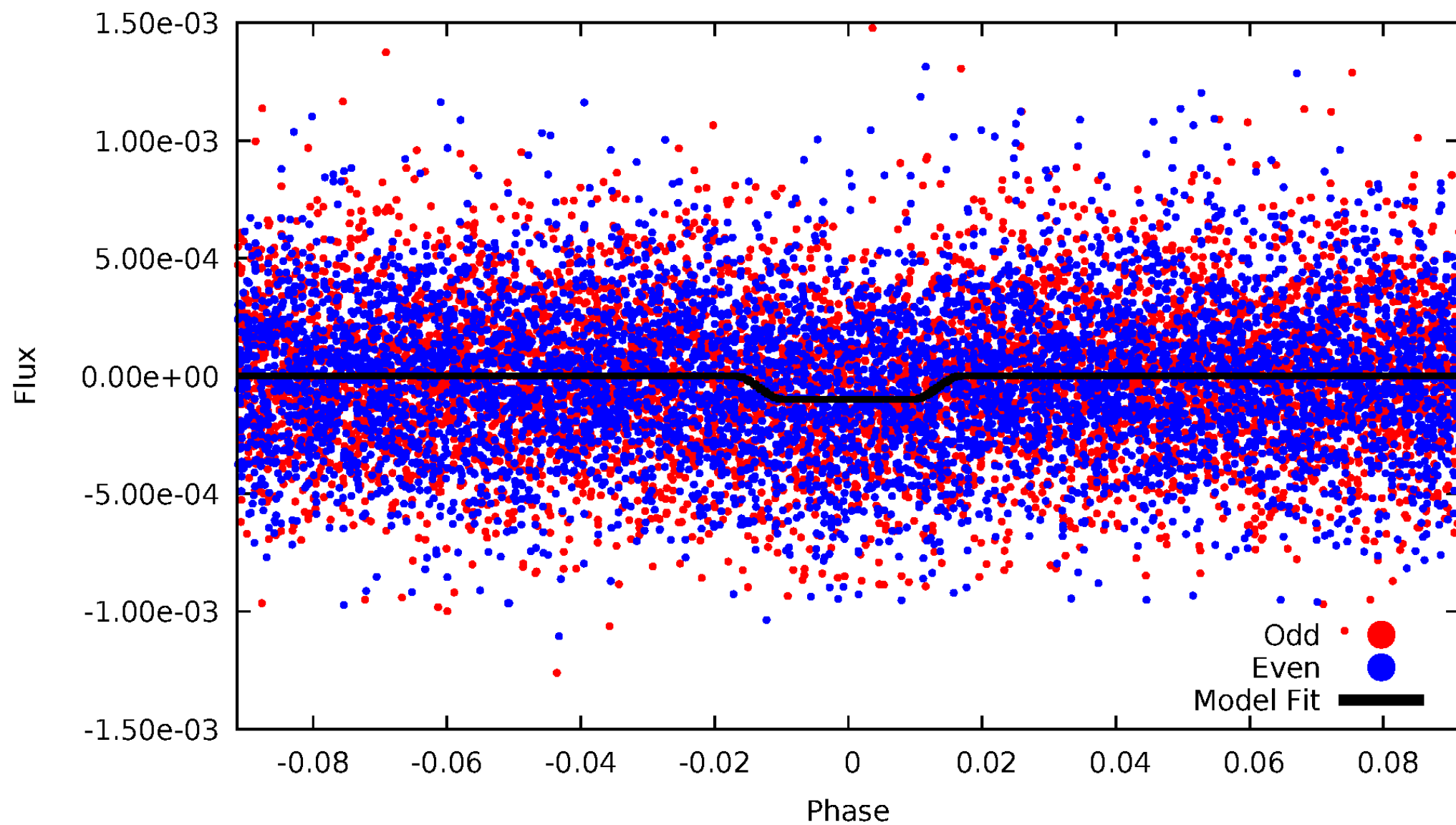
DV Odd/Even

TCE 009574179-01



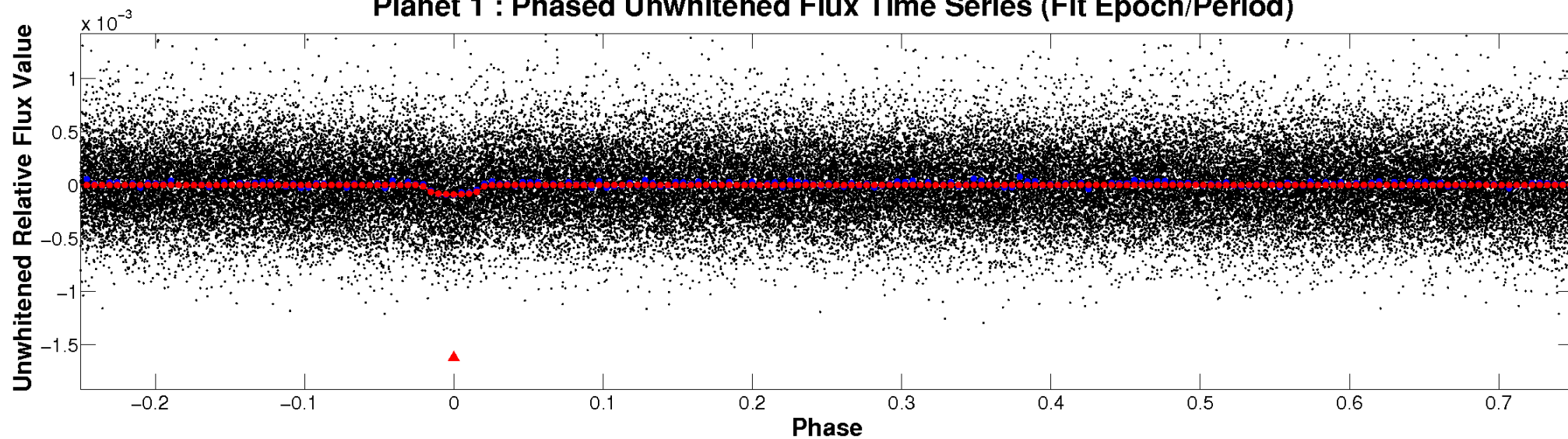
ALT Odd/Even

TCE 009574179-01

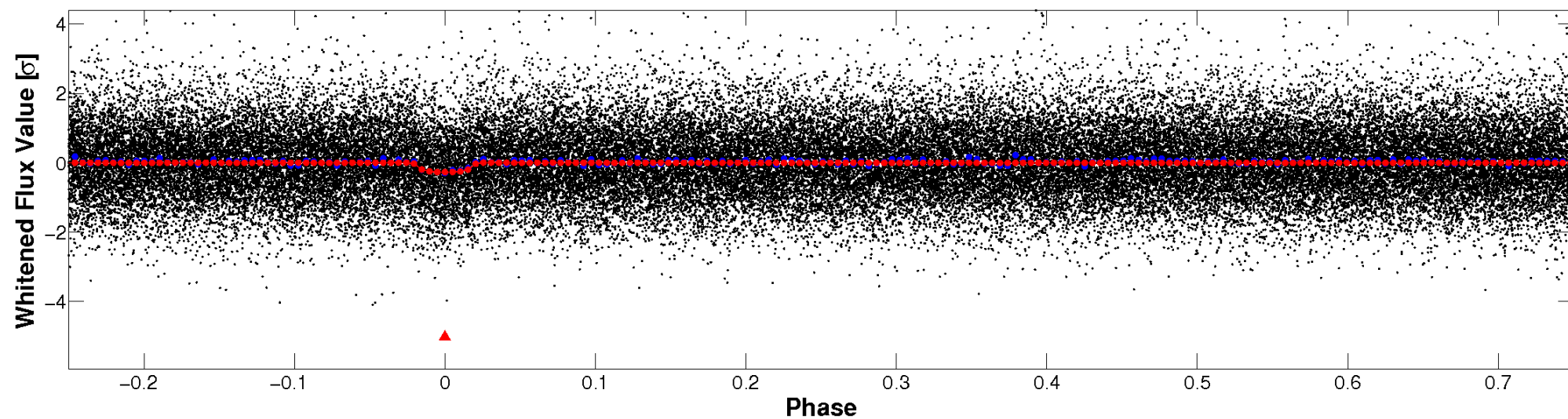


Non-Whitened Vs. Whitened Light Curve

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

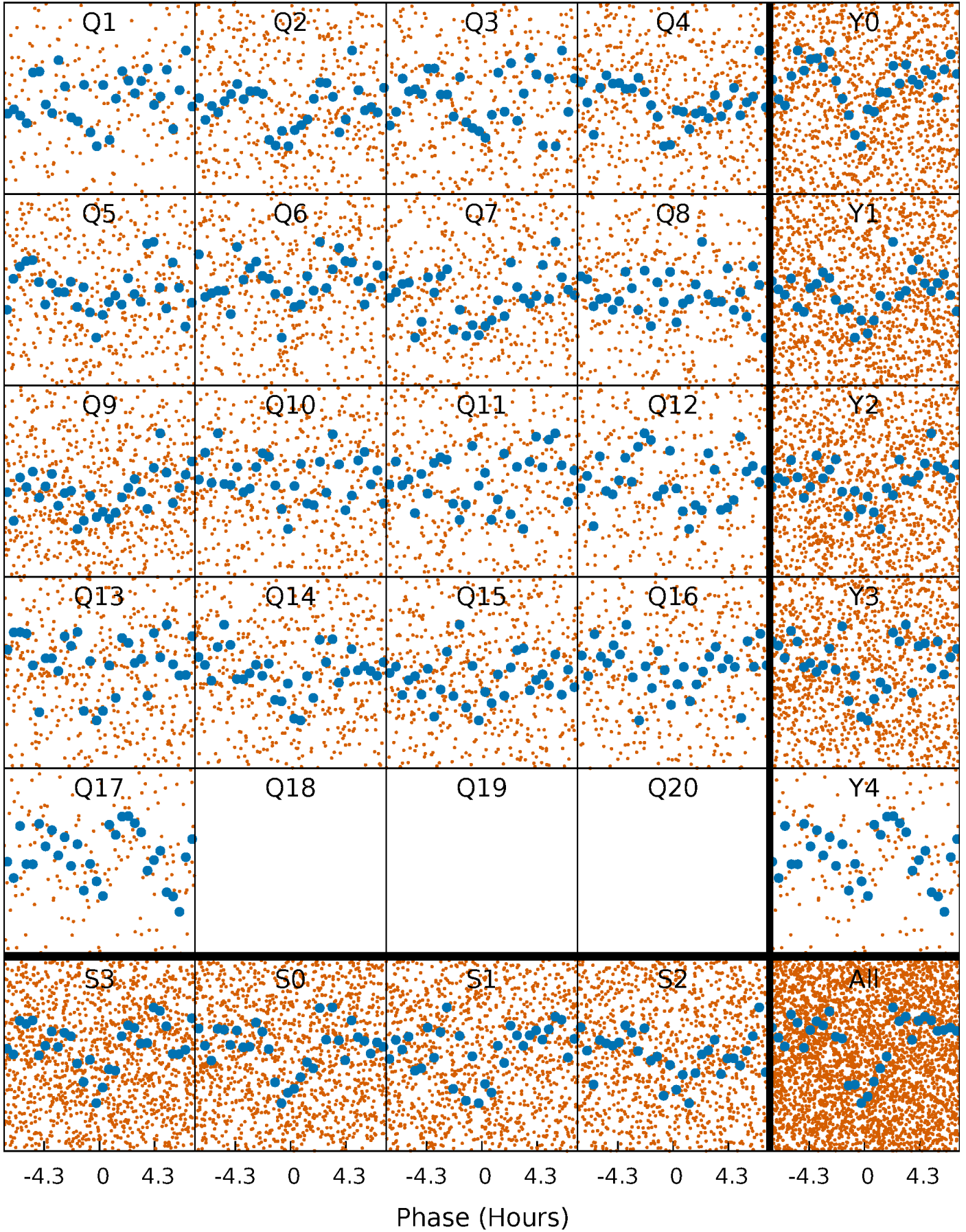


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



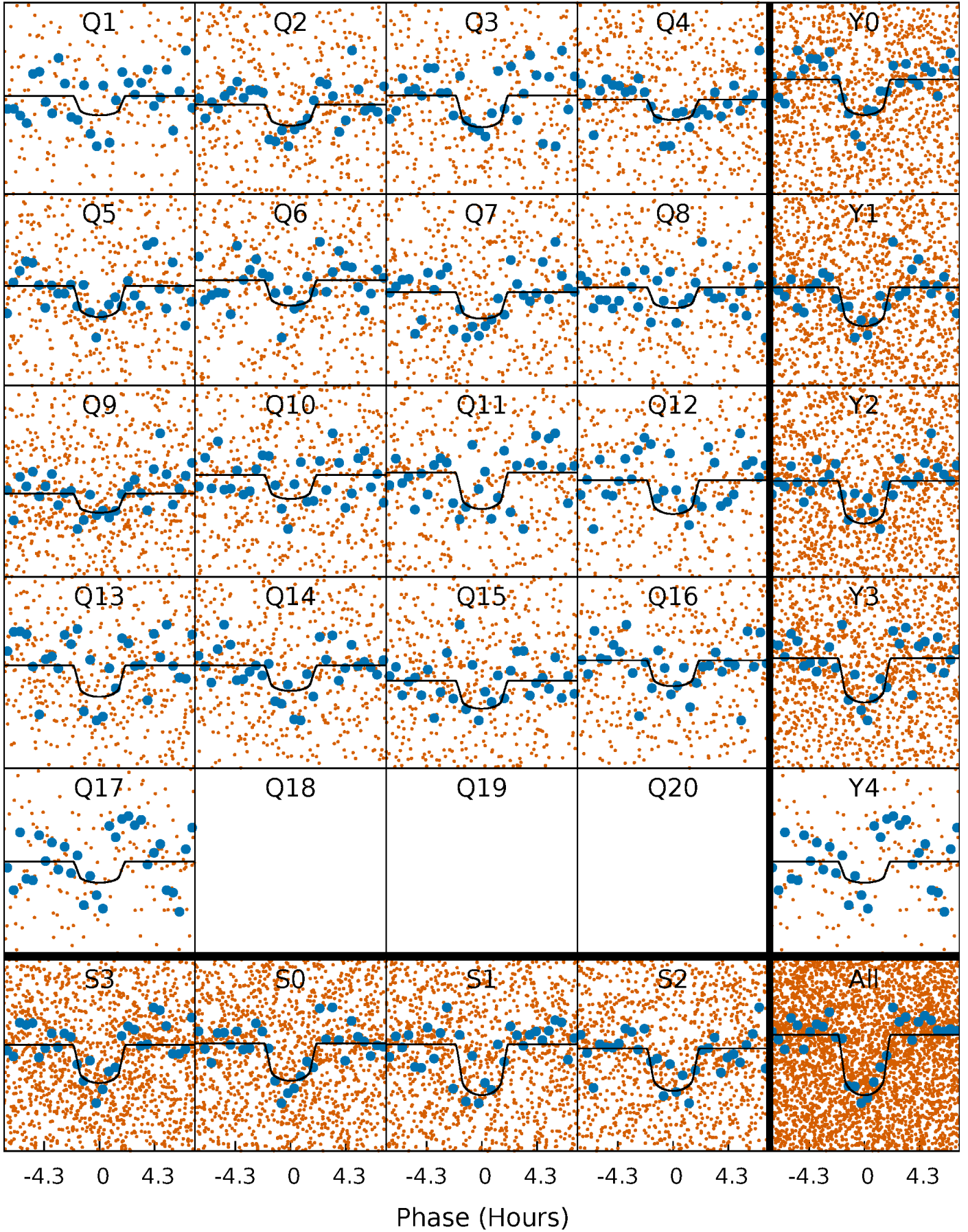
PDC Quarter-Phased Transit Curves

TCE 009574179-01 P= 3.988600 Days $T_0=134.841209$ (BKJD)



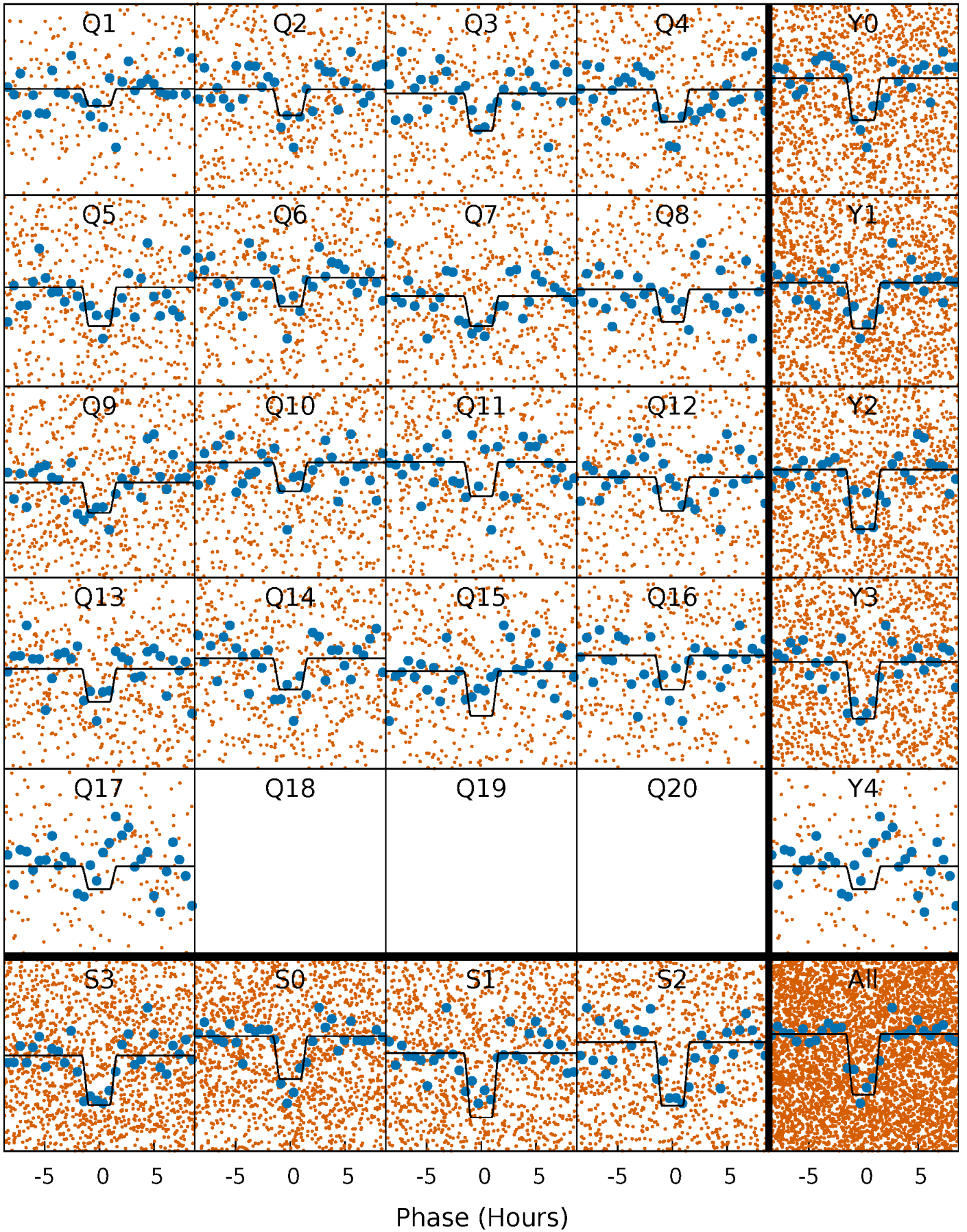
DV Quarter-Phased Transit Curves

TCE 009574179-01 P= 3.988600 Days $T_0=134.841209$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

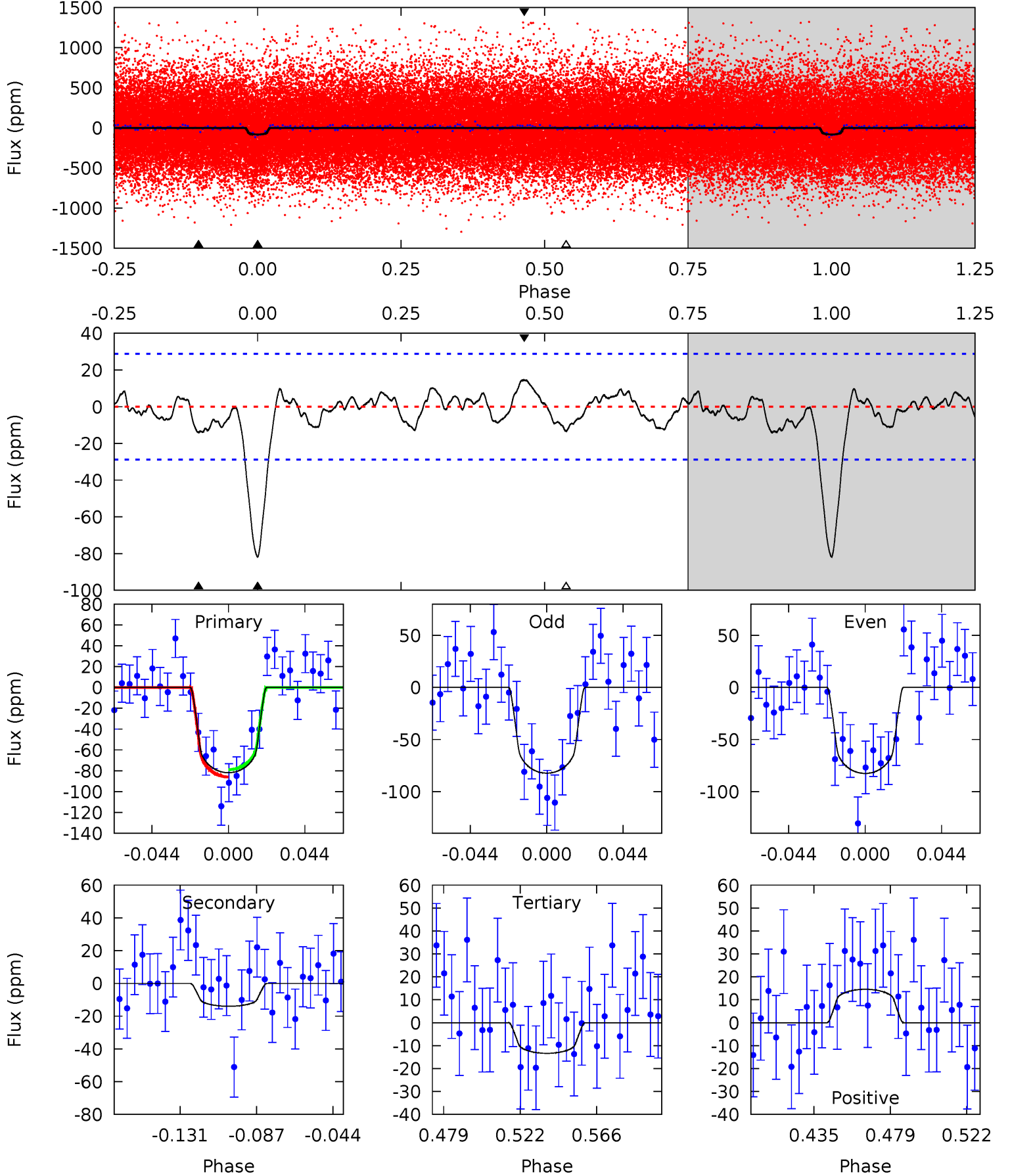
TCE 009574179-01 P= 3.988726 Days $T_0=134.816931$ (BKJD)



DV Model-Shift Uniqueness Test

009574179-01, P = 3.988600 Days, E = 130.852609 Days

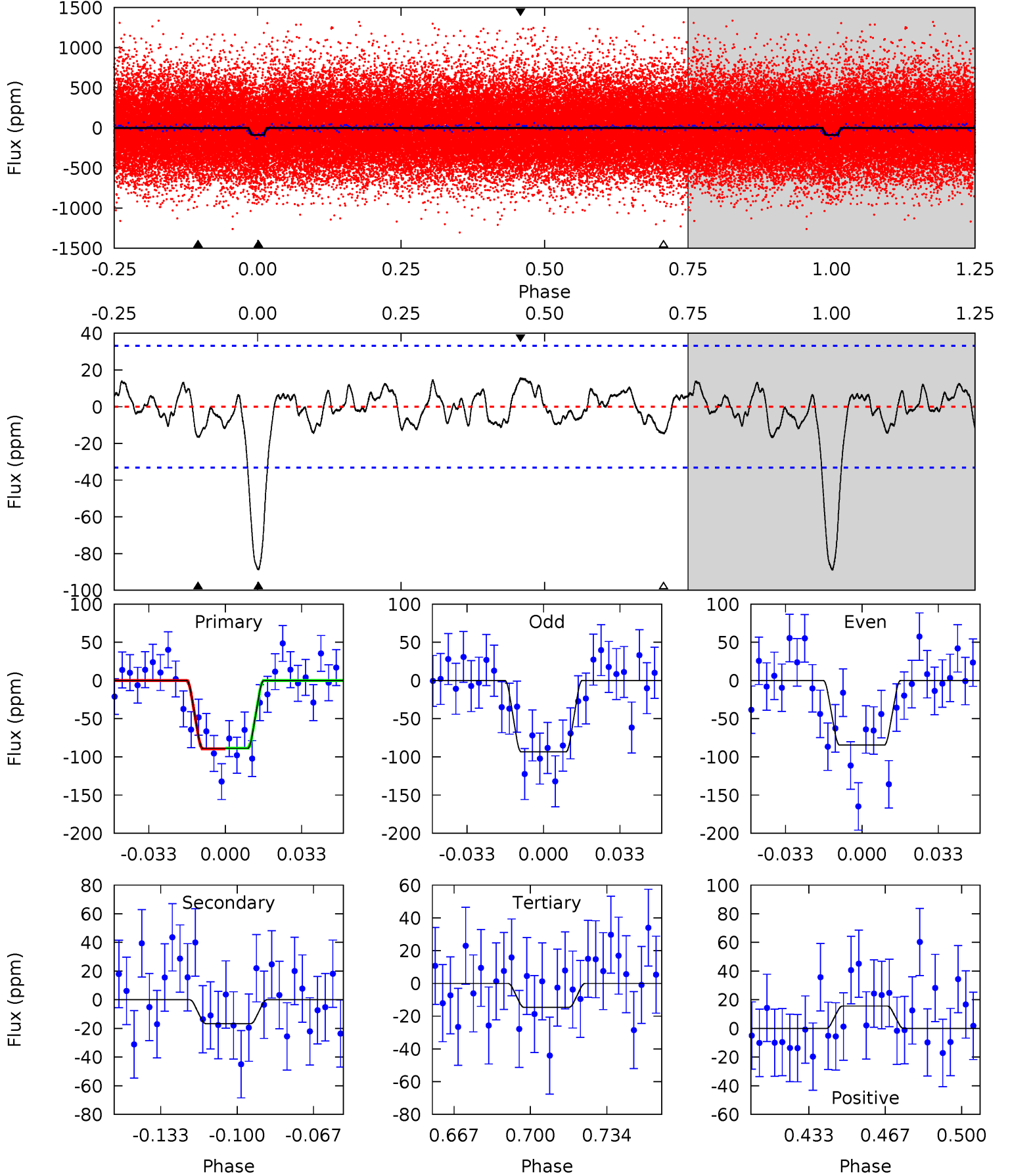
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	2.30	2.20	2.39	4.74	2.02	1.03	11.3	11.1	0.10	-0.09	0.02	1.12	0.15	0.58



Alt Model-Shift Uniqueness Test

009574179-01, P = 3.988726 Days, E = 130.828205 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	2.41	2.12	2.26	4.79	2.13	1.03	10.7	10.6	0.29	0.15	0.64	1.03	0.15	0.07



Stellar Parameters For KIC 009574179

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5692^{+77}_{-77}	$4.288^{+0.137}_{-0.112}$	$0.160^{+0.150}_{-0.150}$	$1.188^{+0.189}_{-0.189}$	$0.997^{+0.072}_{-0.058}$	$0.838^{+0.539}_{-0.281}$
	+1%/-1%	+3%/-3%	+94%/-94%	+16%/-16%	+7%/-6%	+64%/-33%
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 009574179-01 / KOI 2637.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-14 ± 6	$1.36^{+0.83}_{-0.74}$	1723^{+83}_{-80}	3712^{+1187}_{-605}	$9.503^{+30.251}_{-6.360}$
Alt.	-17 ± 7	$1.32^{+0.78}_{-0.67}$	1721^{+79}_{-79}	3849^{+1230}_{-614}	12^{+39}_{-8}

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 $A_{obs} \gg 1.0$

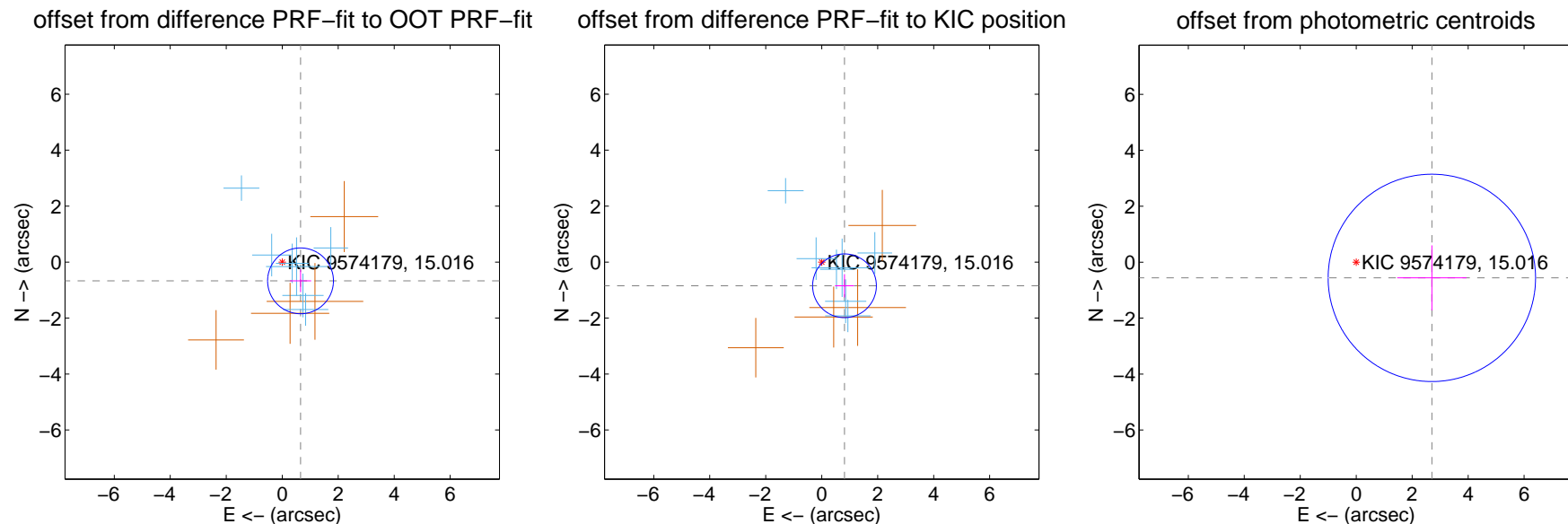
DV Centroid Data

Supplemental centroid analysis for 009574179-01. Kepler magnitude: 15.02. Transit SNR 11.34

There are 7 quarters with good PRF difference image offsets

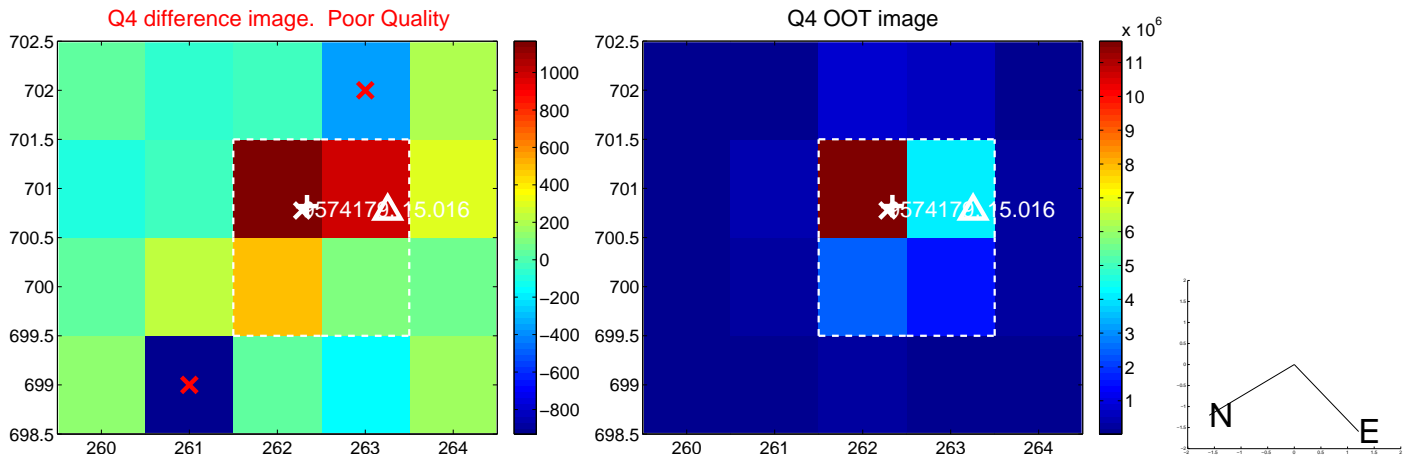
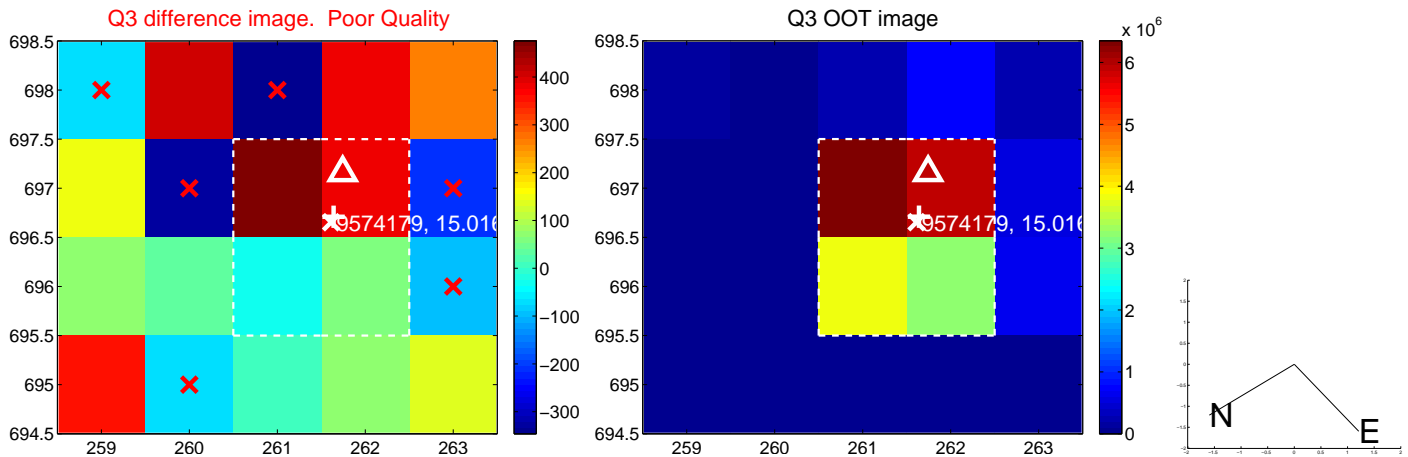
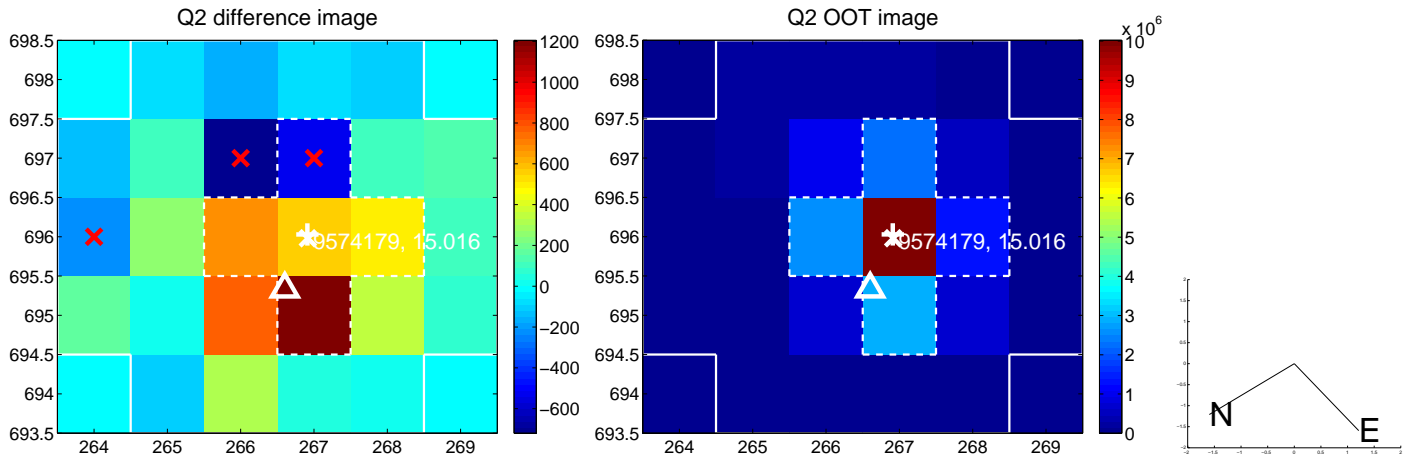
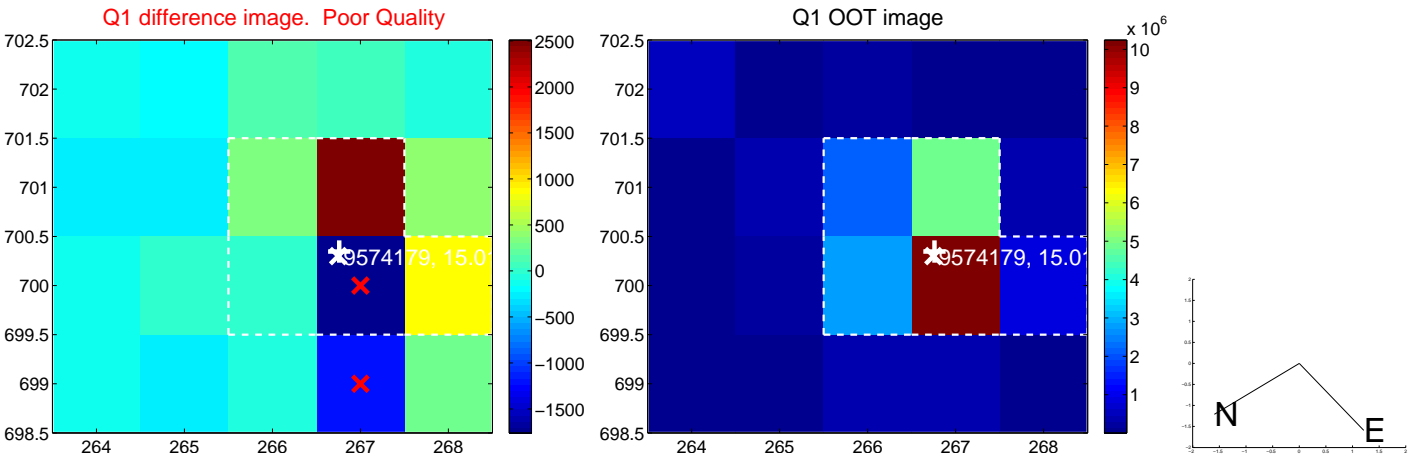
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.937 ± 0.392	2.39	-0.654 ± 0.379	-0.671 ± 0.404
PRF-fit source offset from KIC position	1.175 ± 0.380	3.09	-0.814 ± 0.337	-0.847 ± 0.415
photometric centroid source offset	2.76 ± 1.24	2.24	-2.70 ± 1.24	-0.56 ± 1.16

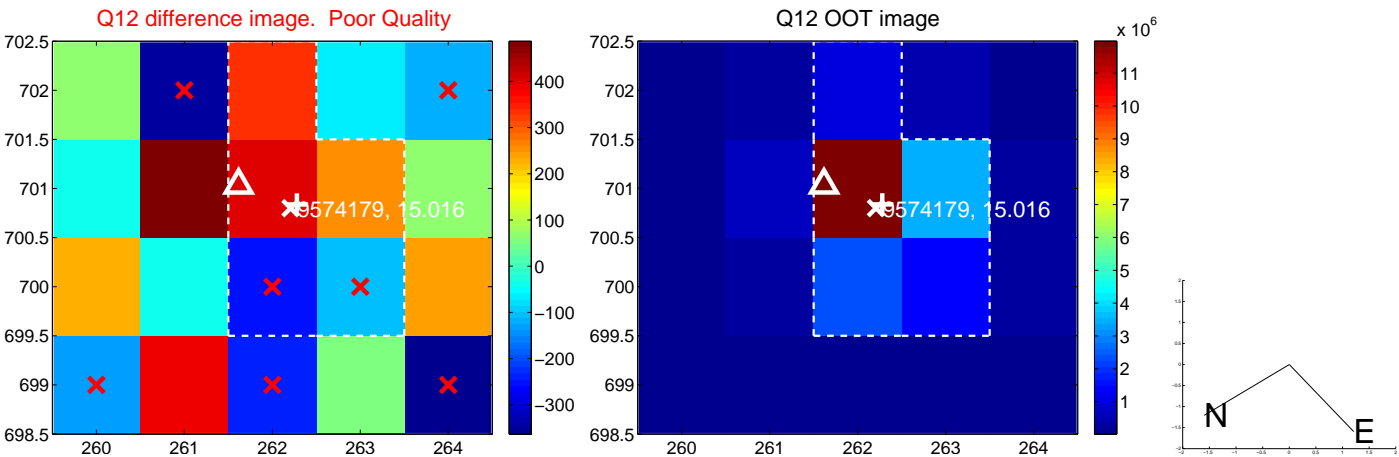
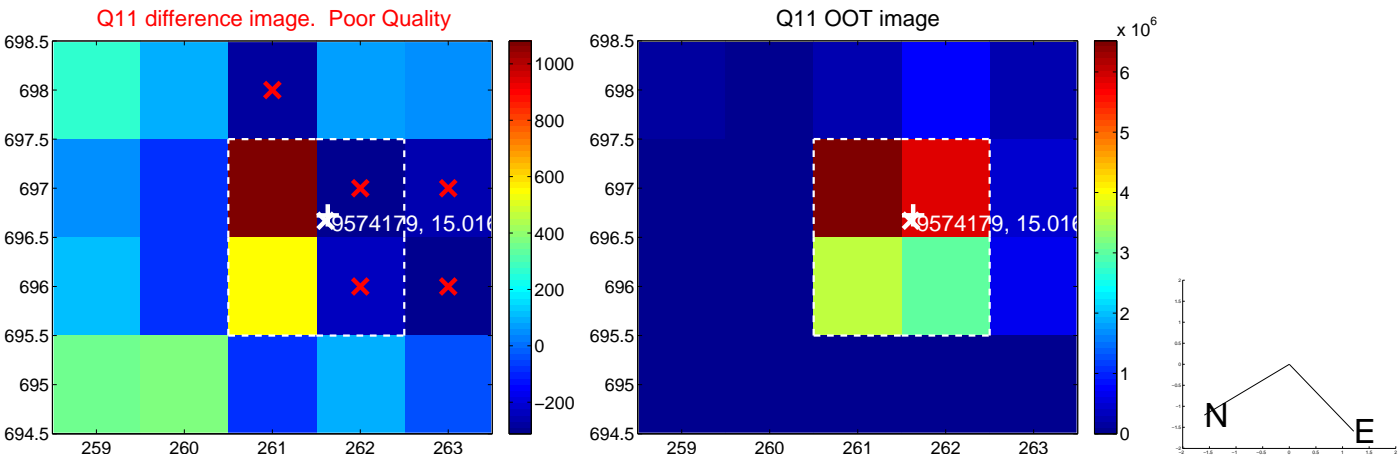
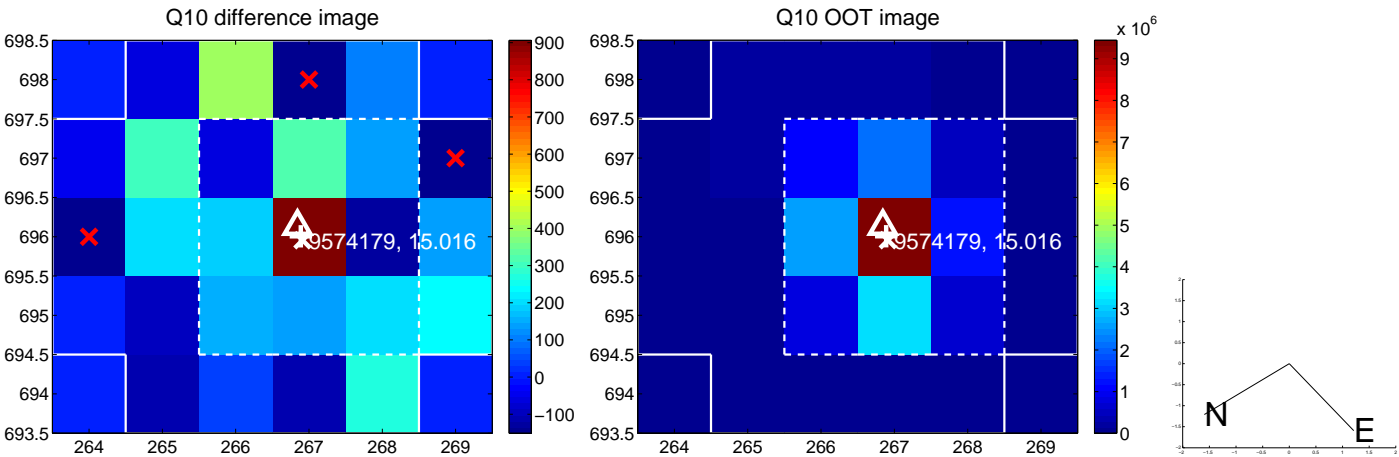
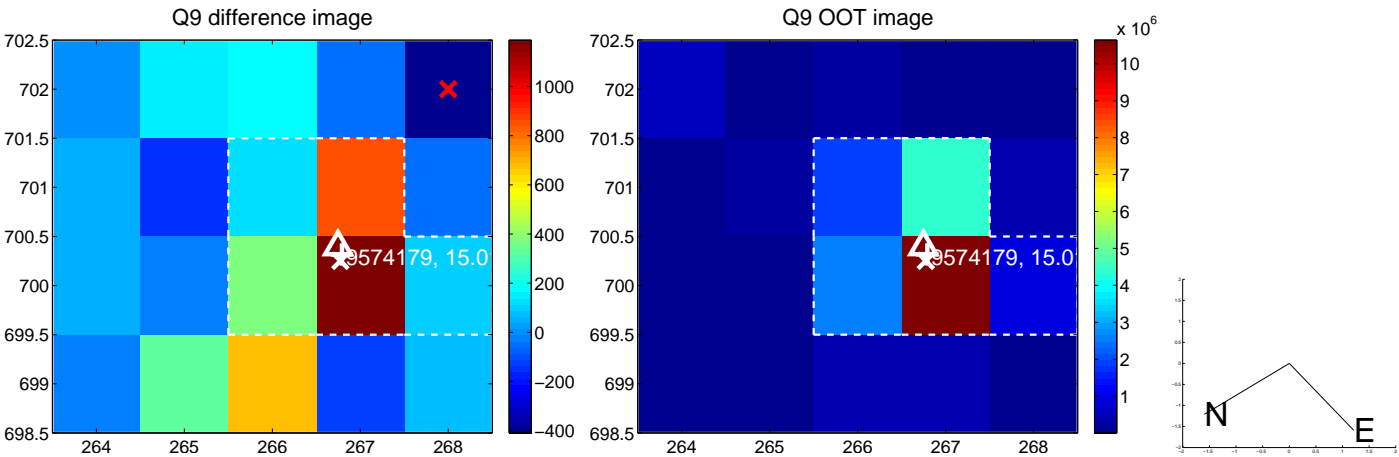


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

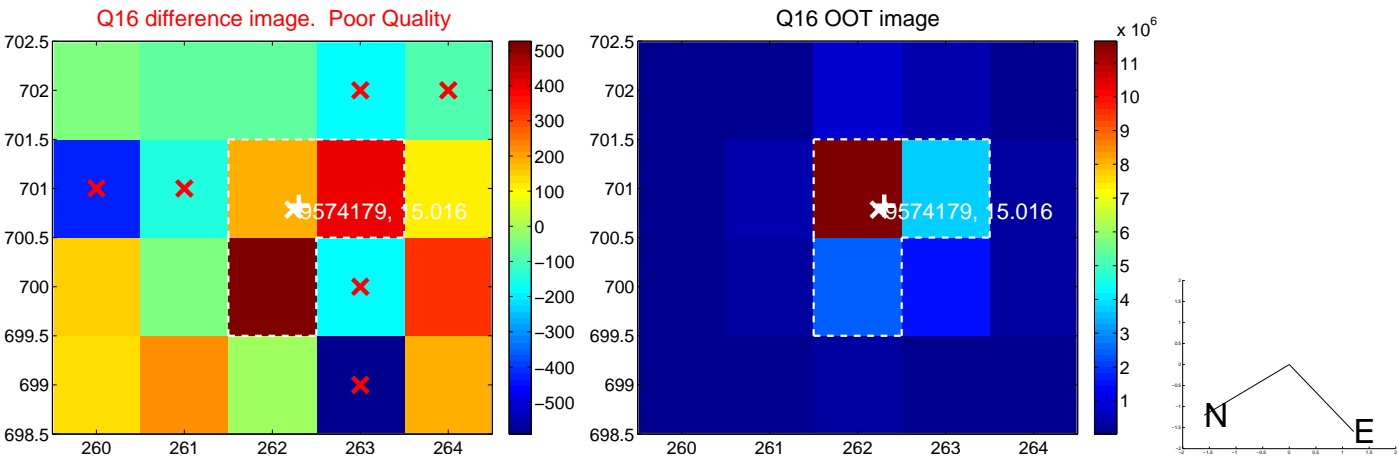
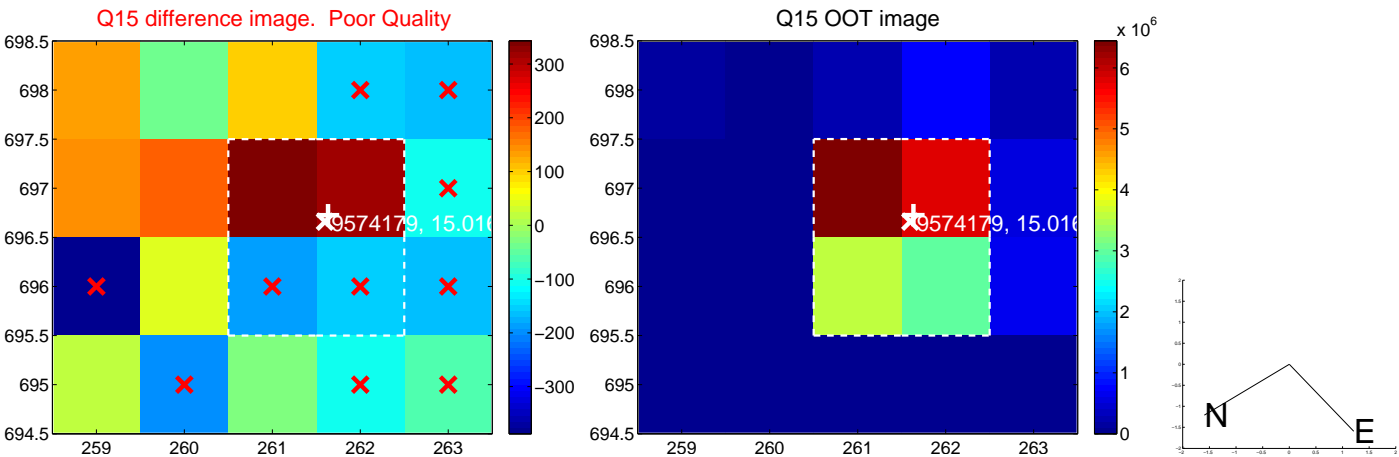
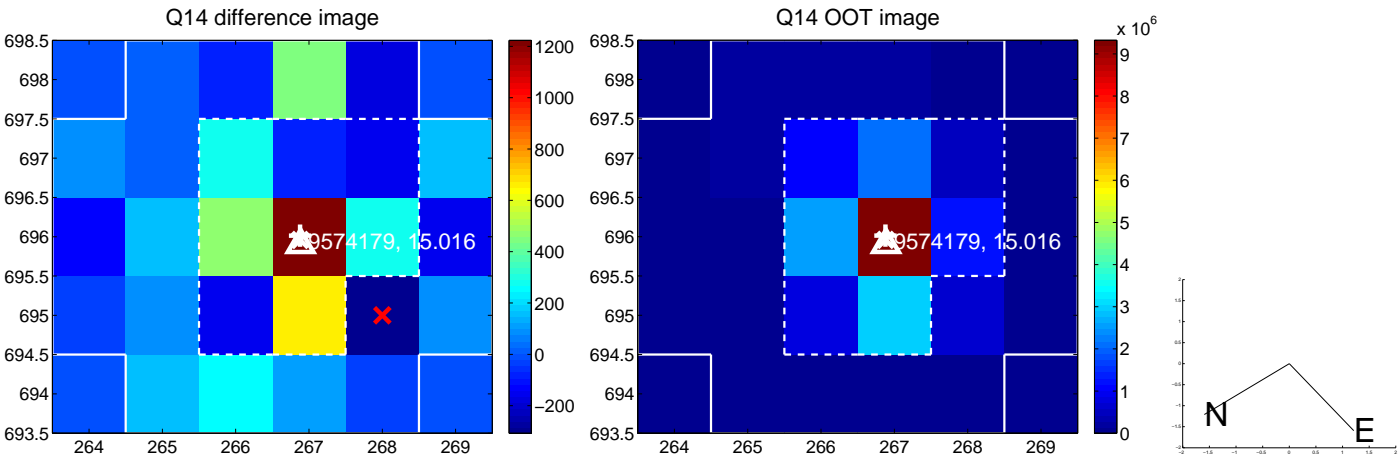
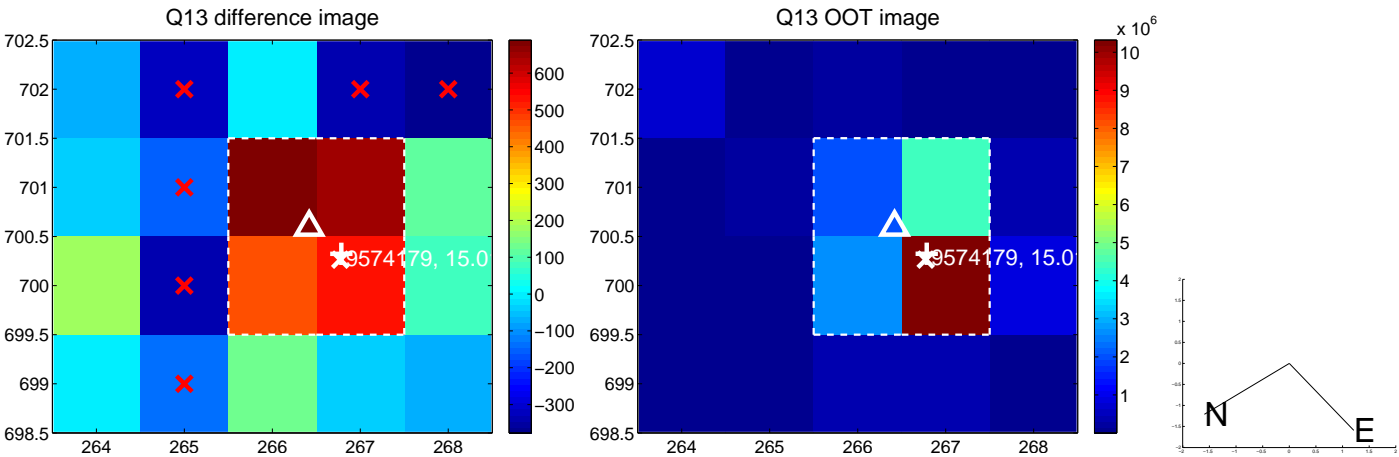
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



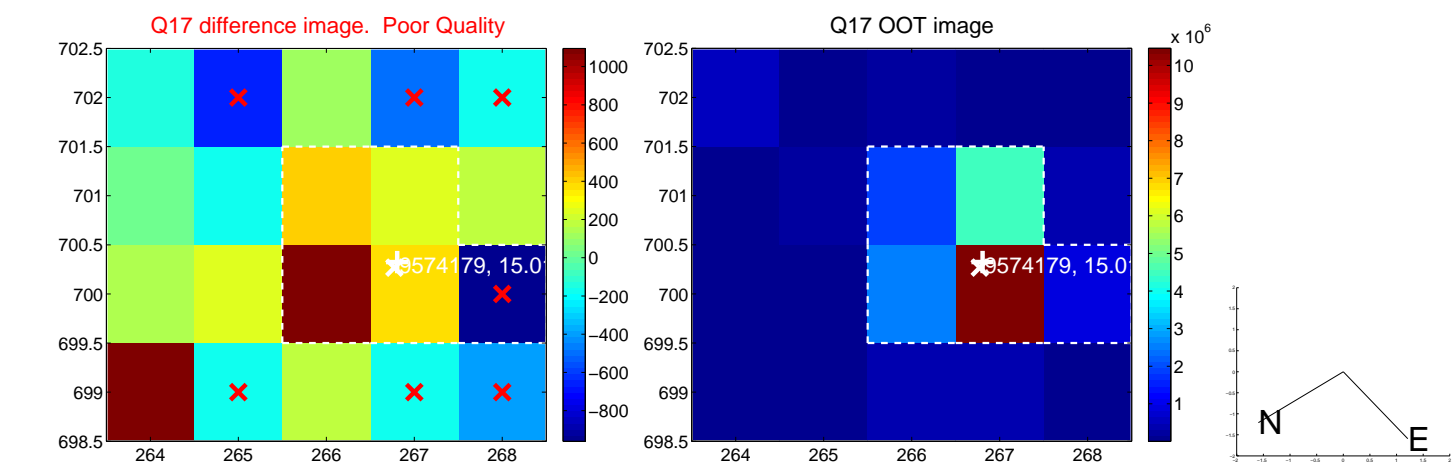
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



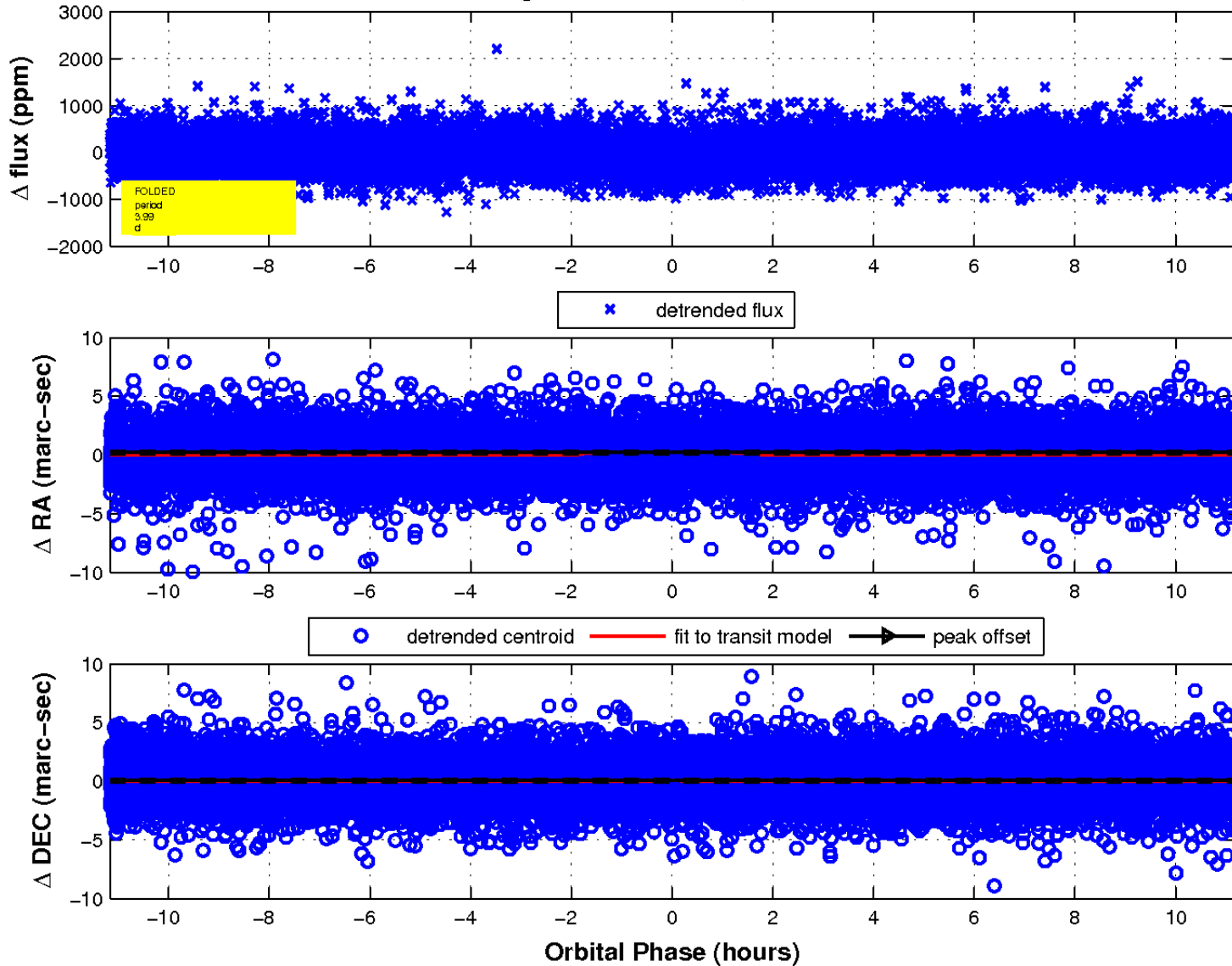
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

