

KIC 010549902

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})
010549902-01	OBS	4826.01	1.141133	132.244452	50.1	1.707	9.4	8.9	1.99	5438	1.69	6043.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010549902-01	OBS	PC	0.97	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.

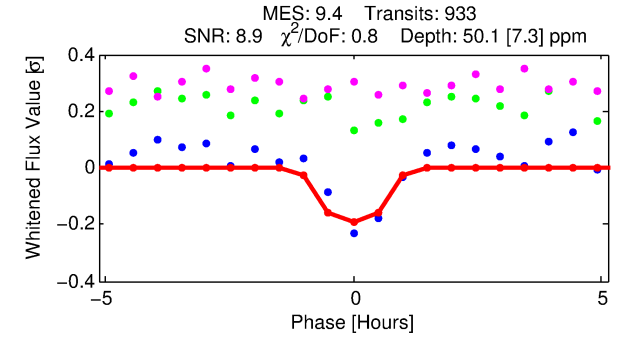
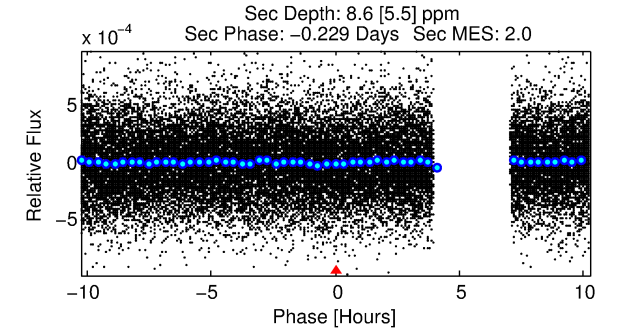
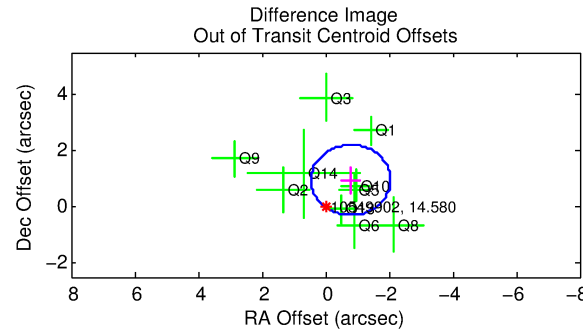
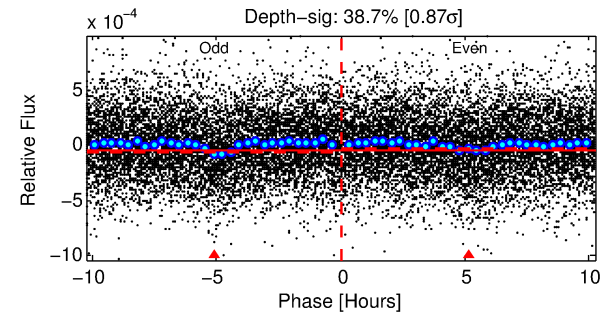
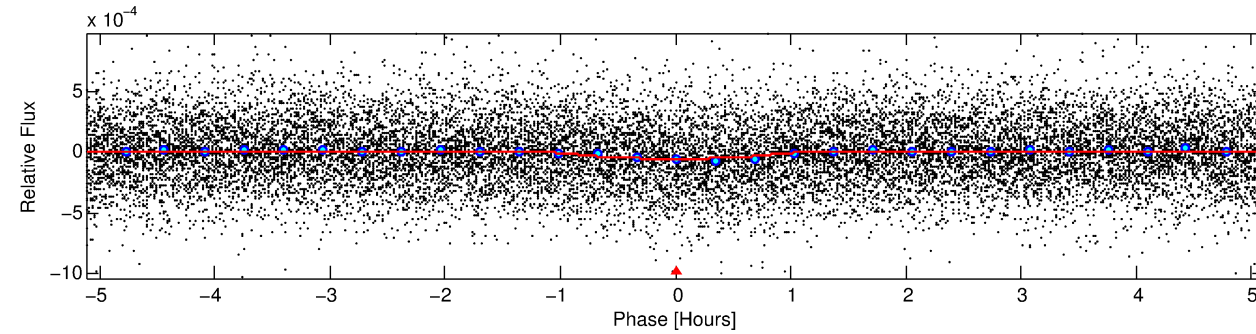
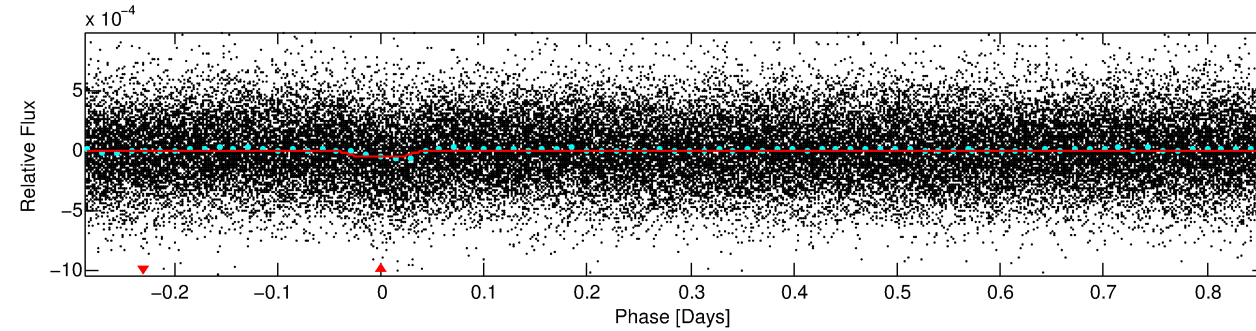
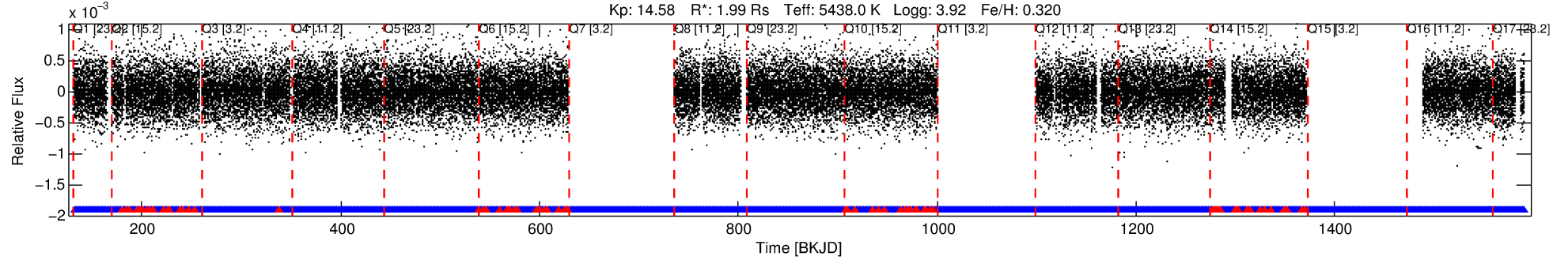
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010549902-01

No Significant Match Found

DV One-Page Summary

KIC: 10549902 Candidate: 1 of 1 Period: 1.141 d
KOI: K04826.01 Corr: 0.836



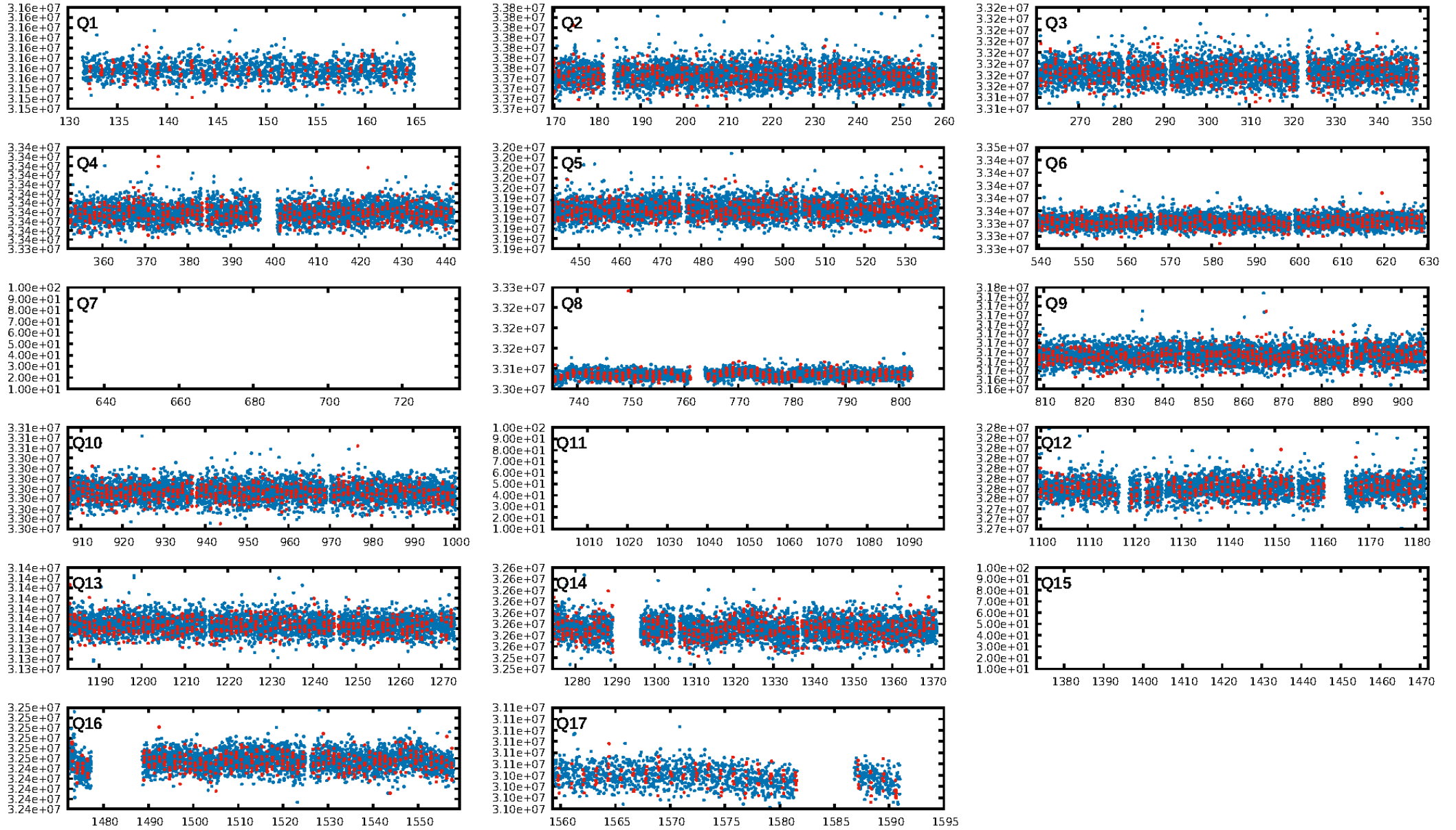
DV Fit Results:

Period = 1.14113 [0.00001] d
Epoch = 132.2445 [0.0030] BKJD
Rp/R* = 0.0078 [0.0069]
a/R* = 2.54 [8.21]
b = 0.89 [0.87]
Seff = 6043.56 [2351.53]
Teff = 2248 [219] K
Rp = 1.69 [1.58] Re
a = 0.0226 [0.0058] AU
Ag = 0.85 [1.64] [-0.09 σ]
Teffp = 3338 [1574] K [0.69 σ]

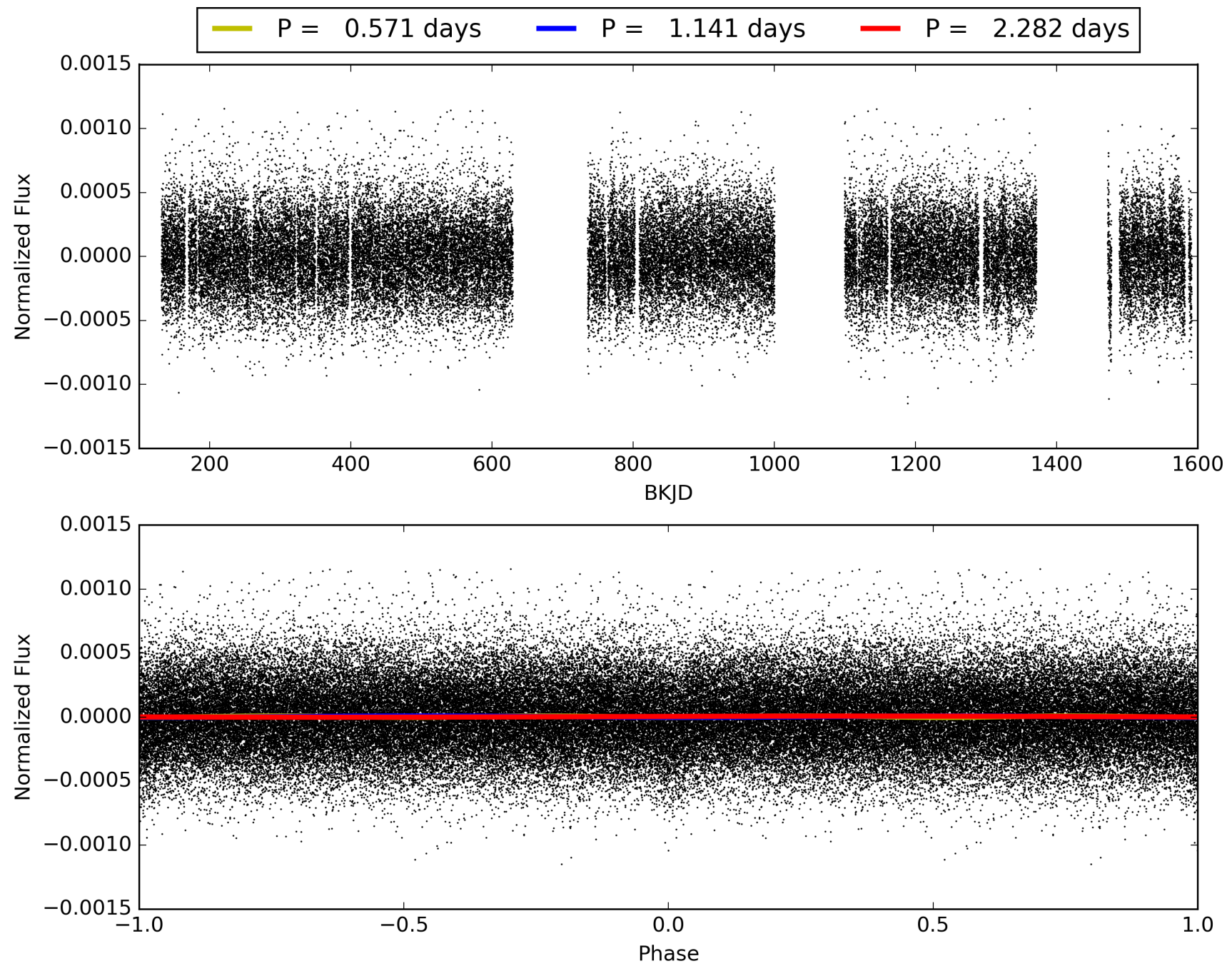
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.36e-20
RollingBand-fgt: 0.92 [807/880]
GhostDiagnostic-chr: -1.668
Centroid-sig: N/A
Centroid-so: 3.948 arcsec [2.53 σ]
OotOffset-rm: 1.240 arcsec [2.97 σ]
OotOffset-st: 4/1/1/4 [10]
KicOffset-rm: 1.284 arcsec [3.04 σ]
KicOffset-st: 4/1/1/4 [10]
DiffImageQuality-fgm: 0.50 [5/10]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010549902-01, PDC Light Curves

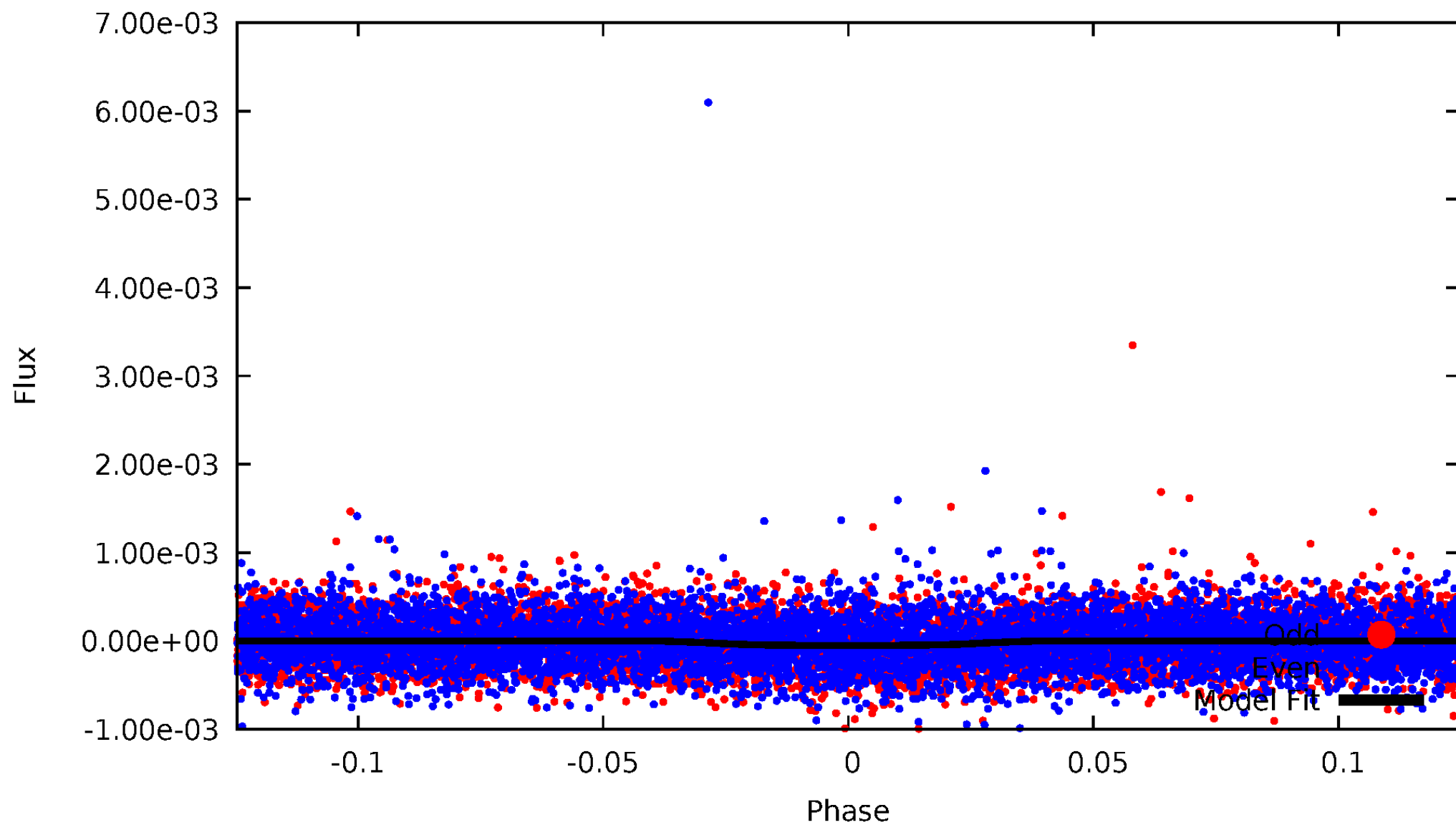


TCE 010549902-01



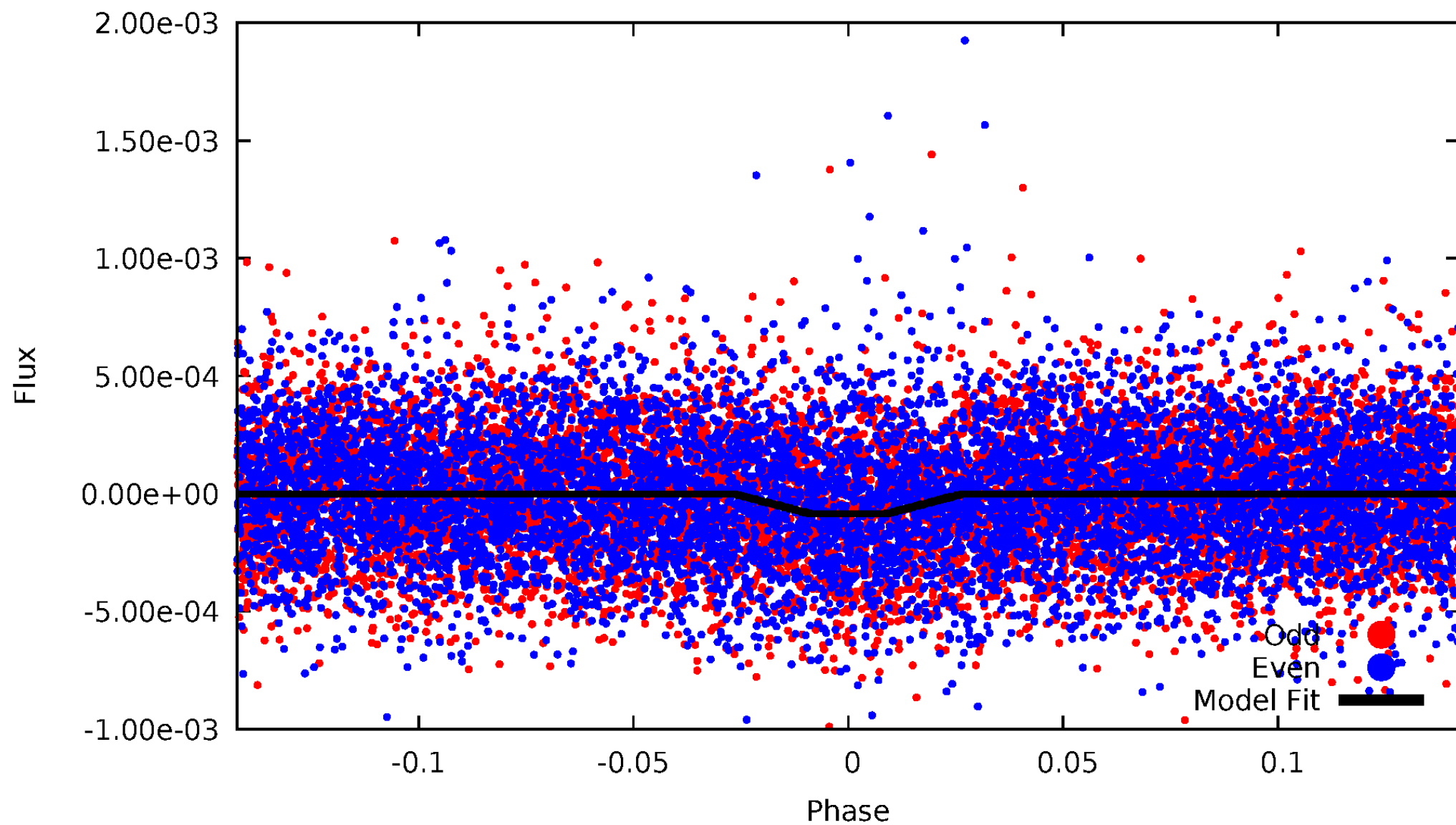
DV Odd/Even

TCE 010549902-01

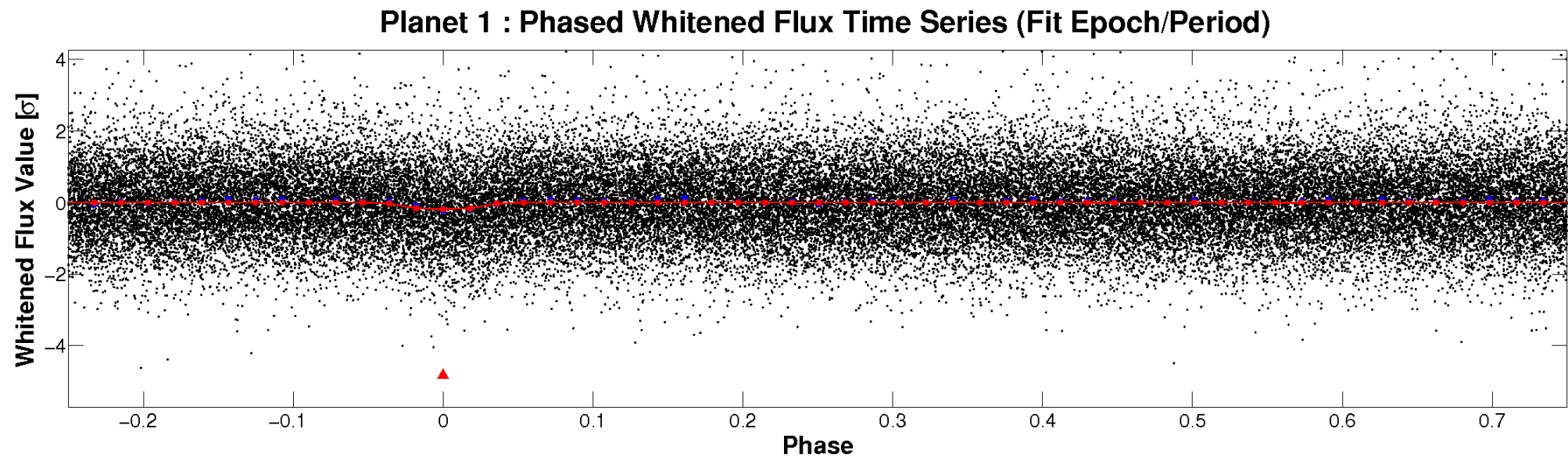
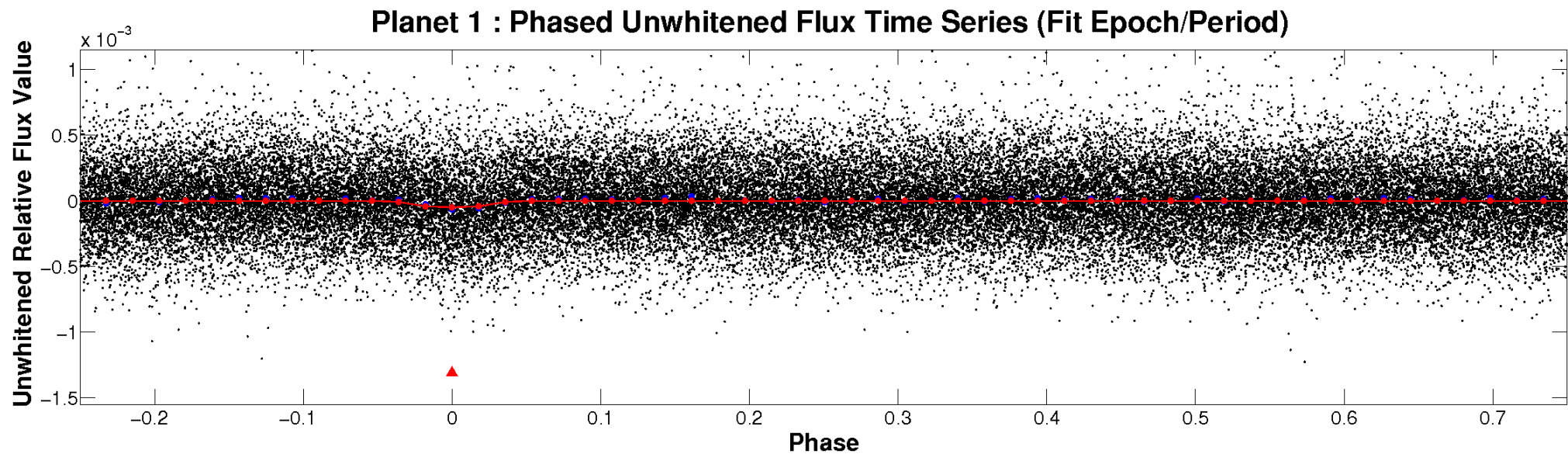


ALT Odd/Even

TCE 010549902-01

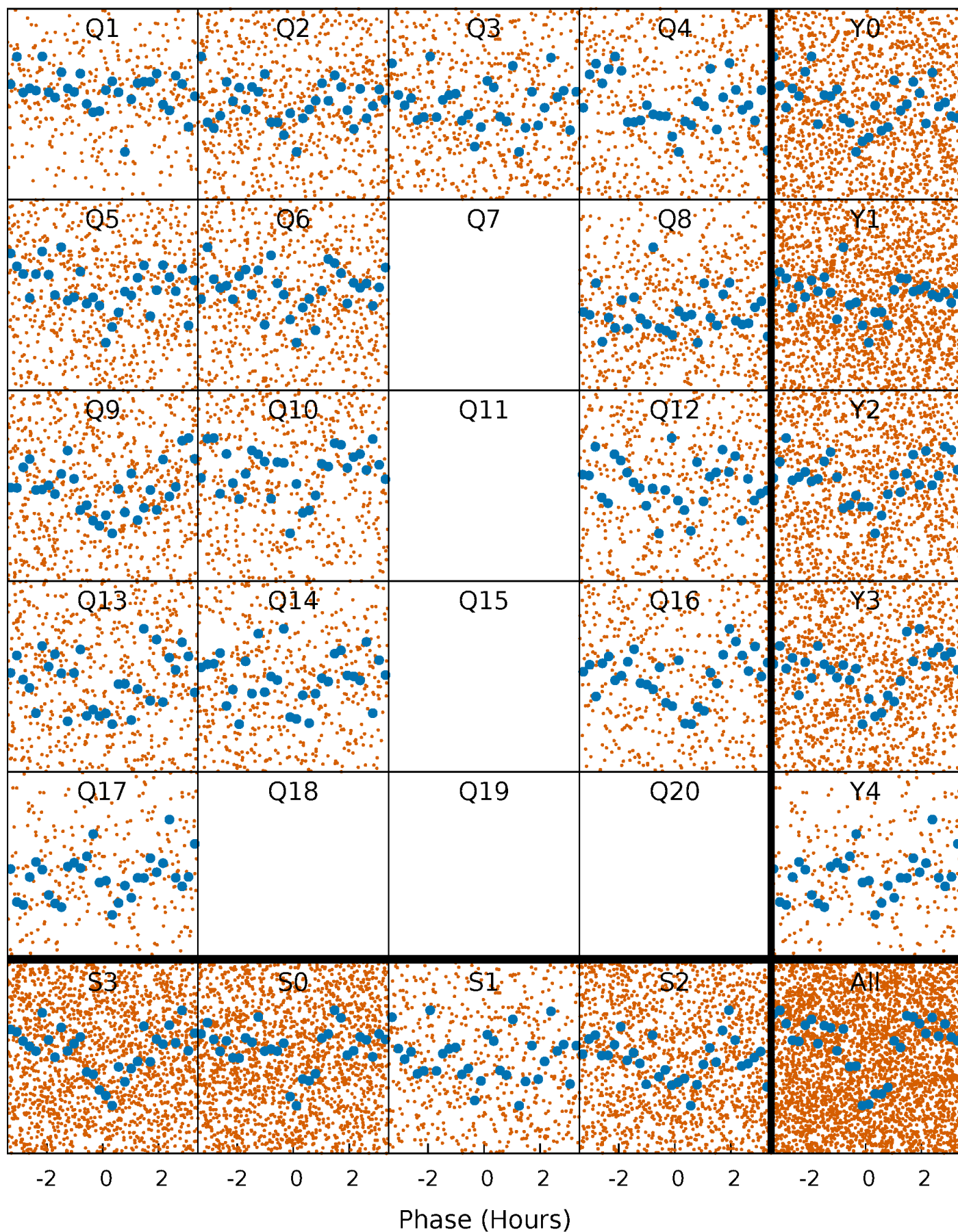


Non-Whitened Vs. Whitened Light Curve



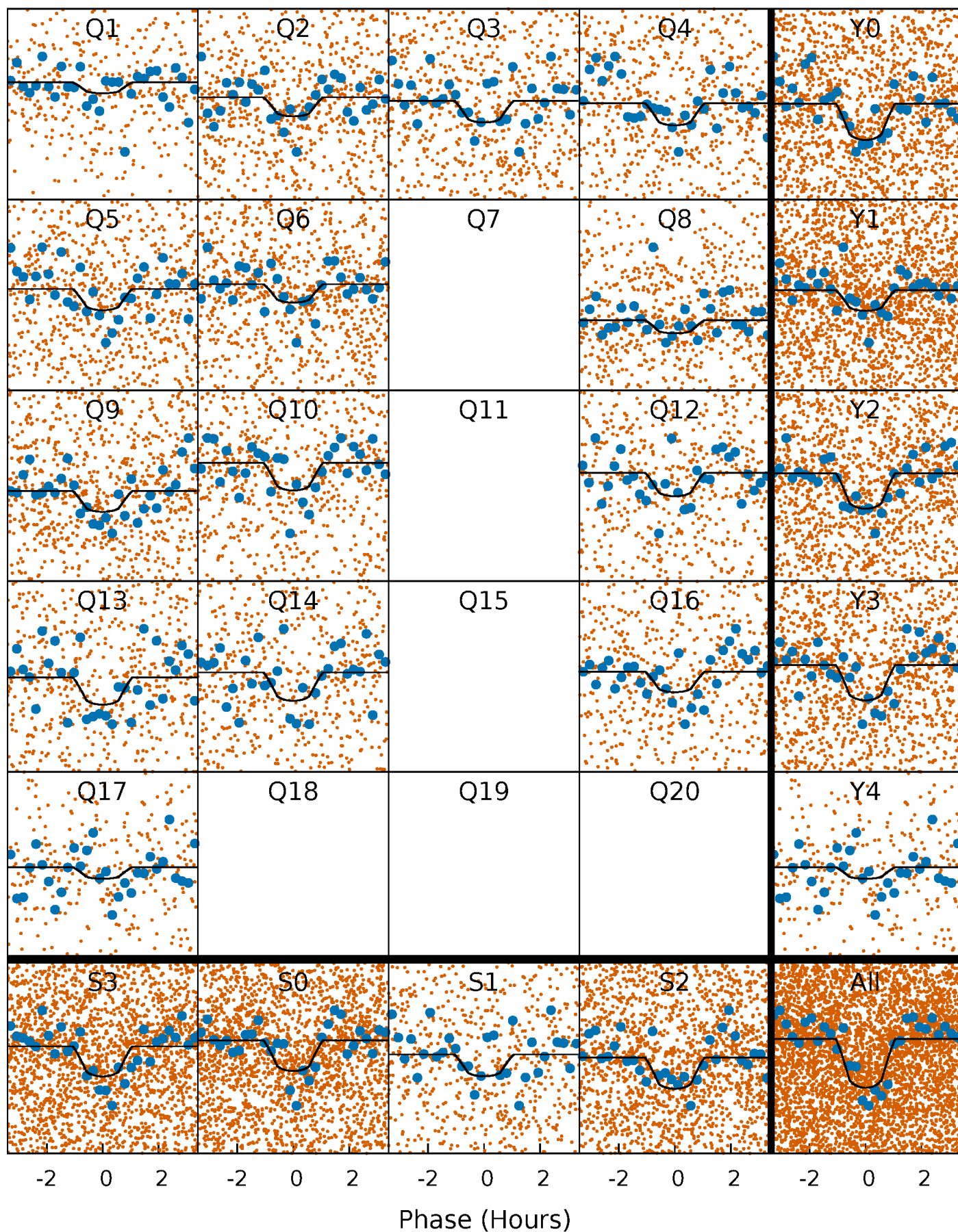
PDC Quarter-Phased Transit Curves

TCE 010549902-01 P= 1.141133 Days $T_0=132.244452$ (BKJD)



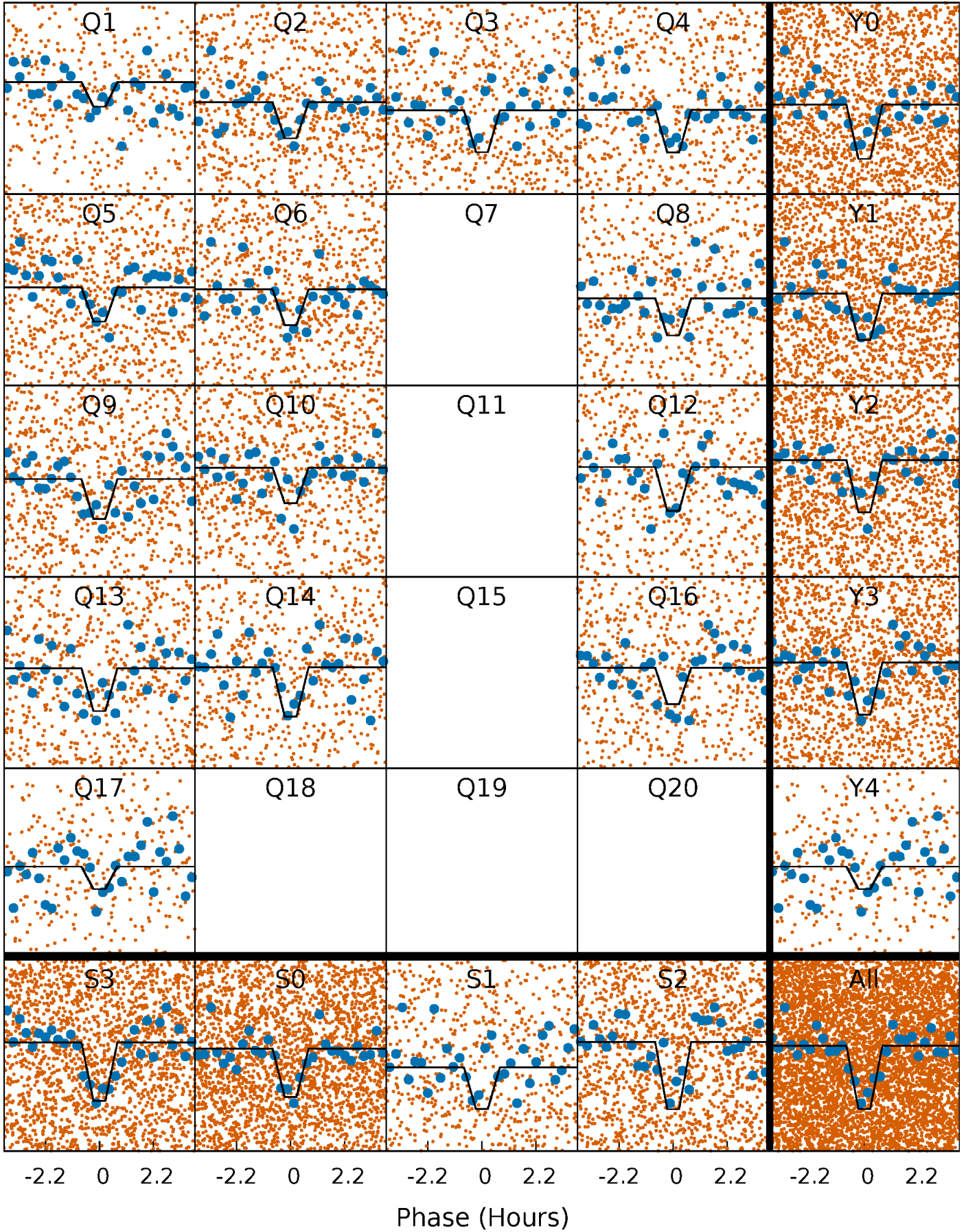
DV Quarter-Phased Transit Curves

TCE 010549902-01 P= 1.141133 Days $T_0=132.244452$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

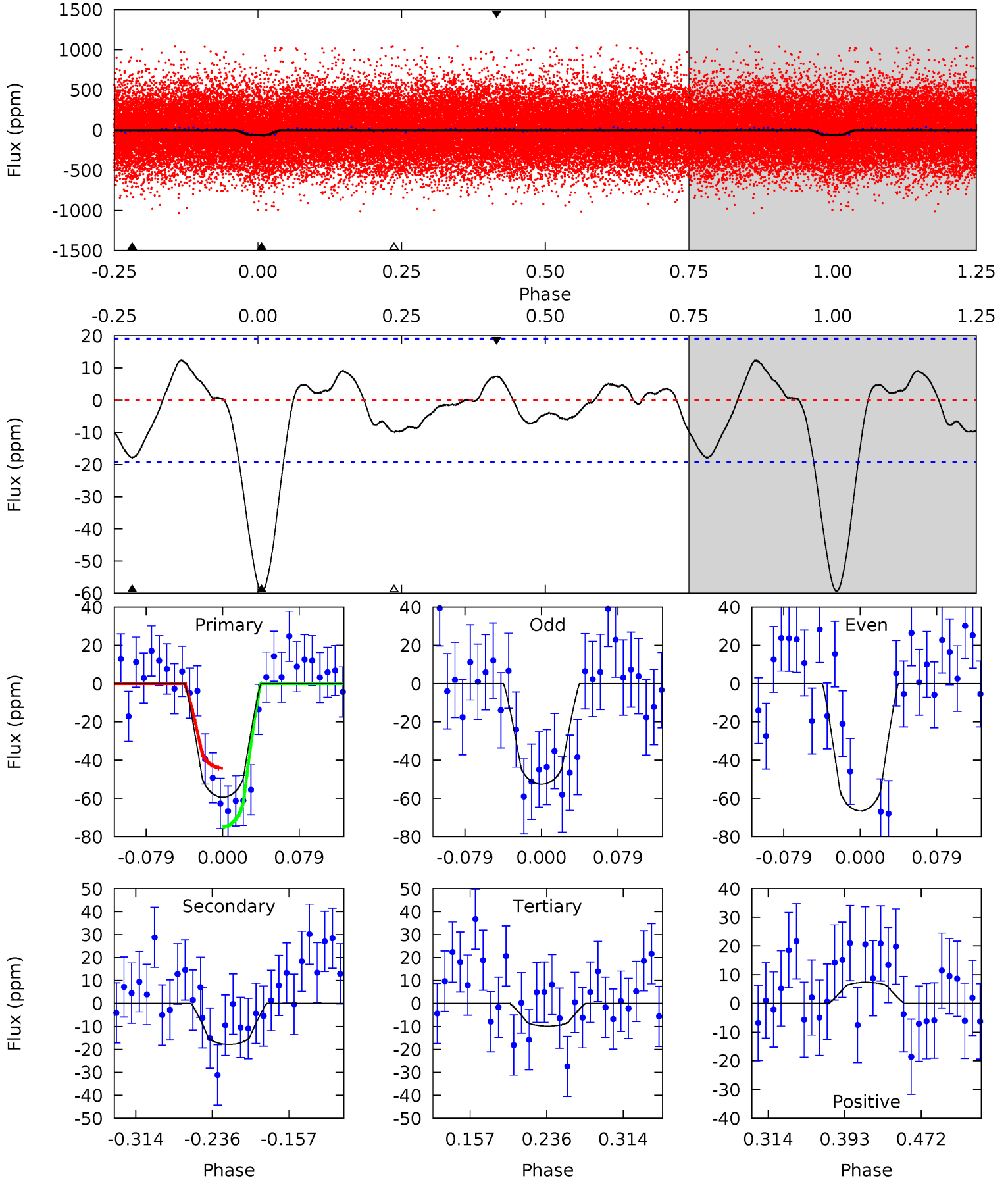
TCE 010549902-01 $P = 1.141151$ Days $T_0 = 132.241604$ (BKJD)



DV Model-Shift Uniqueness Test

010549902-01, P = 1.141133 Days, E = 131.103319 Days

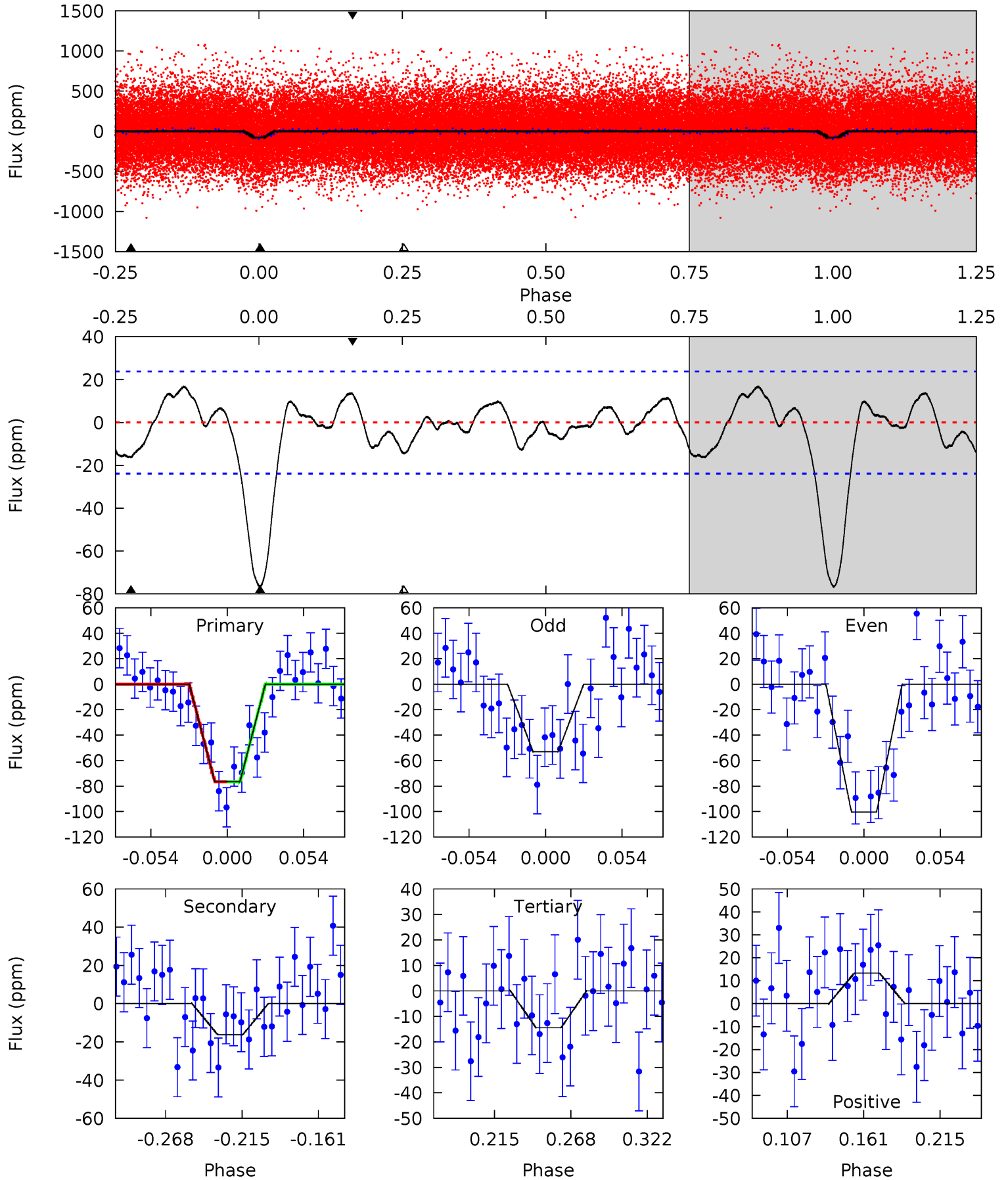
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	4.30	2.38	1.78	4.62	1.76	1.30	11.9	12.5	1.92	2.53	1.68	0.88	0.17	3.70



Alt Model-Shift Uniqueness Test

010549902-01, P = 1.141151 Days, E = 131.100453 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	3.20	2.85	2.63	4.69	1.93	1.38	12.2	12.5	0.35	0.57	4.68	0.93	0.18	0.00



Stellar Parameters For KIC 010549902

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5438^{+81}_{-73}	$3.916^{+0.217}_{-0.093}$	$0.320^{+0.100}_{-0.150}$	$1.989^{+0.308}_{-0.573}$	$1.190^{+0.110}_{-0.205}$	$0.213^{+0.292}_{-0.066}$
	+1%/-1%	+6%/-2%	+31%/-47%	+15%/-29%	+9%/-17%	+137%/-31%
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 010549902-01 / KOI 4826.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-18 ± 4	$1.96^{+1.34}_{-1.22}$	3106^{+153}_{-219}	3769^{+2002}_{-1003}	$1.301^{+7.658}_{-0.870}$
Alt.	-16 ± 5	$2.06^{+1.46}_{-1.15}$	3105^{+150}_{-188}	3588^{+1569}_{-1241}	$1.013^{+4.371}_{-0.685}$

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

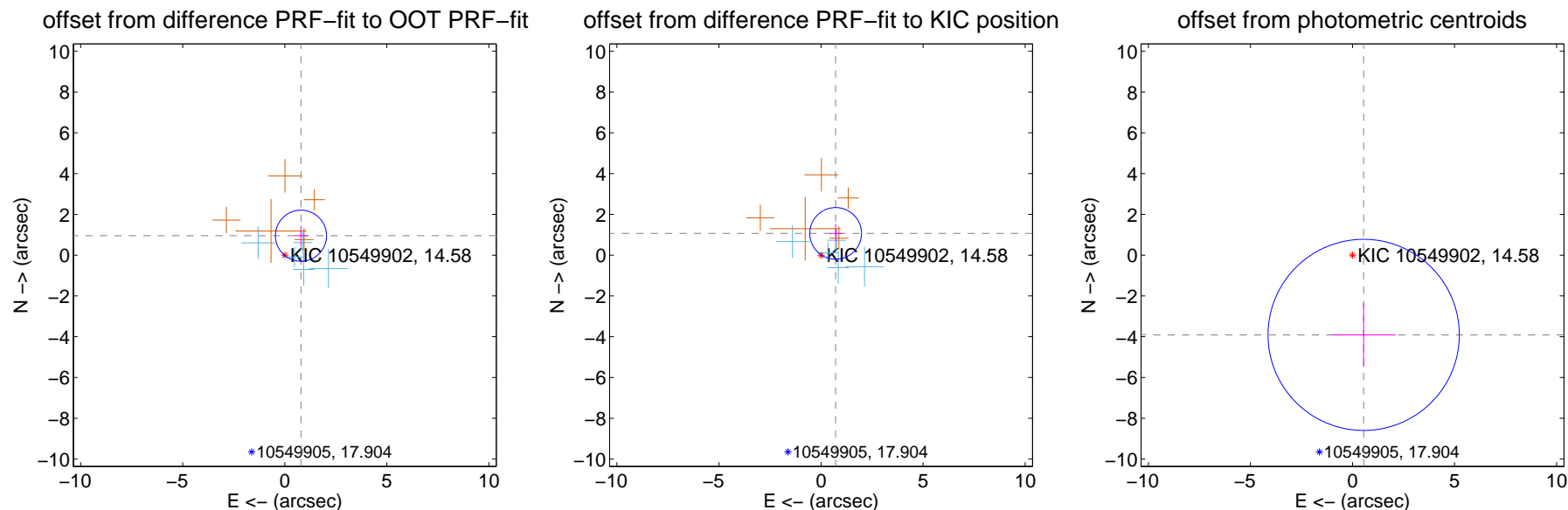
DV Centroid Data

Supplemental centroid analysis for 010549902-01. Kepler magnitude: 14.58. Transit SNR 8.86

There are 5 quarters with good PRF difference image offsets

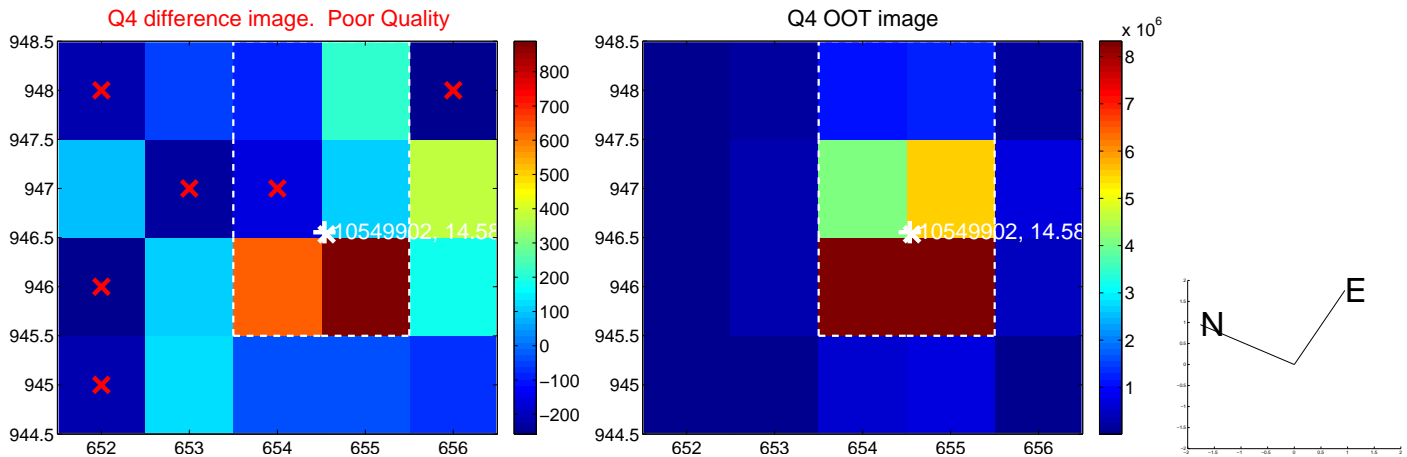
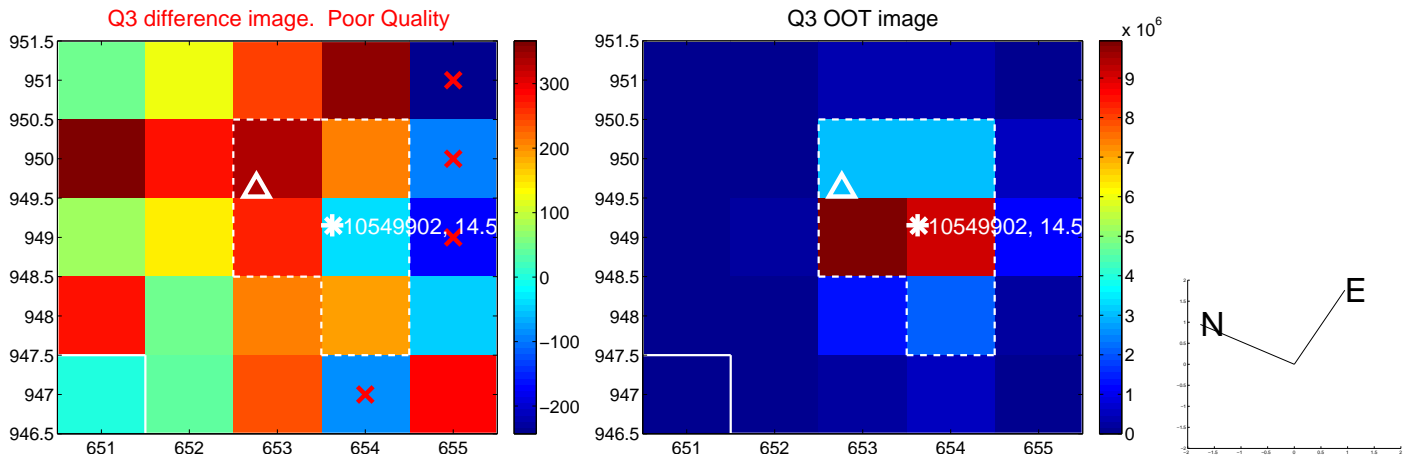
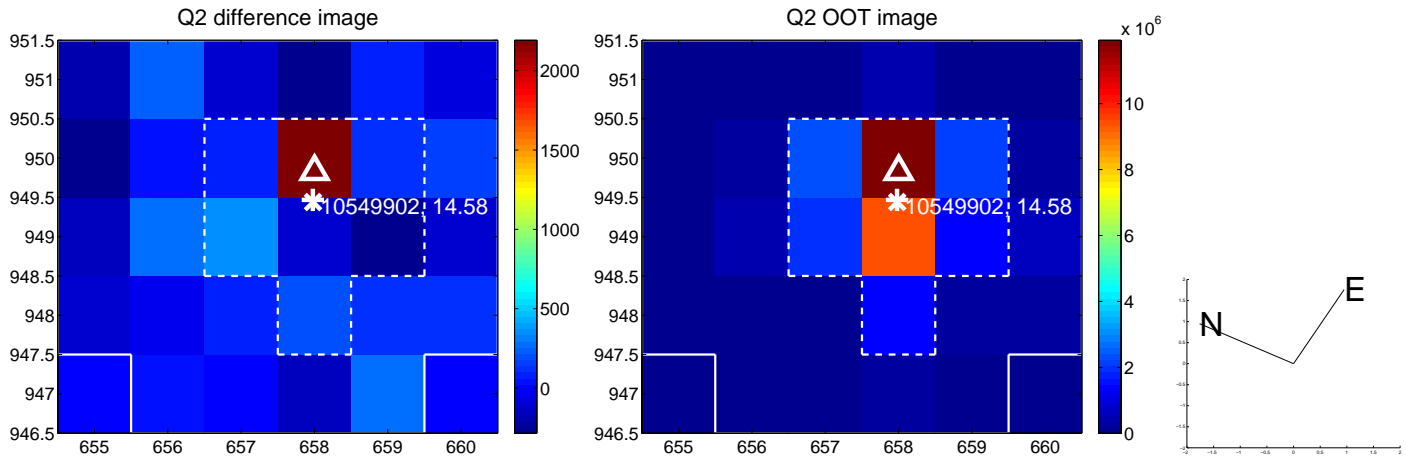
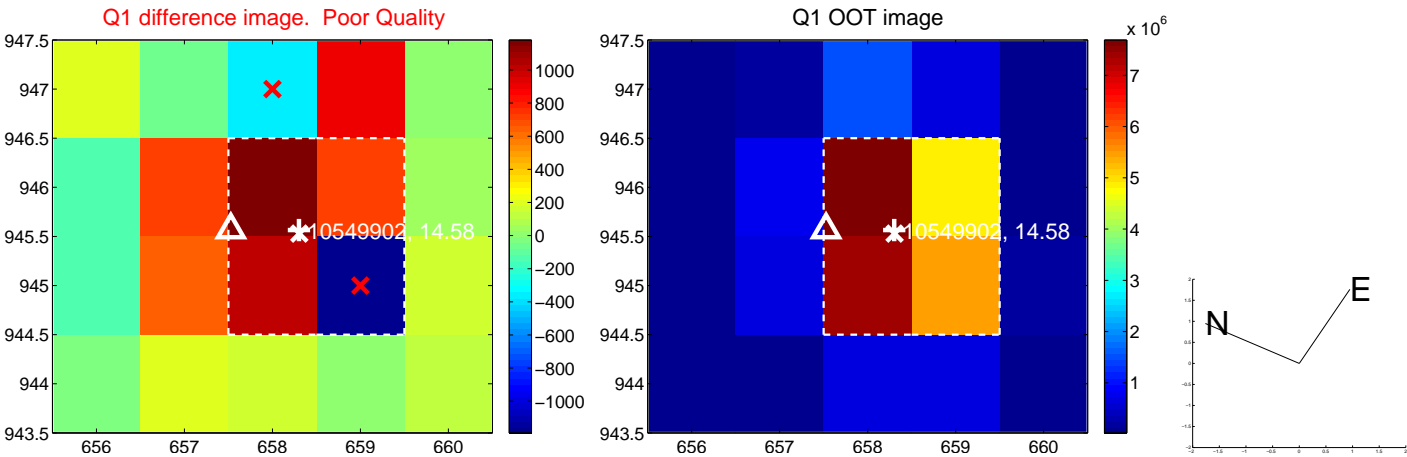
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.240 ± 0.417	2.97	-0.793 ± 0.315	0.953 ± 0.475
PRF-fit source offset from KIC position	1.284 ± 0.422	3.04	-0.715 ± 0.306	1.066 ± 0.465
photometric centroid source offset	3.95 ± 1.56	2.53	-0.55 ± 1.57	-3.91 ± 1.56

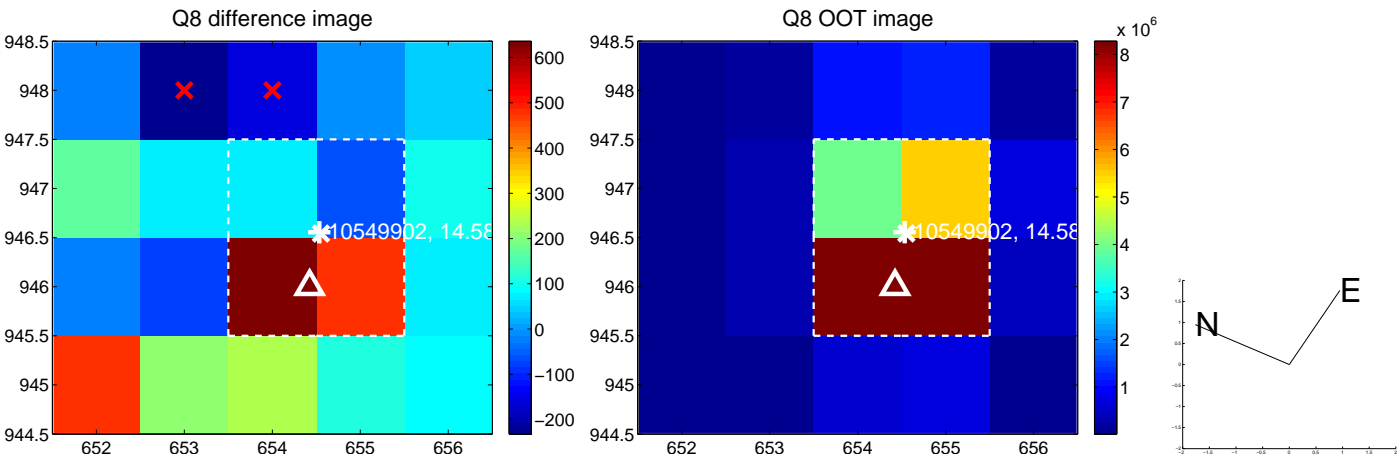
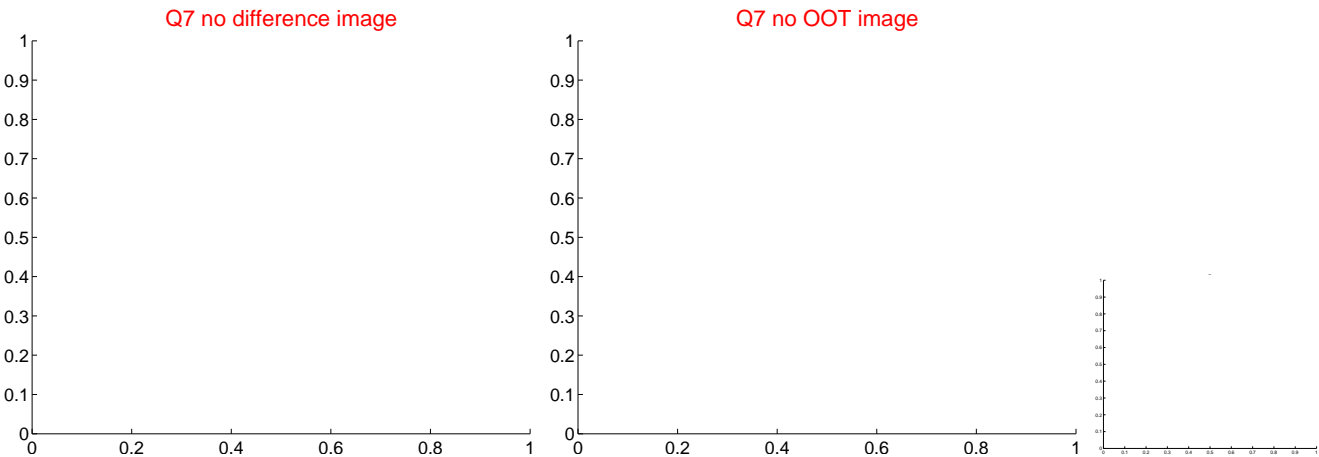
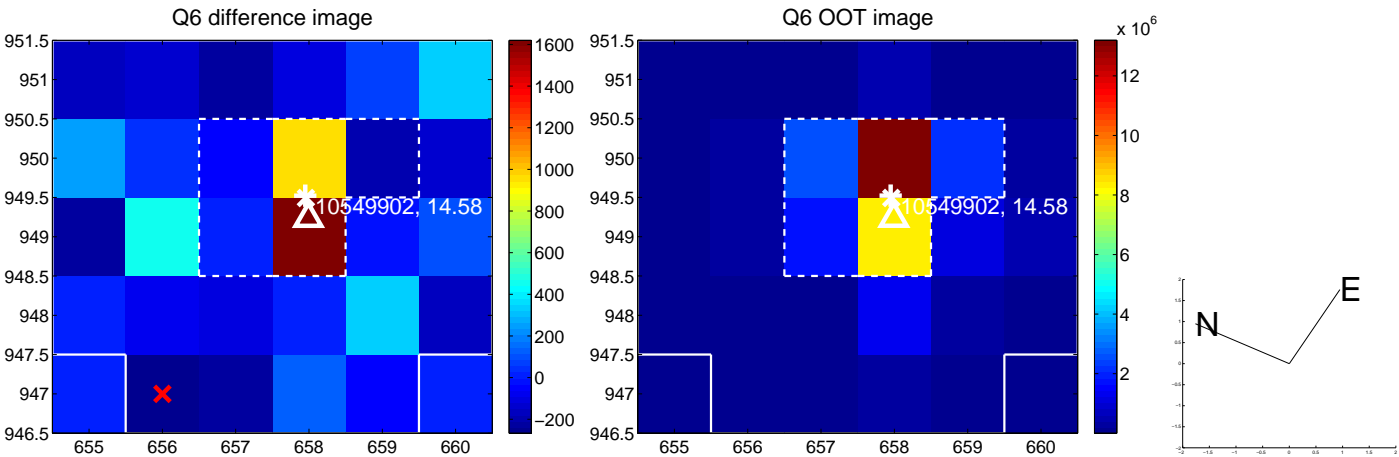
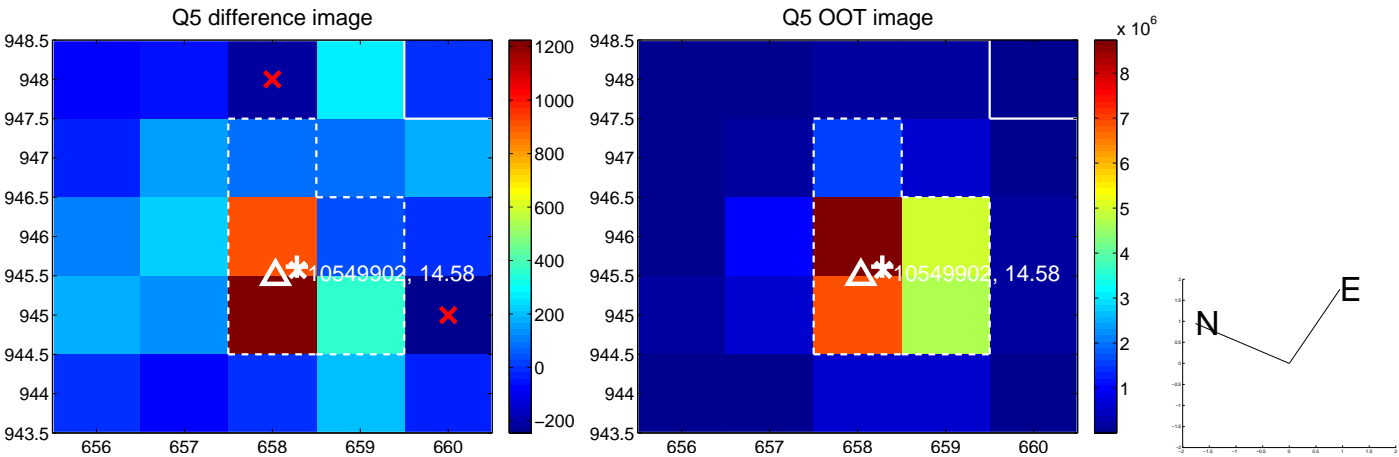


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

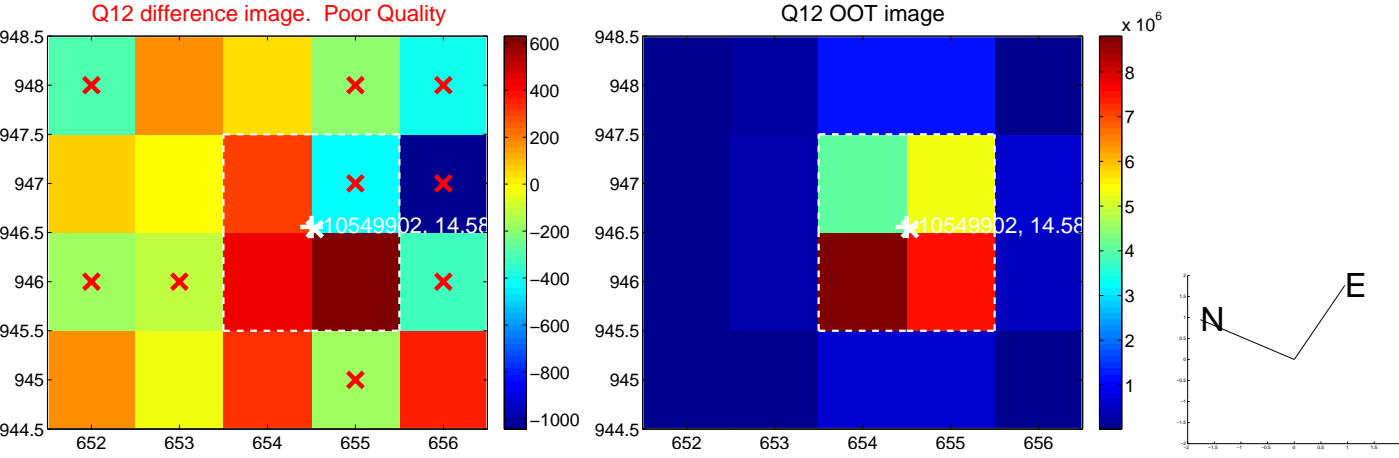
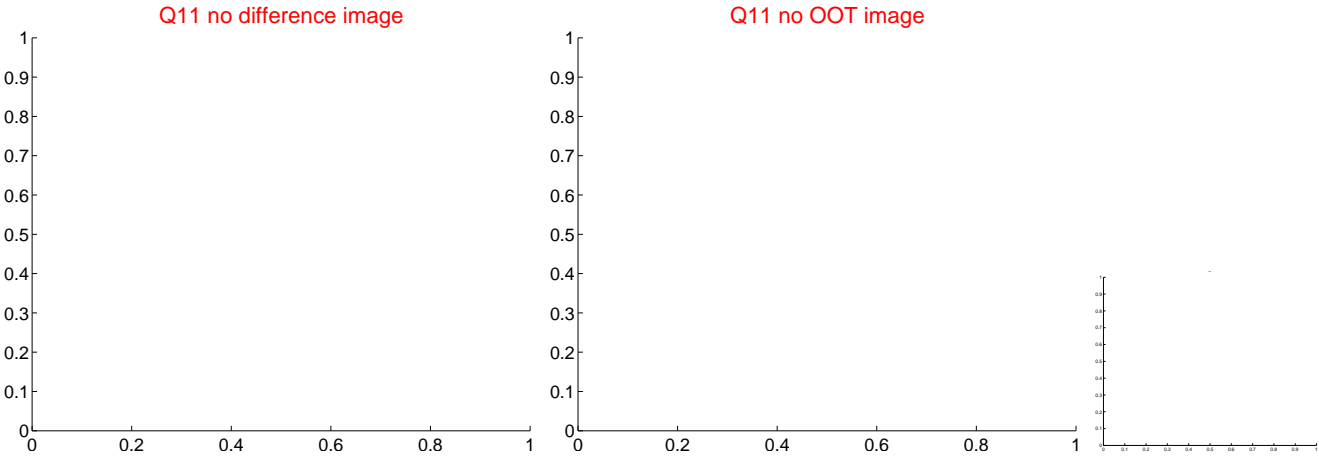
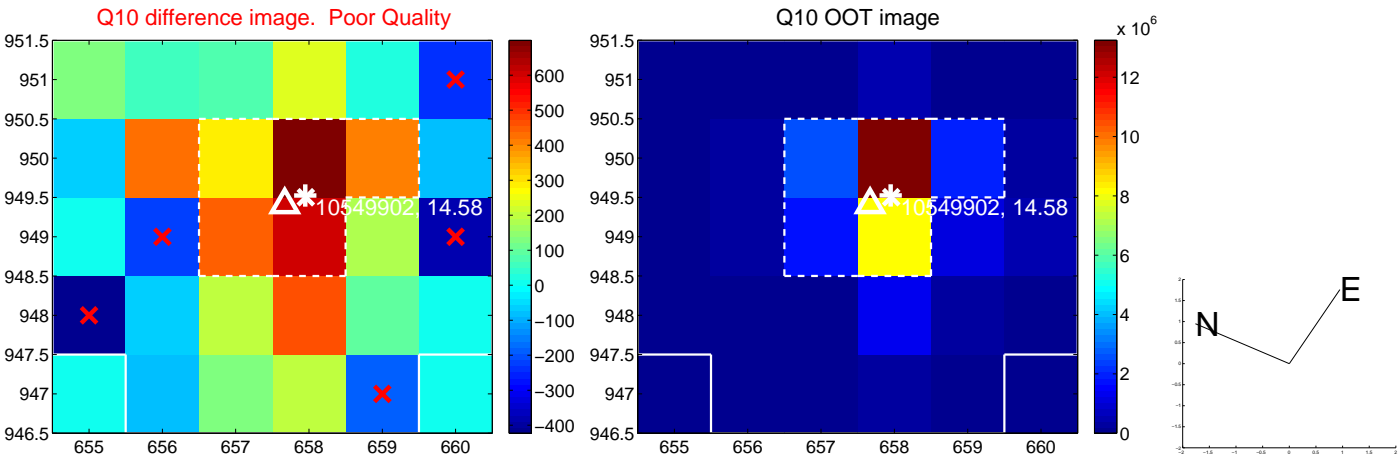
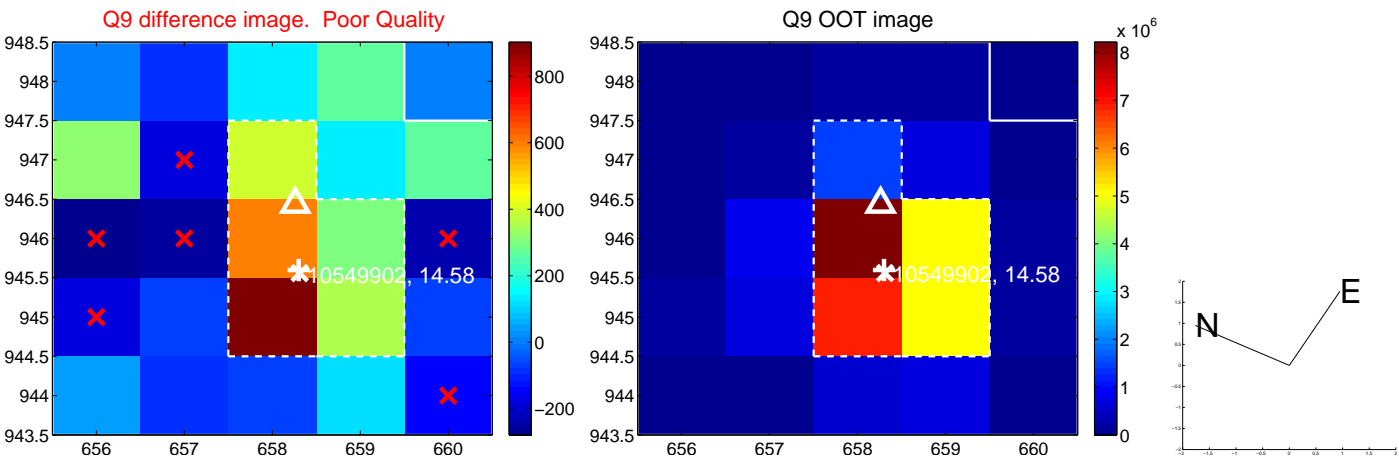
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



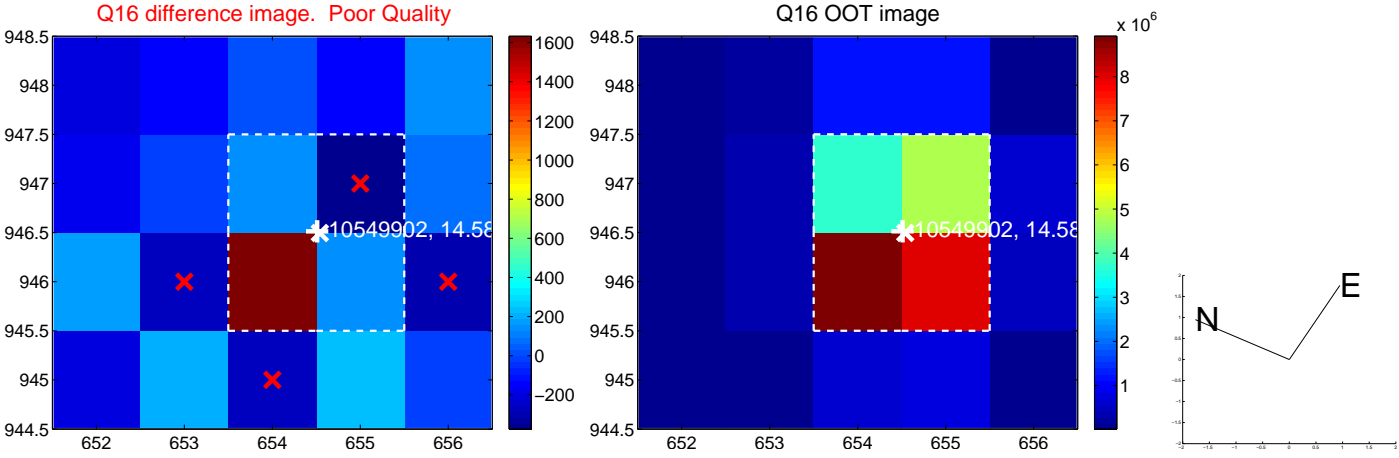
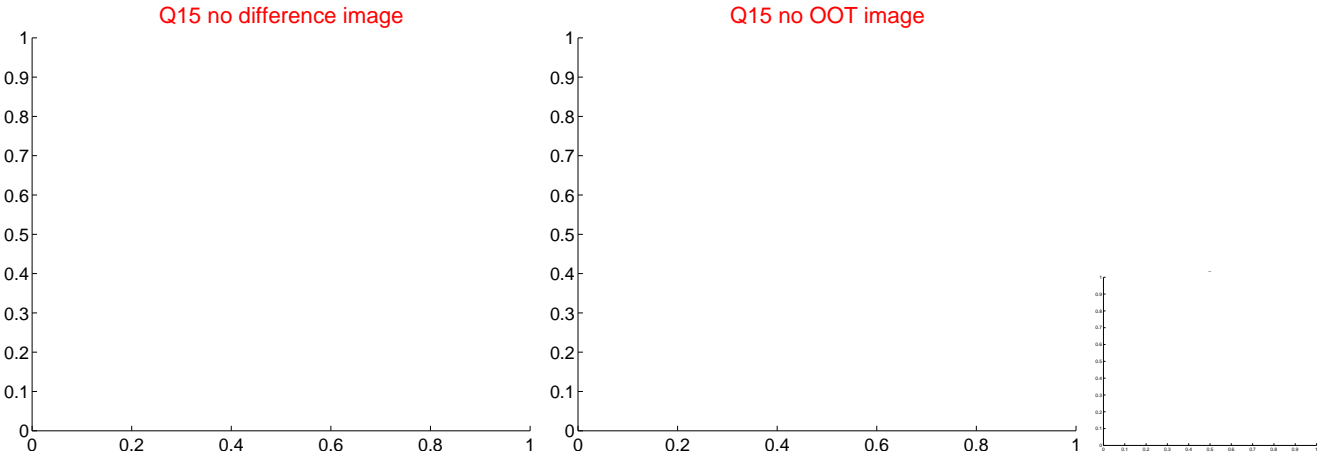
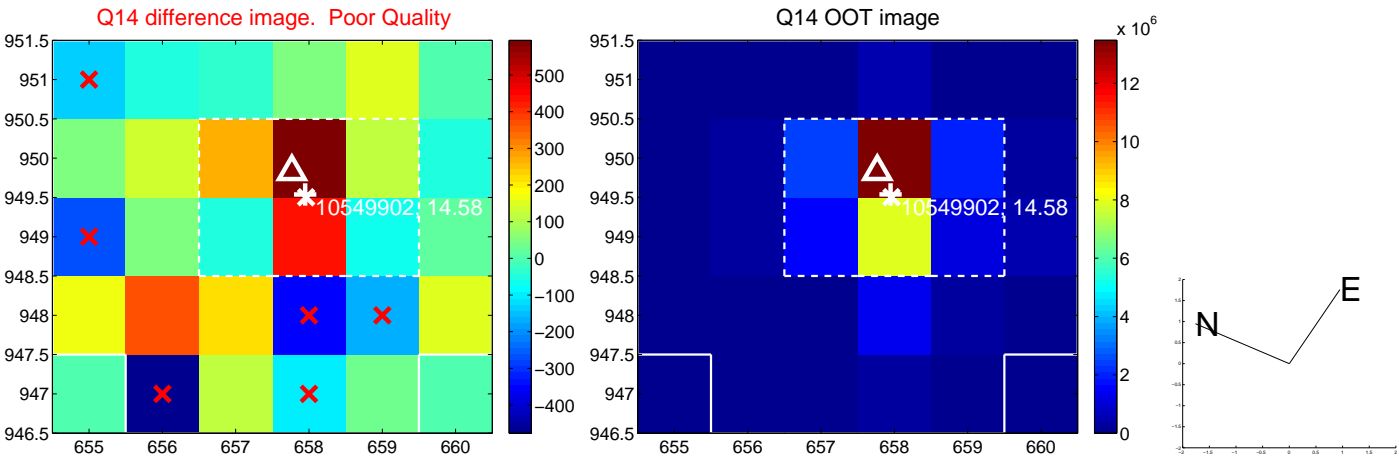
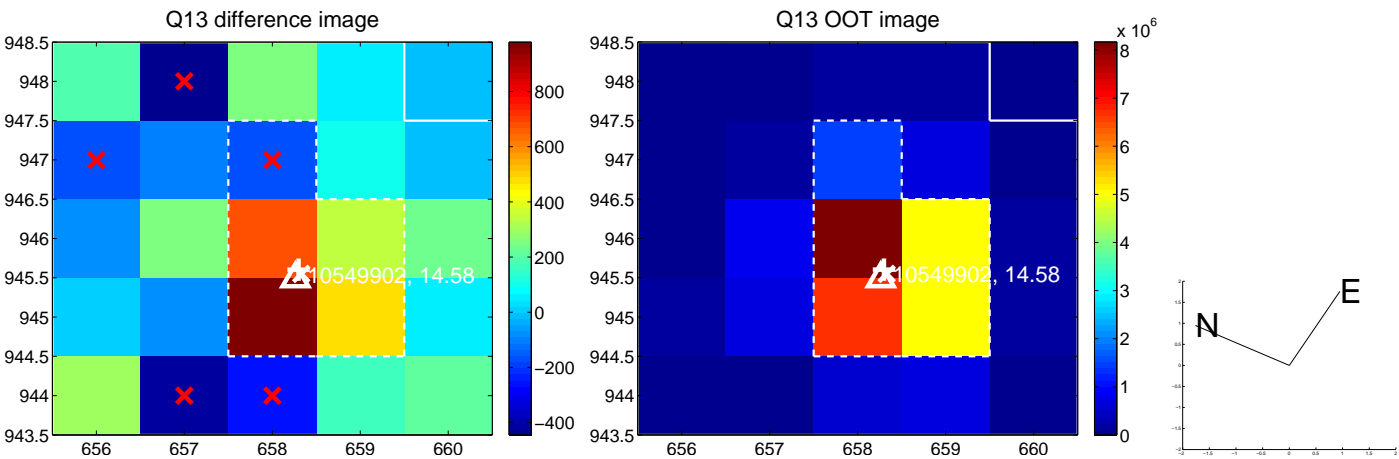
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



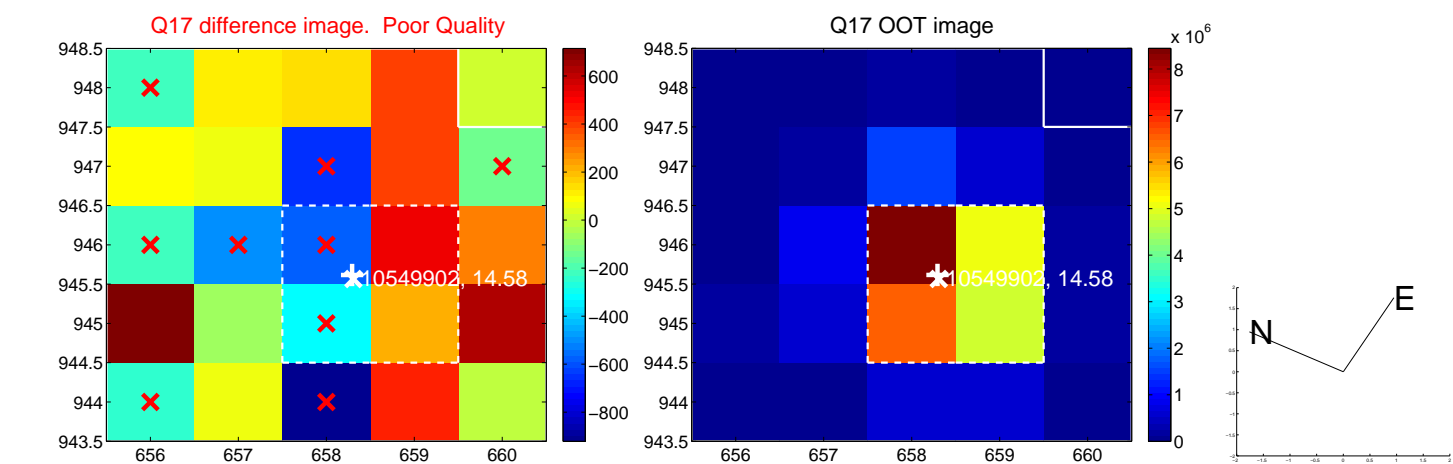
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



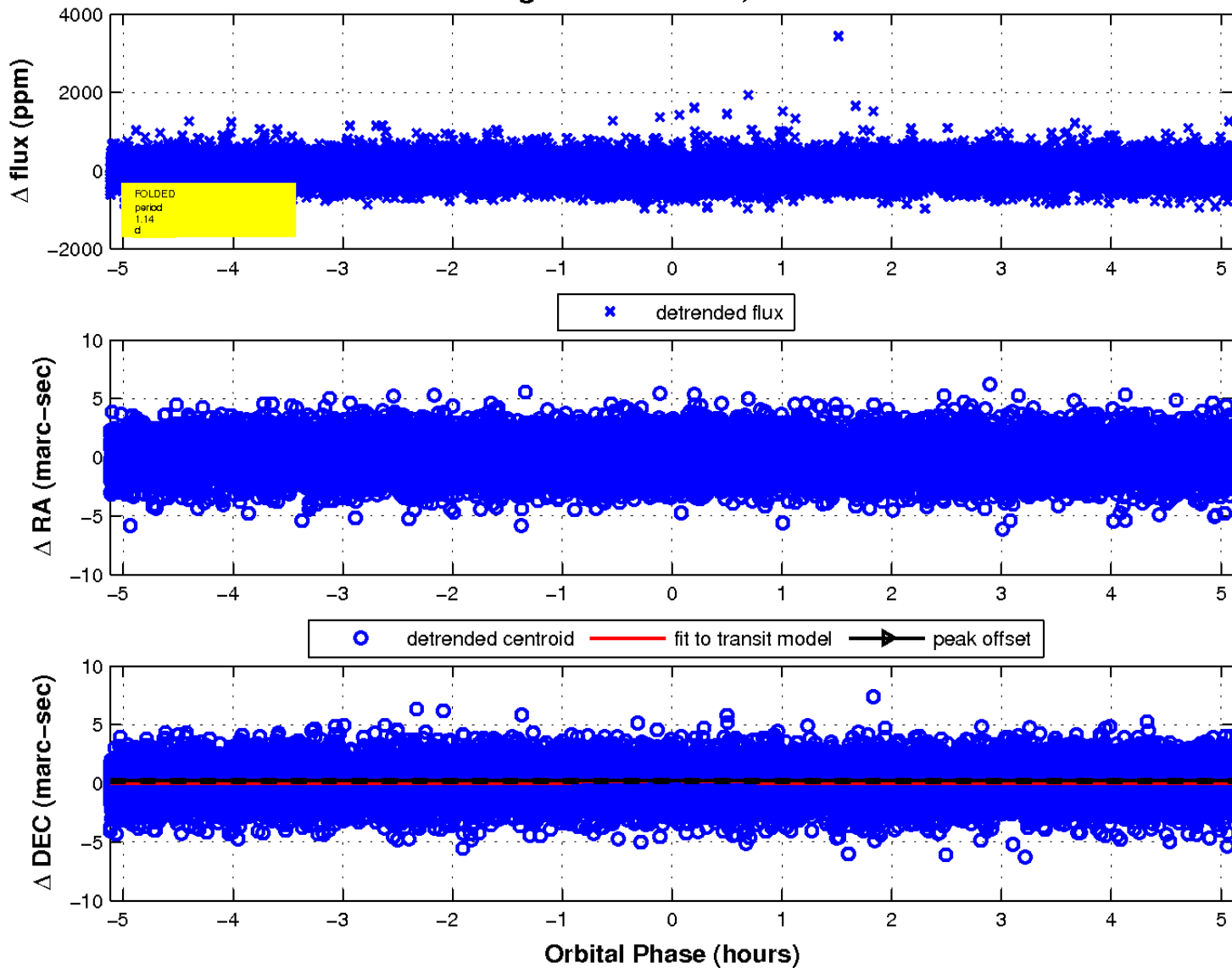
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

