

KIC 003116546

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})
003116546-01	OBS	No	0.780406	132.111523	22.7	5.031	8.0	9.2	0.92	5881	0.46	3255.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003116546-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST

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

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

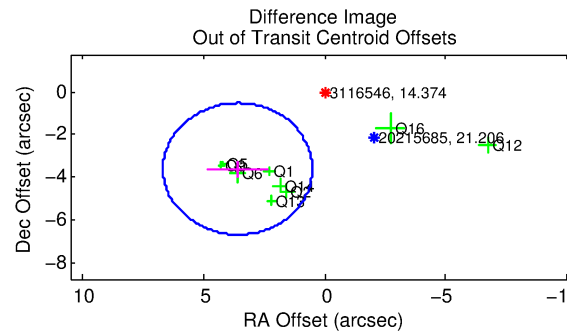
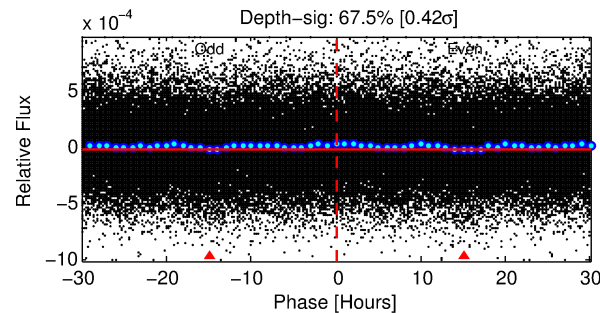
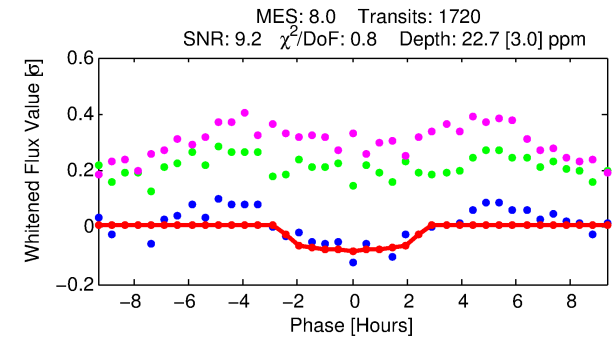
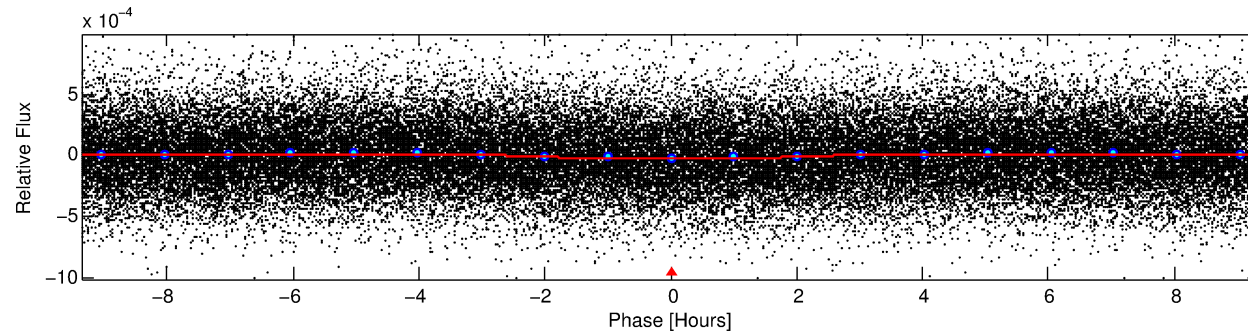
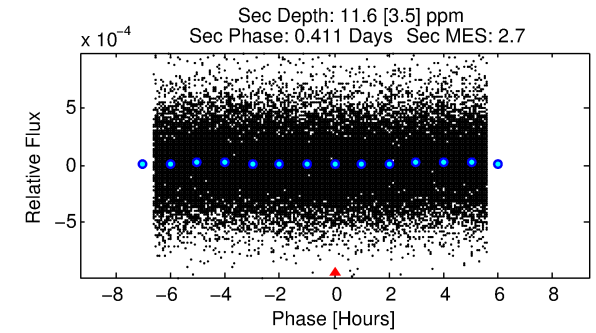
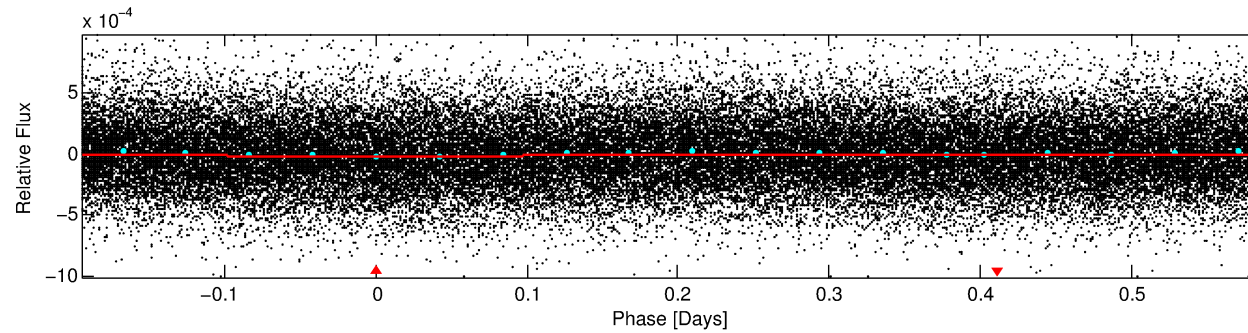
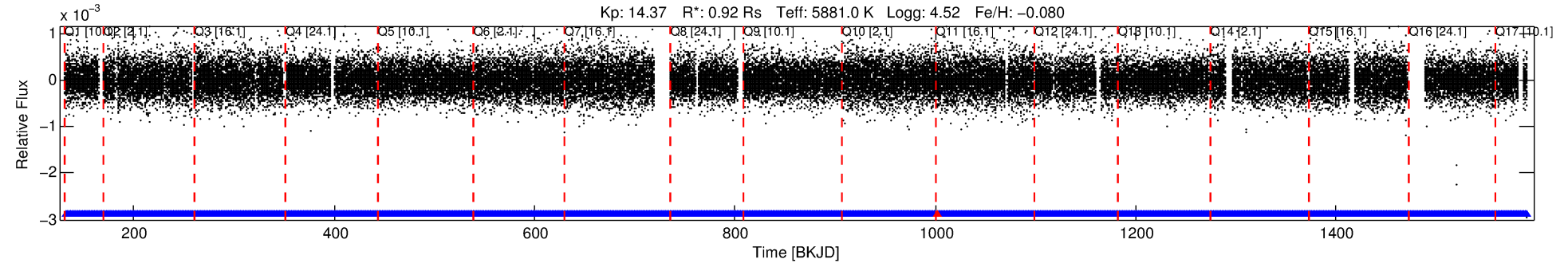
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003116546-01

No Significant Match Found

DV One-Page Summary

KIC: 3116546 Candidate: 1 of 1 Period: 0.780 d



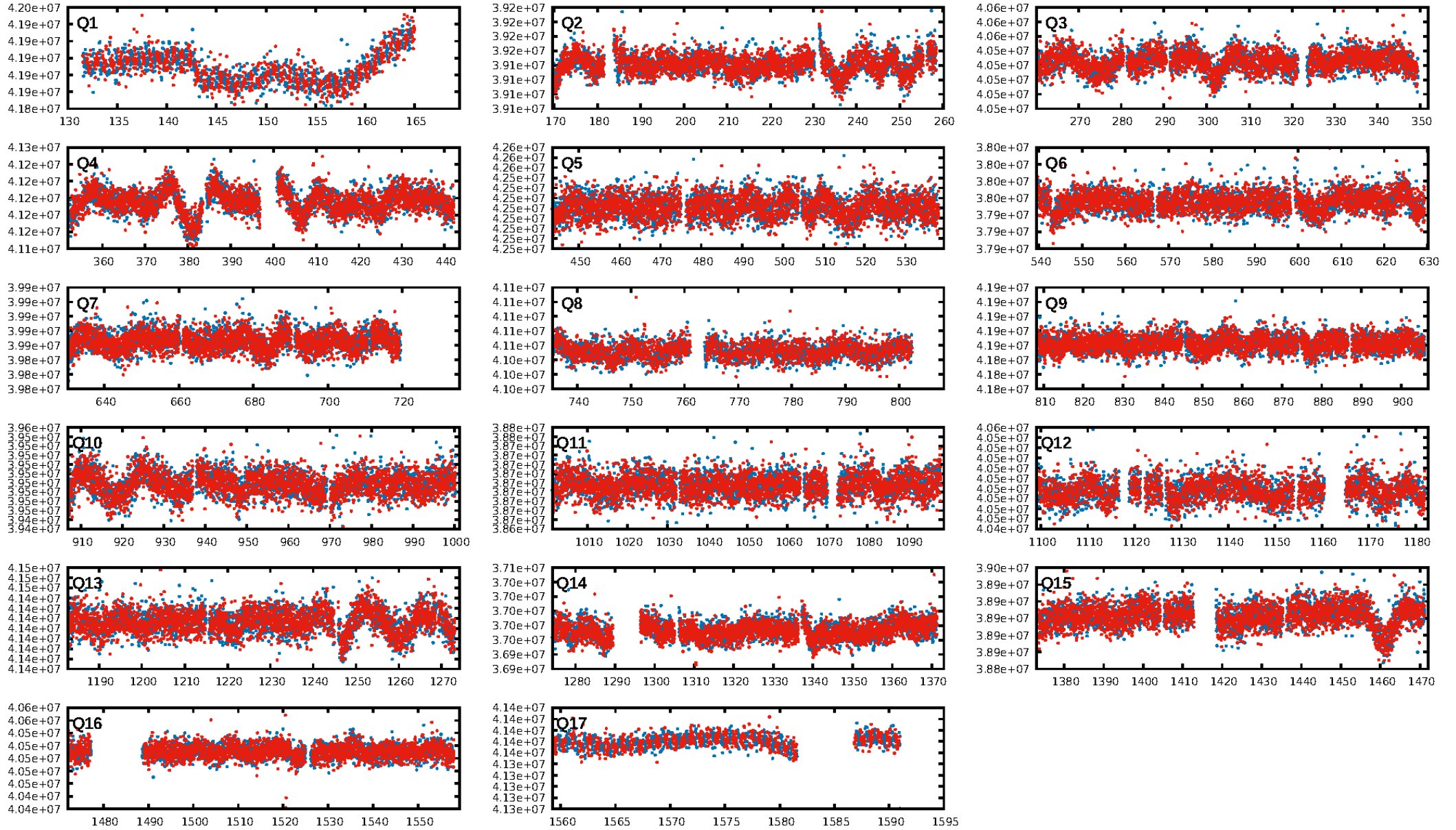
DV Fit Results:

Period = 0.78041 [0.00001] d
Epoch = 132.1115 [0.0061] BKJD
Rp/R* = 0.0046 [0.0045]
a/R* = 1.21 [1.69]
b = 0.66 [3.83]
Seff = 3255.01 [1295.86]
Teff = 1926 [192] K
Rp = 0.46 [0.47] Re
a = 0.0166 [0.0043] AU
Ag = 8.29 [16.54] [0.44σ]
Teffp = 5052 [2480] K [1.26σ]

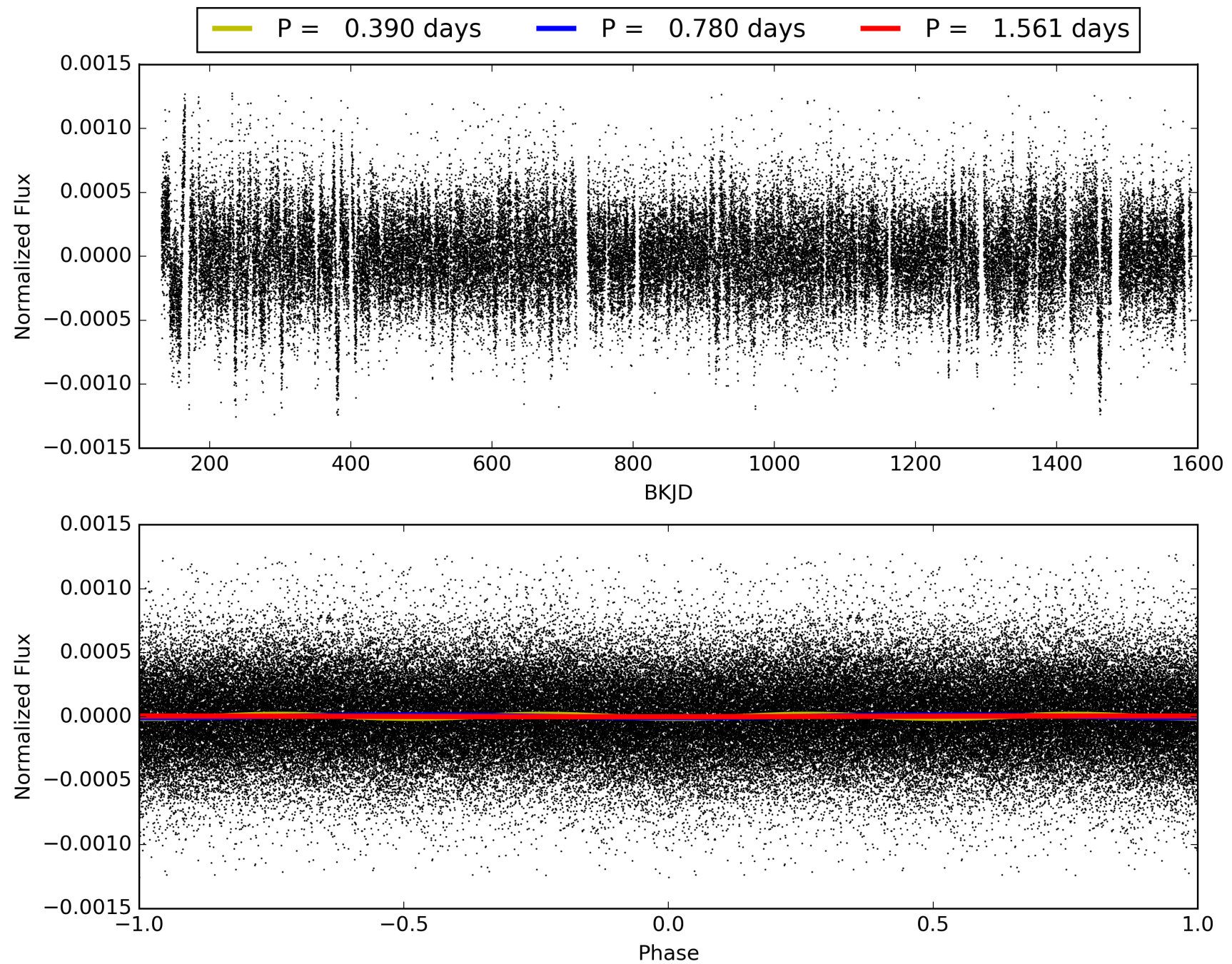
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.21e-11
RollingBand-fgt: 1.00 [1641/1642]
GhostDiagnostic-chr: -0.1177
Centroid-sig: 0.0%
Centroid-so: 14.562 arcsec [9.59σ]
OotOffset-rm: 5.086 arcsec [4.96σ]
KicOffset-rm: 4.957 arcsec [5.61σ]
OotOffset-st: 3/0/2/4 [9]
KicOffset-st: 3/0/2/4 [9]
DiffImageQuality-fgm: 0.67 [6/9]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 003116546-01, PDC Light Curves

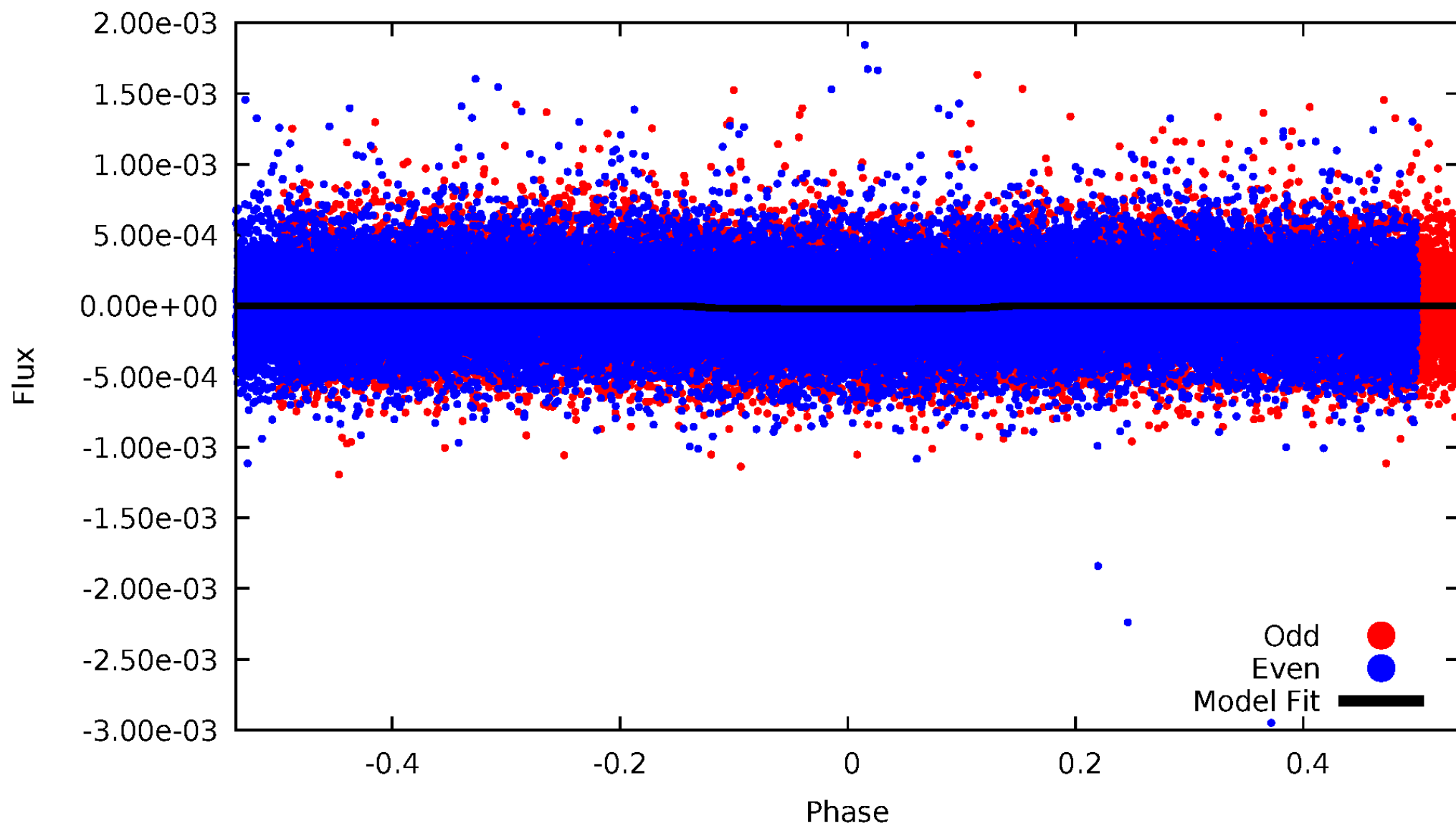


TCE 003116546-01



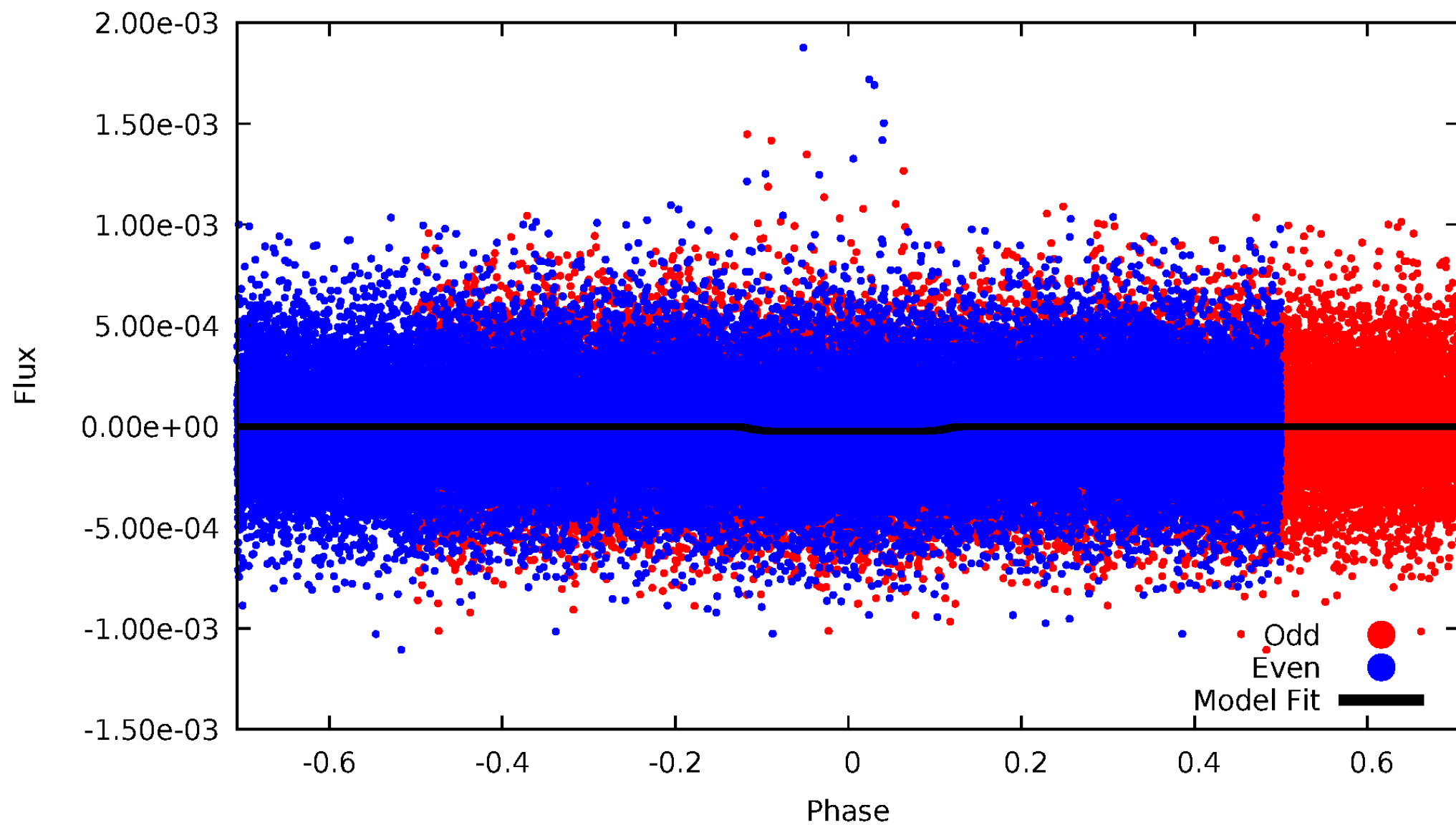
DV Odd/Even

TCE 003116546-01

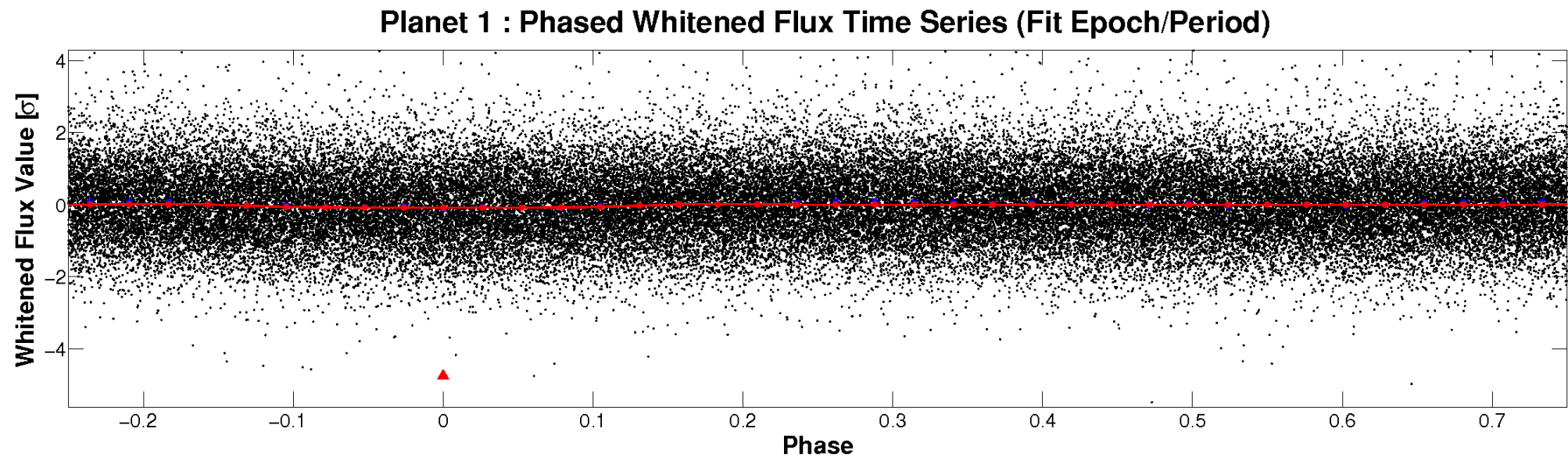
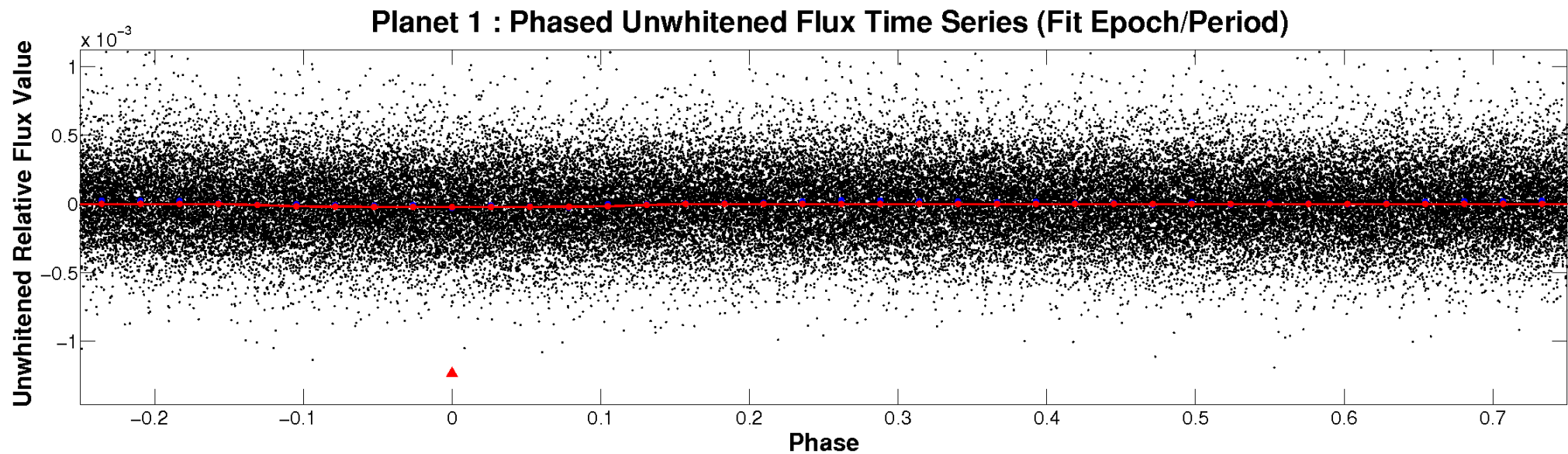


ALT Odd/Even

TCE 003116546-01

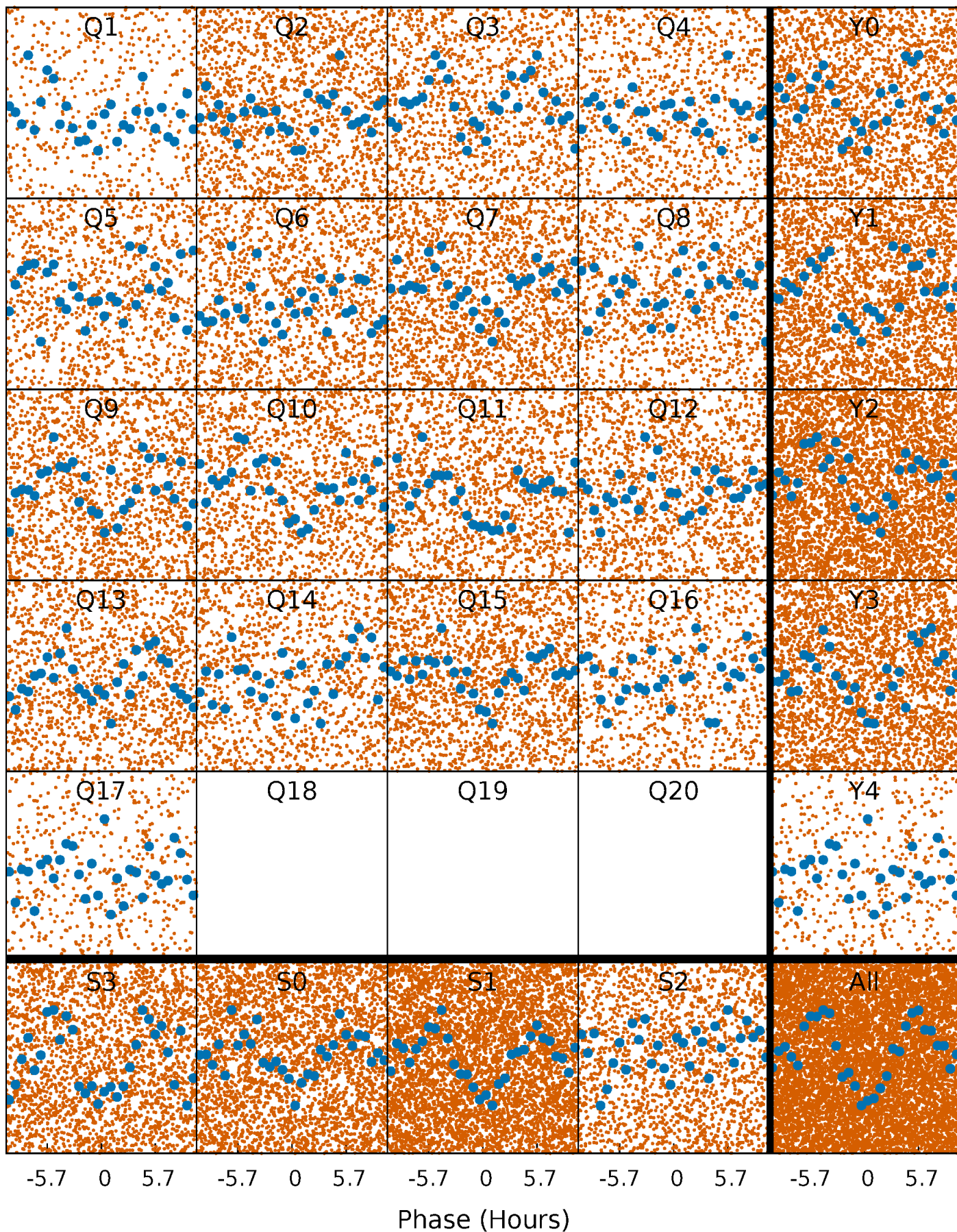


Non-Whitened Vs. Whitened Light Curve



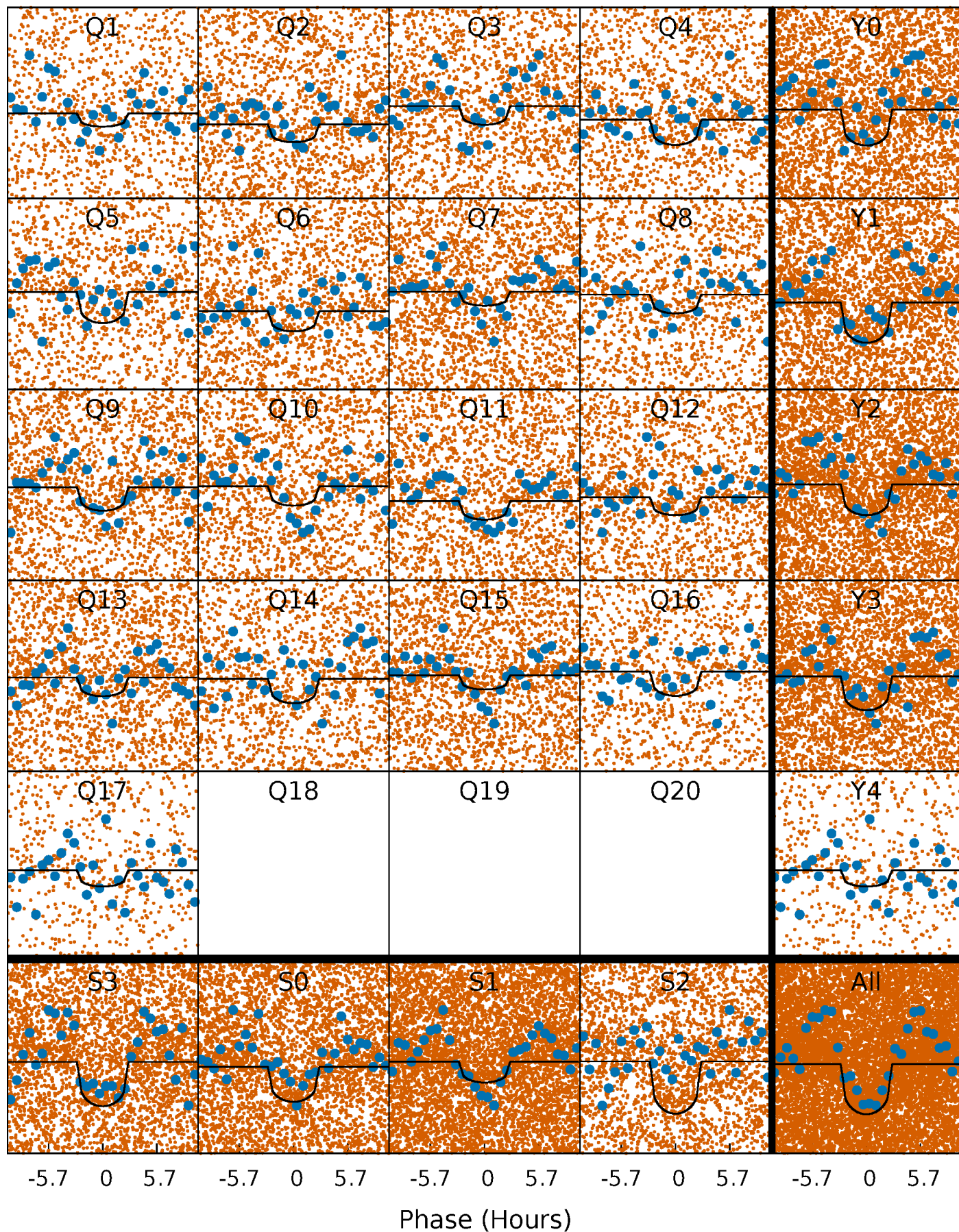
PDC Quarter-Phased Transit Curves

TCE 003116546-01 P= 0.780406 Days $T_0=132.111523$ (BKJD)



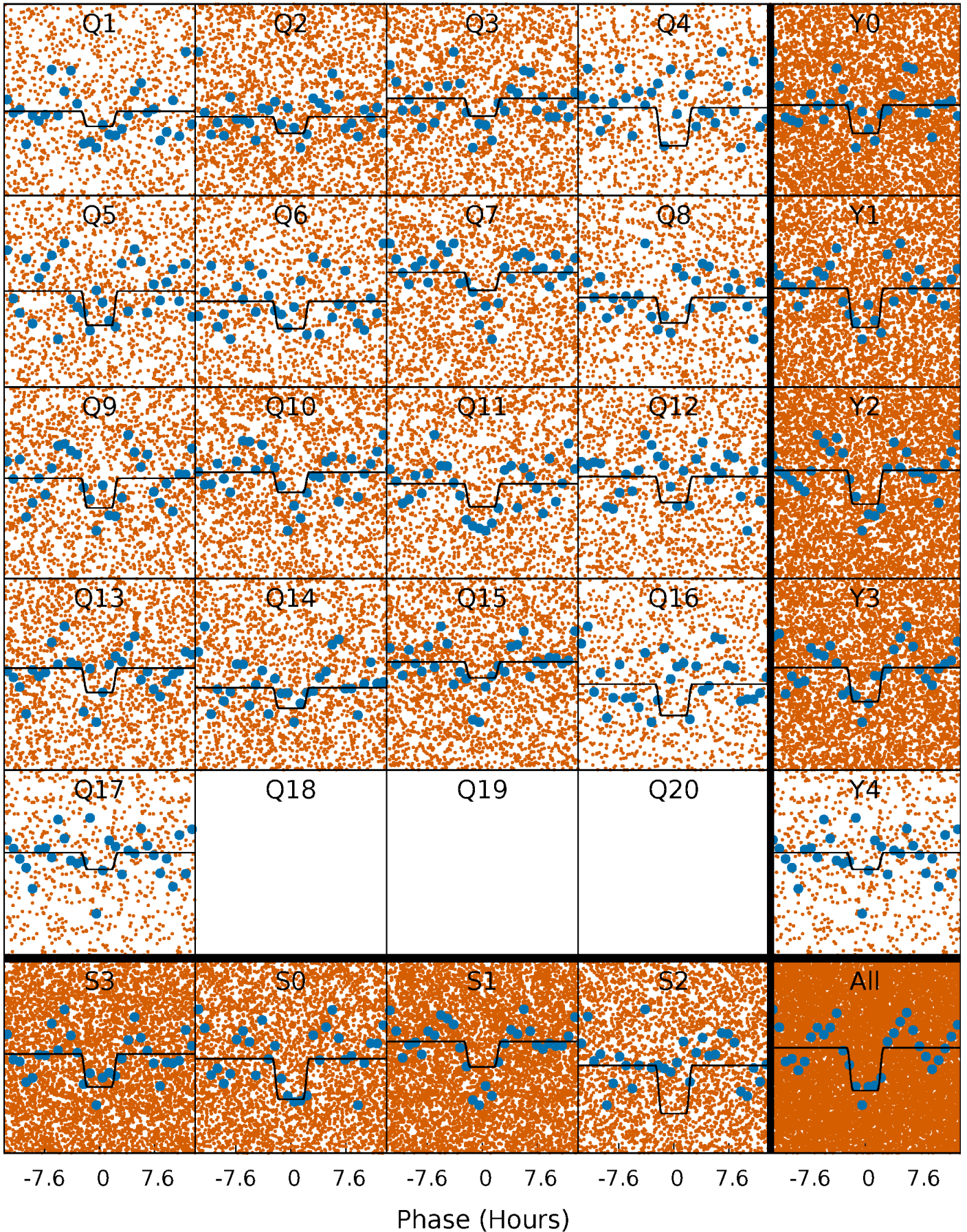
DV Quarter-Phased Transit Curves

TCE 003116546-01 P= 0.780406 Days $T_0=132.111523$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

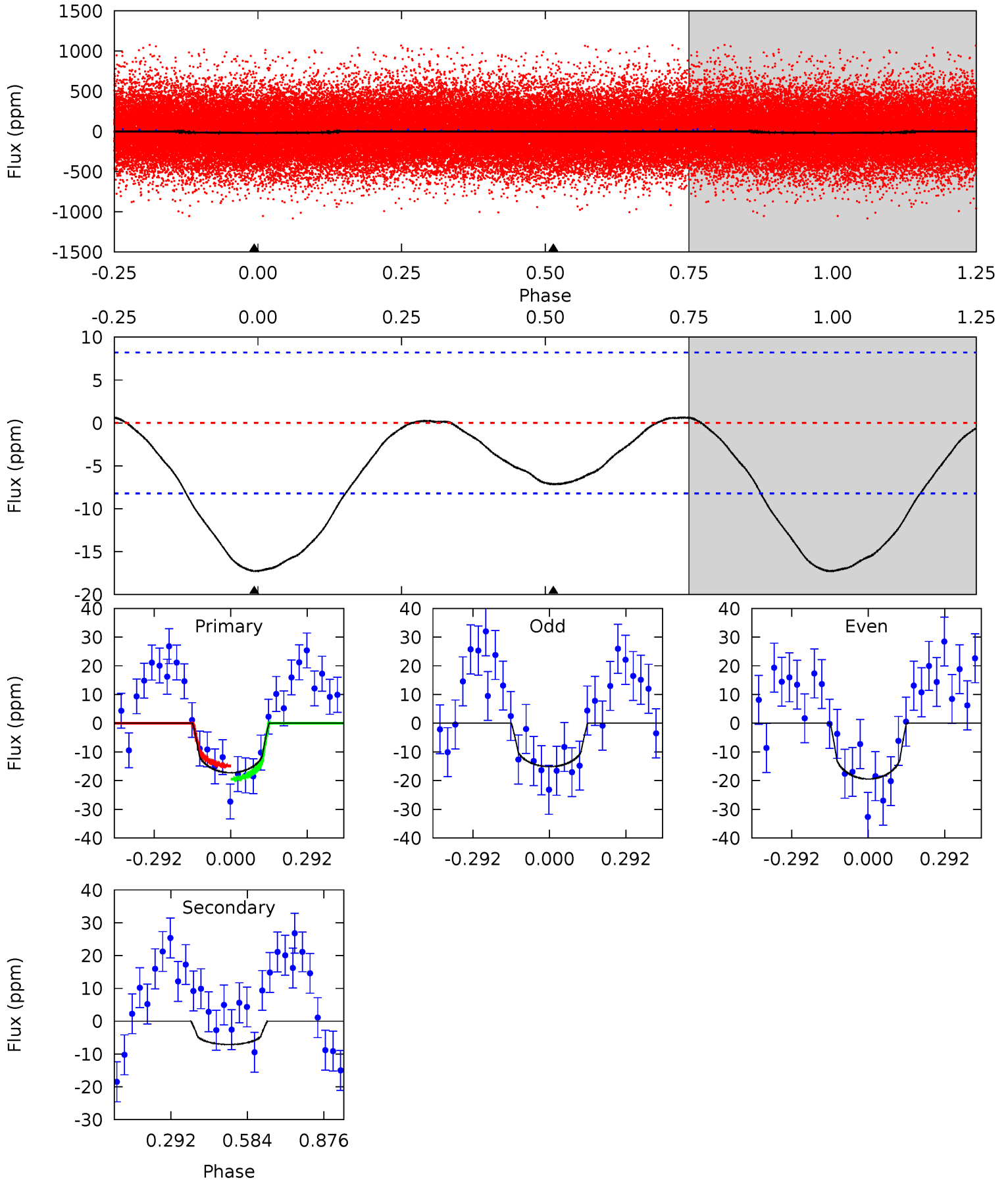
TCE 003116546-01 P= 0.780470 Days $T_0=132.062784$ (BKJD)



DV Model-Shift Uniqueness Test

003116546-01, P = 0.780406 Days, E = 131.331117 Days

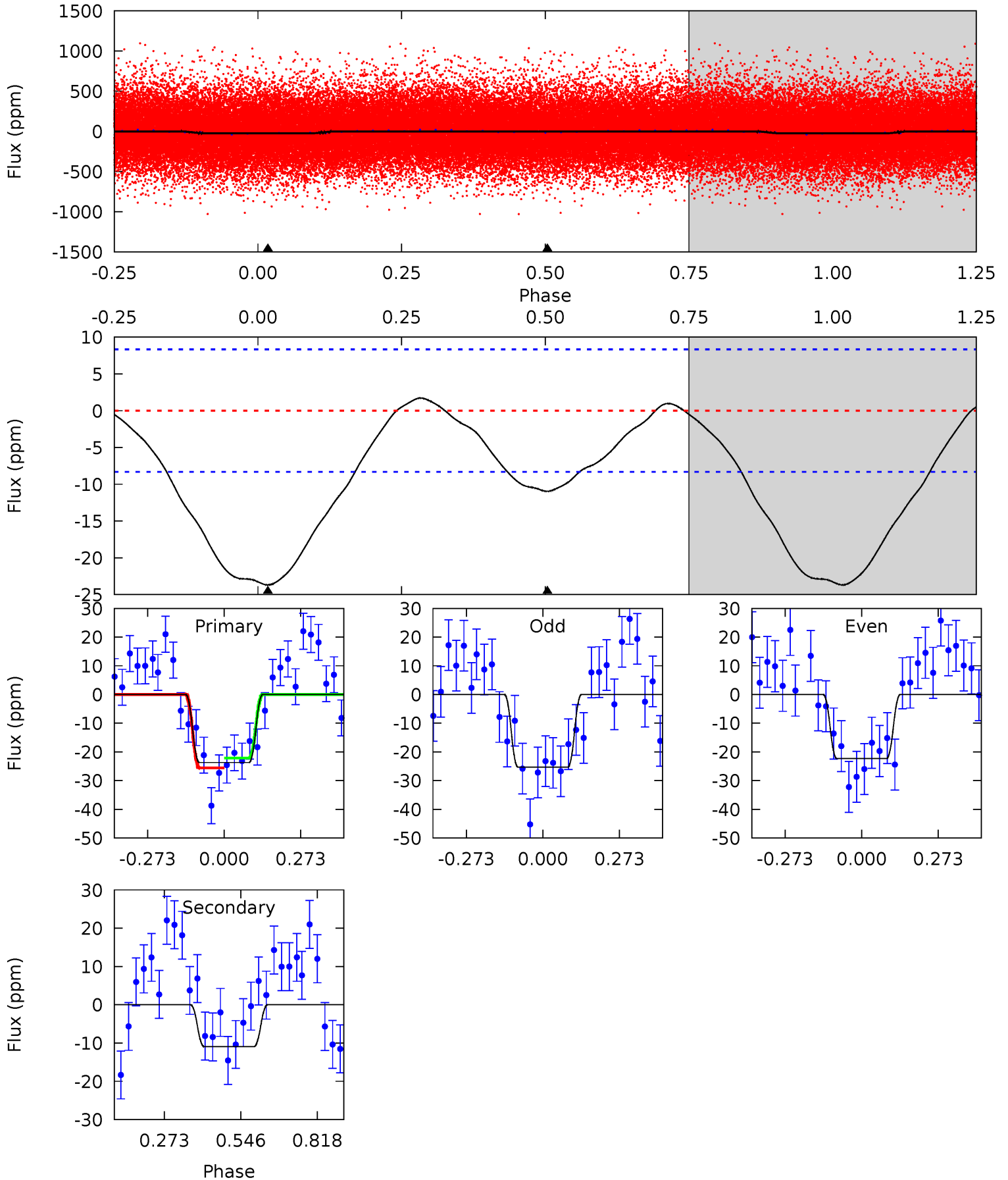
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.12	3.76	0	0	4.33	1.05	0.43	9.12	9.12	3.76	3.76	1.15	1.04	0.04	1.22



Alt Model-Shift Uniqueness Test

003116546-01, P = 0.780470 Days, E = 131.282314 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	5.72	0	0	4.35	1.10	0.76	12.4	12.4	5.72	5.72	0.79	0.97	0.07	0.86



Stellar Parameters For KIC 003116546

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5881^{+158}_{-176}	$4.516^{+0.039}_{-0.208}$	$-0.080^{+0.300}_{-0.300}$	$0.915^{+0.282}_{-0.094}$	$1.002^{+0.115}_{-0.127}$	$1.840^{+0.383}_{-0.976}$
	+3%/-3%	+1%/-5%	+375%/-375%	+31%/-10%	+11%/-13%	+21%/-53%
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 003116546-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7 ± 2	$0.55^{+0.43}_{-0.35}$	2764^{+211}_{-129}	4340^{+2507}_{-939}	$3.589^{+22.603}_{-2.554}$
Alt.	-11 ± 2	$0.57^{+0.44}_{-0.36}$	2754^{+197}_{-130}	4659^{+2781}_{-986}	$5.001^{+27.598}_{-3.453}$

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

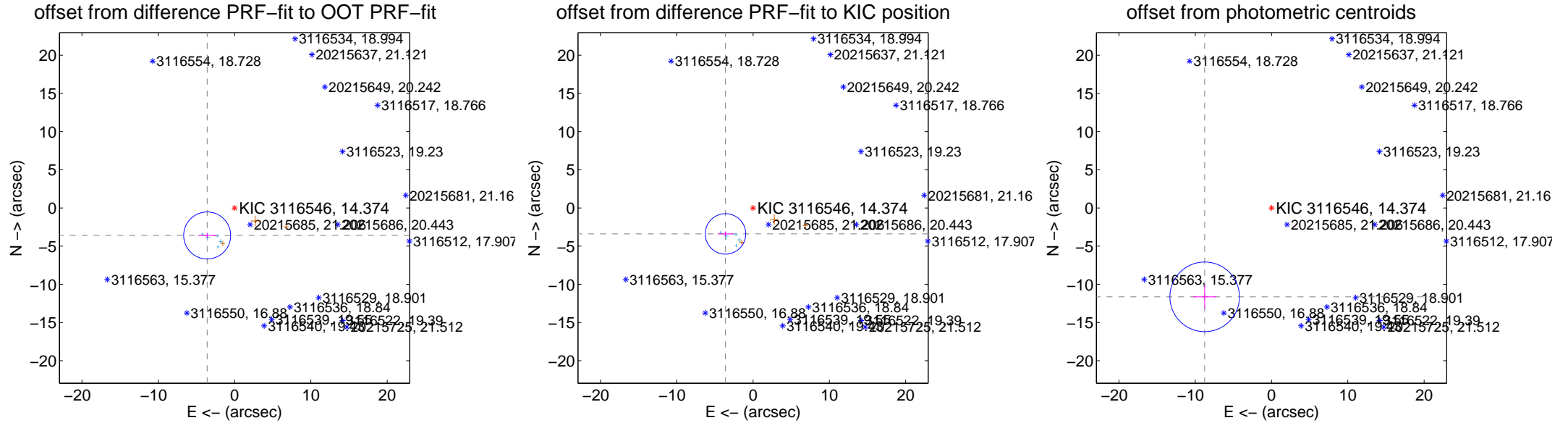
DV Centroid Data

Supplemental centroid analysis for 003116546-01. Kepler magnitude: 14.37. Transit SNR 9.20

There are 6 quarters with good PRF difference image offsets

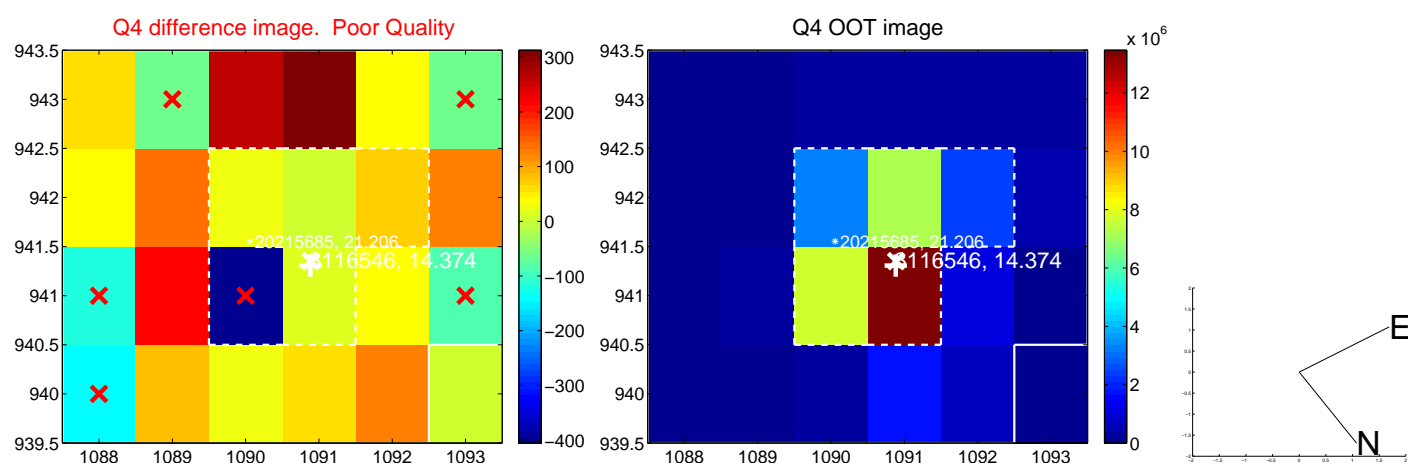
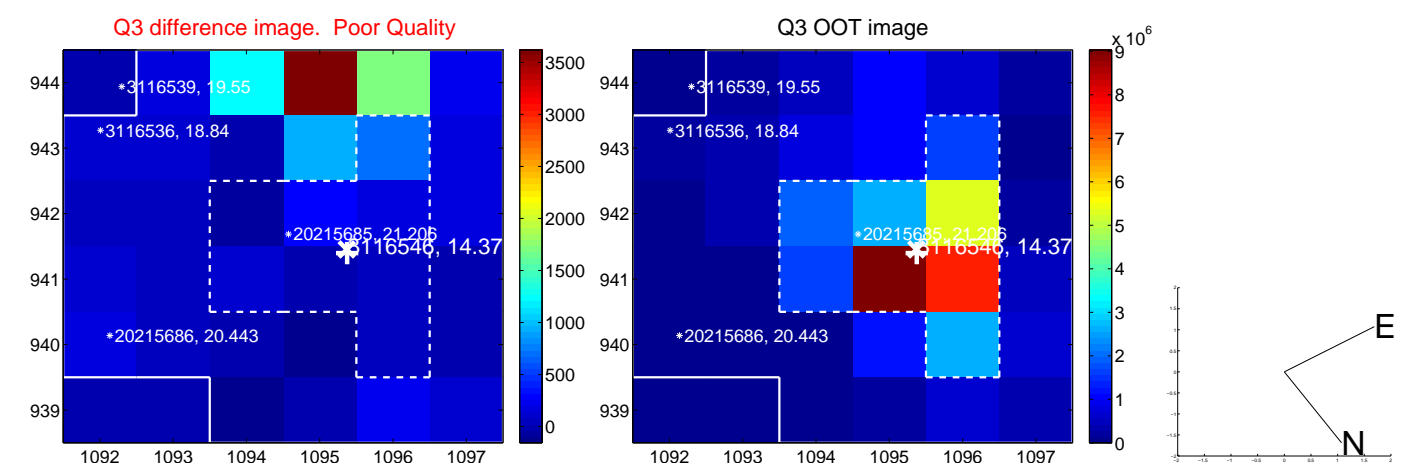
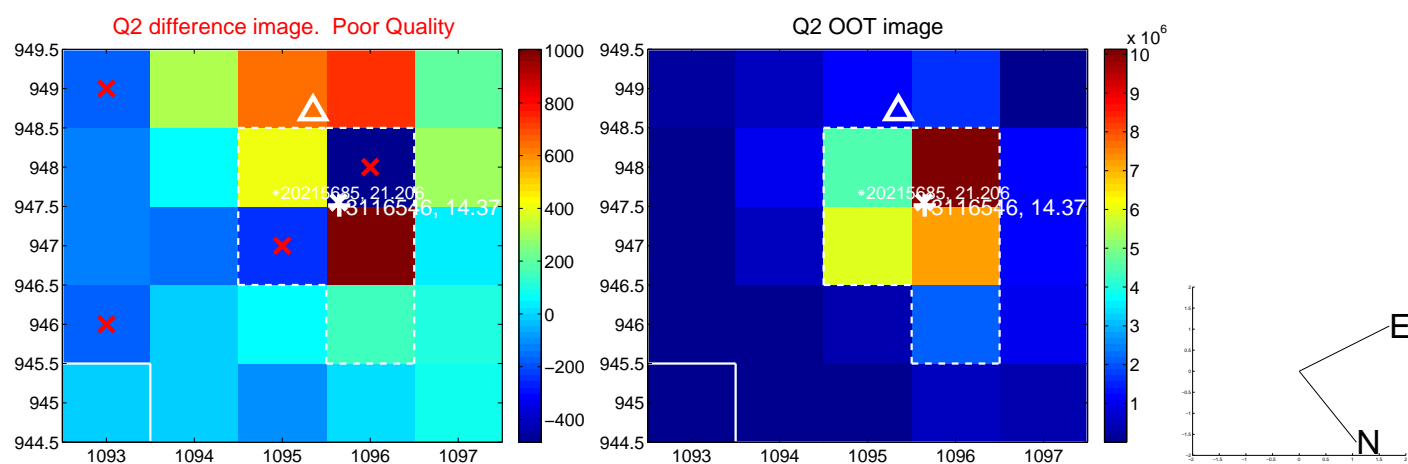
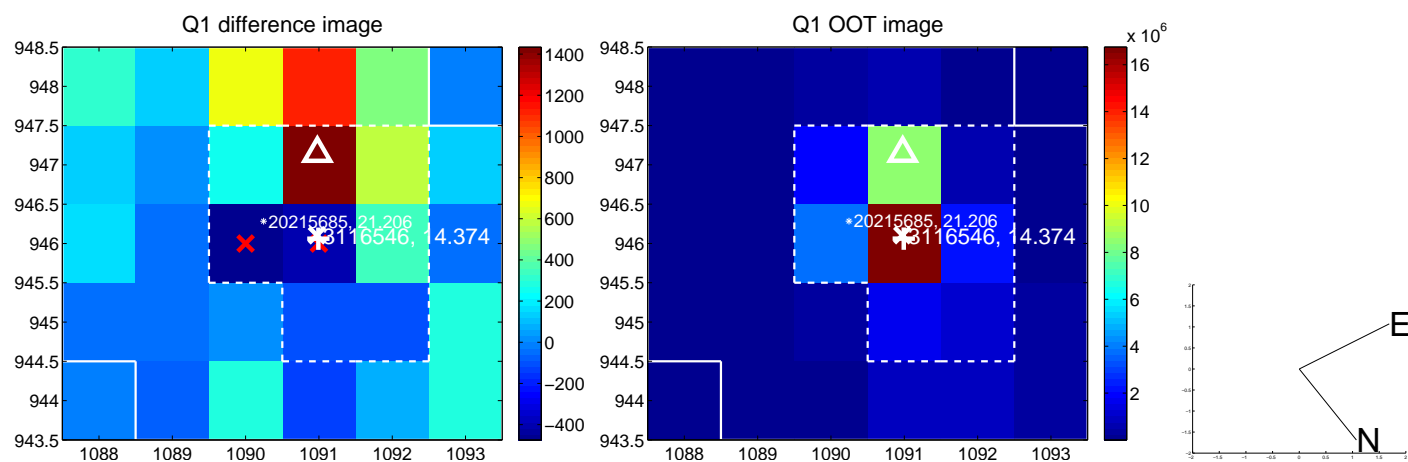
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.086 ± 1.026	4.96	3.590 ± 1.215	-3.602 ± 0.353
PRF-fit source offset from KIC position	4.957 ± 0.883	5.61	3.609 ± 1.025	-3.398 ± 0.327
photometric centroid source offset	14.56 ± 1.52	9.59	8.76 ± 1.52	-11.64 ± 1.52

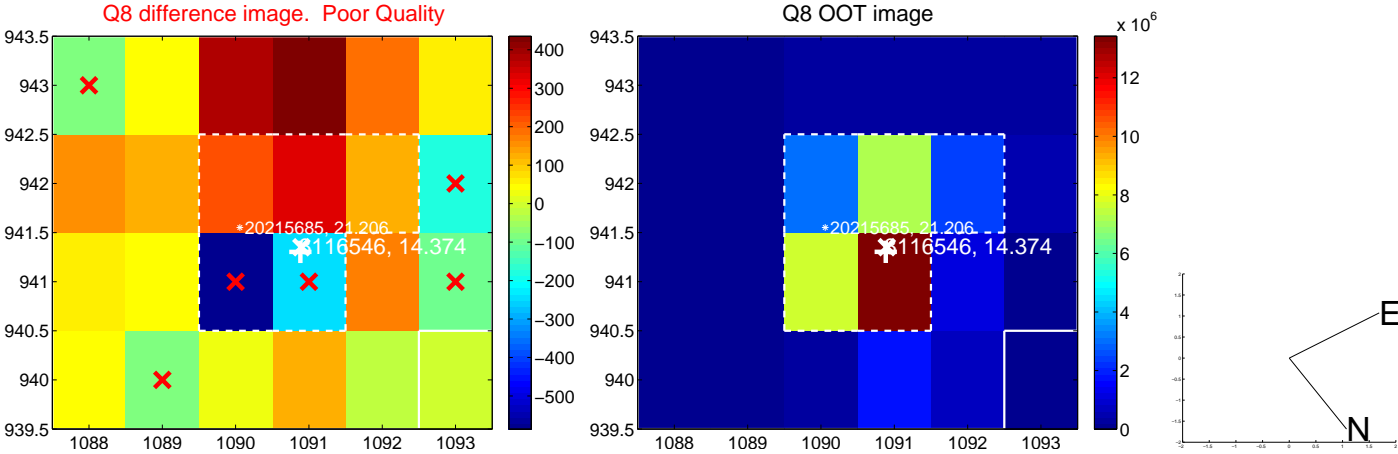
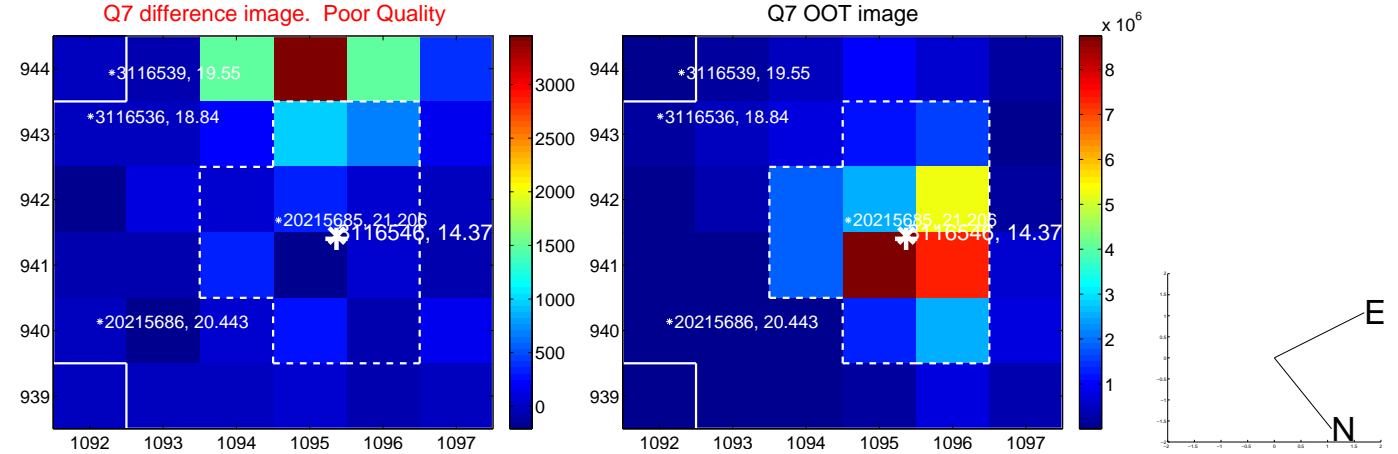
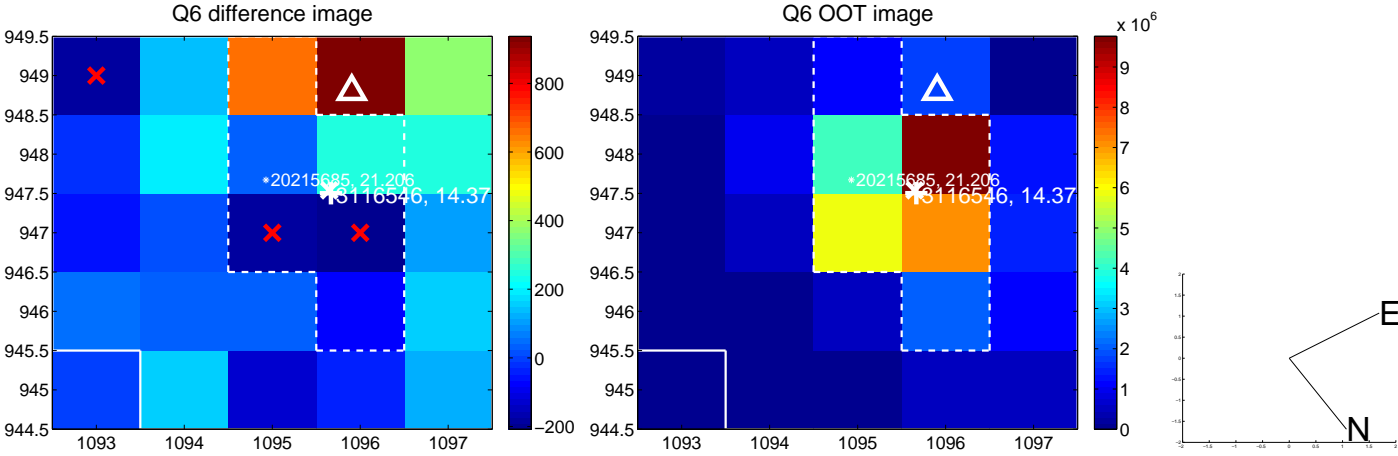
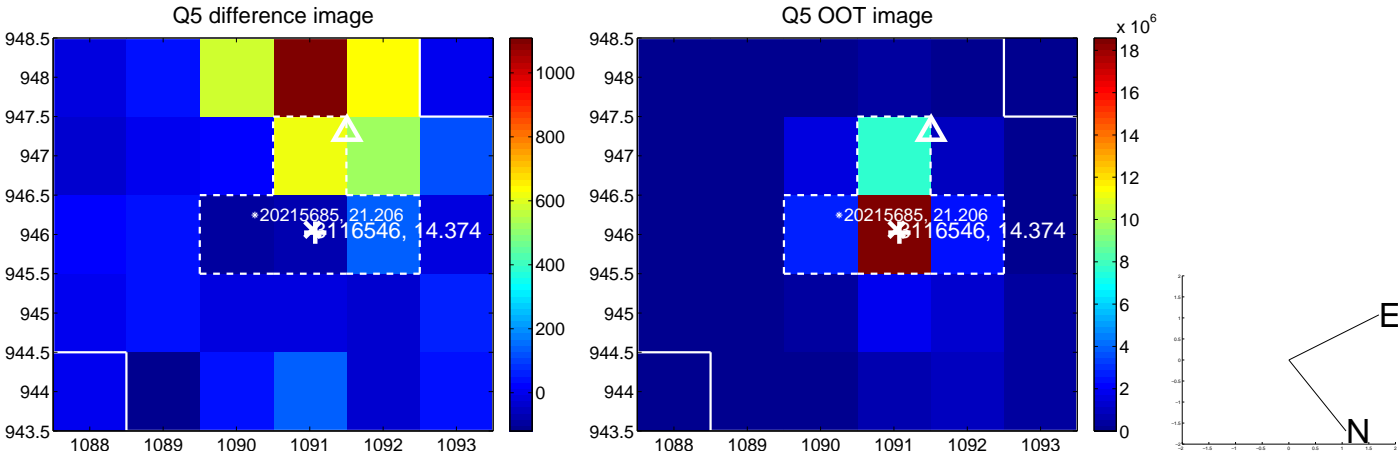


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

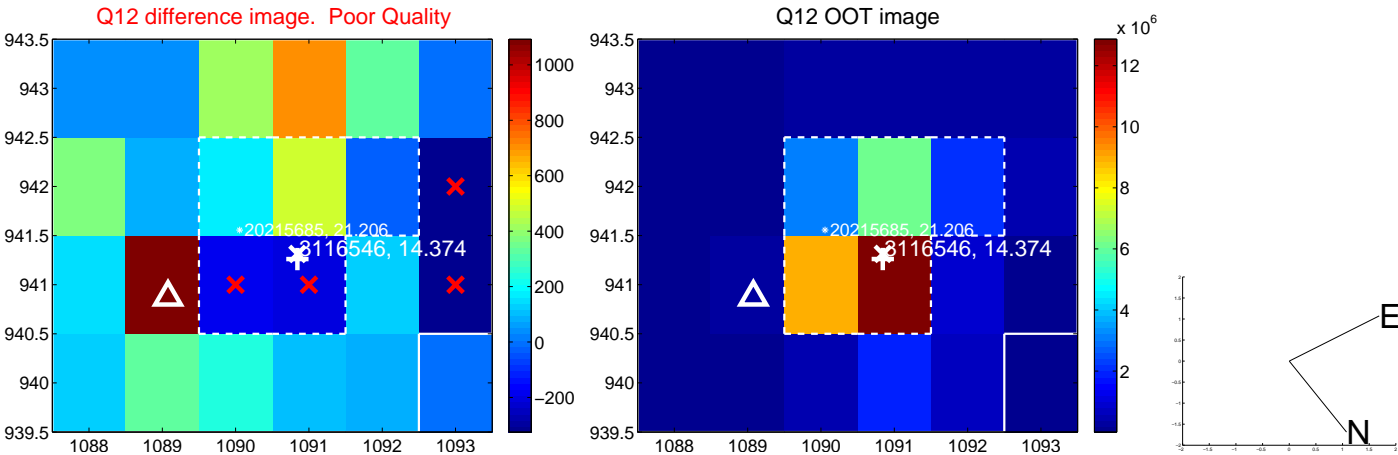
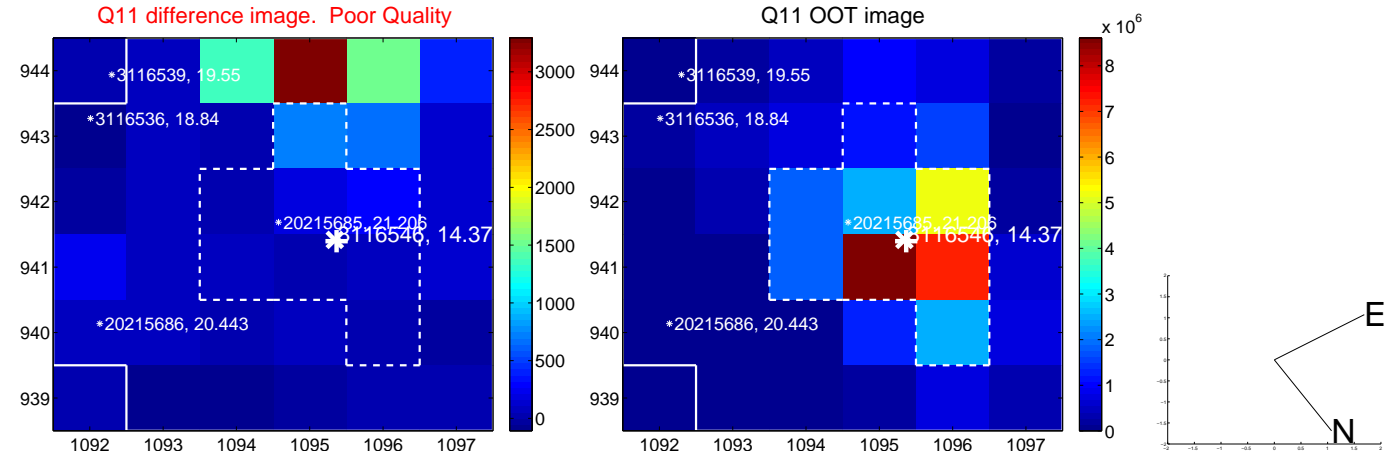
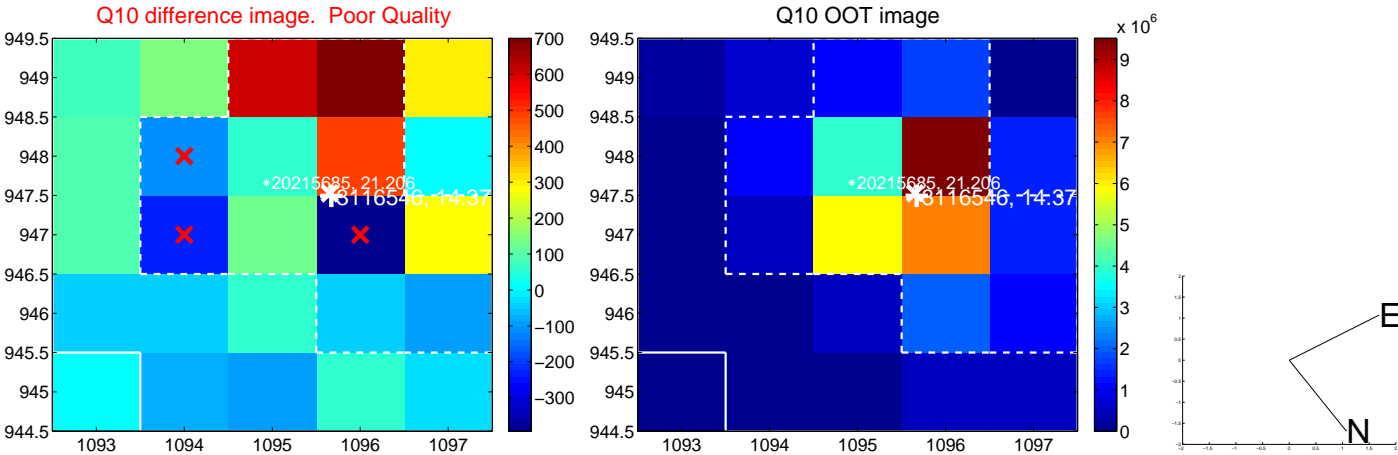
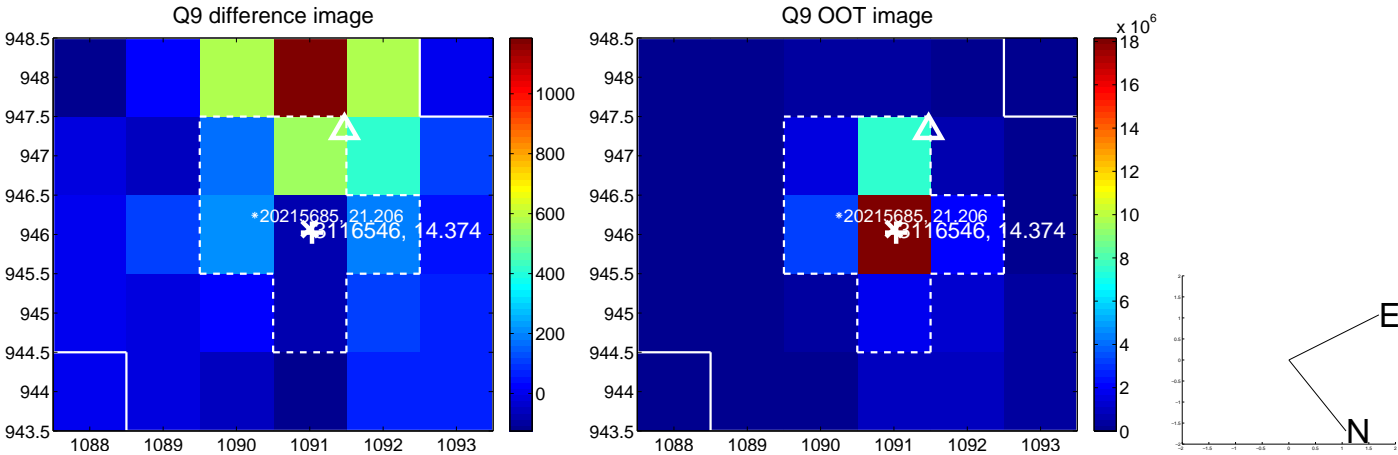
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



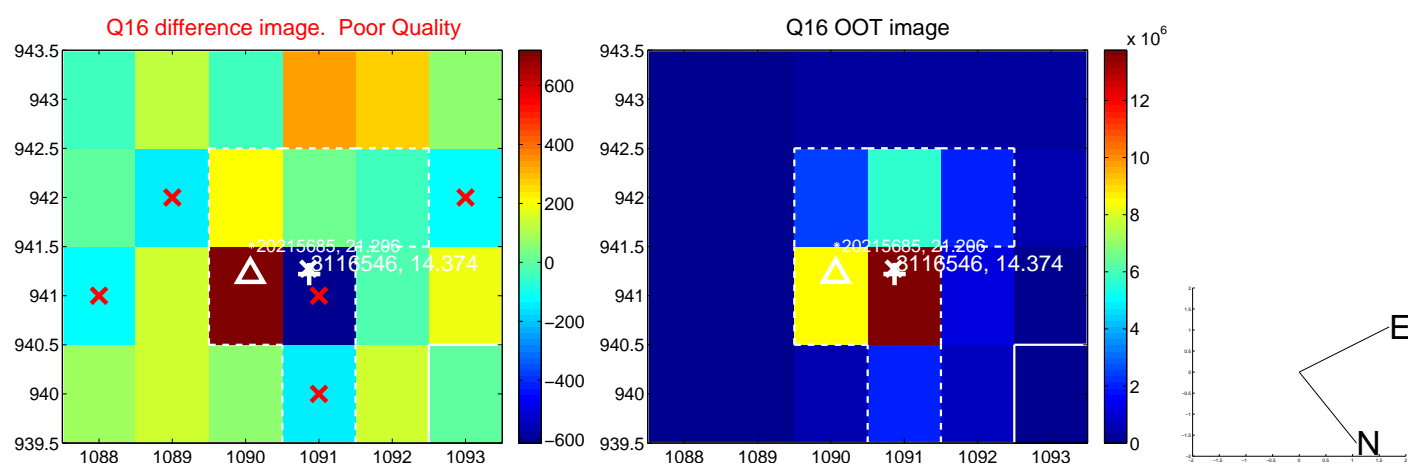
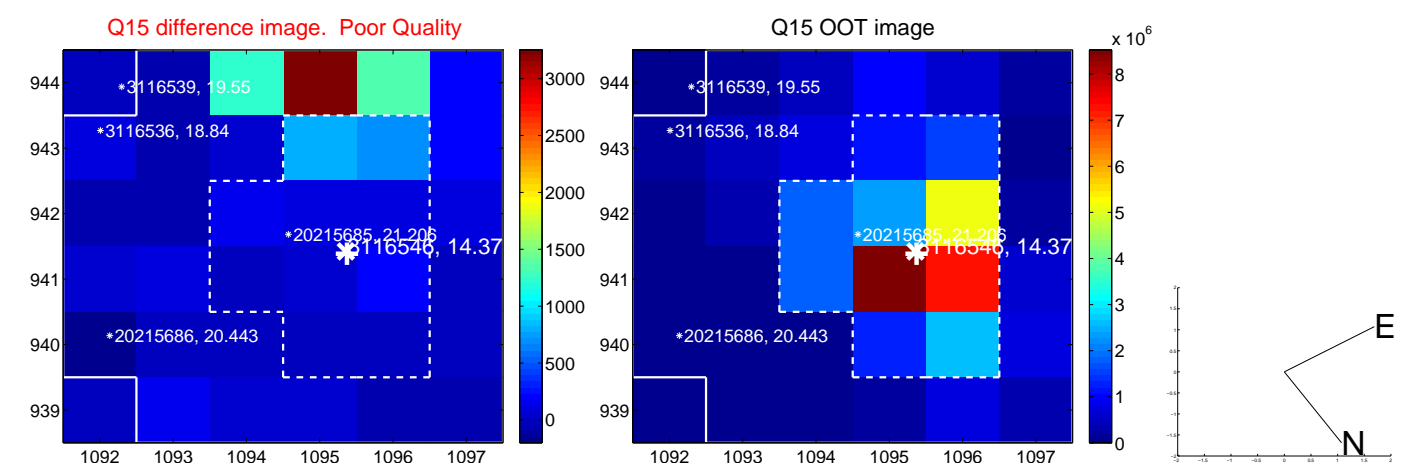
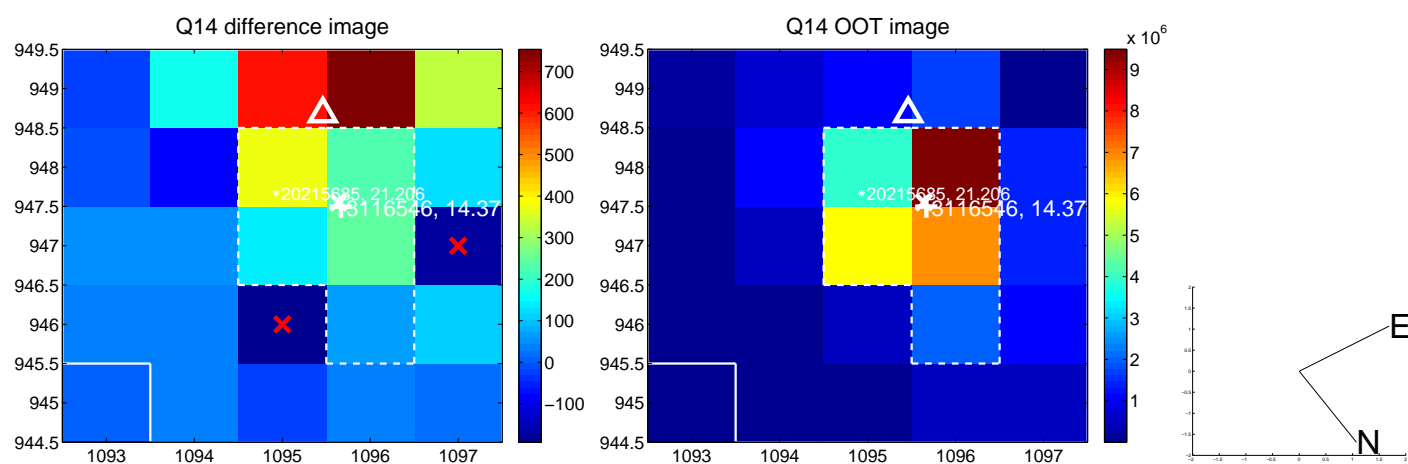
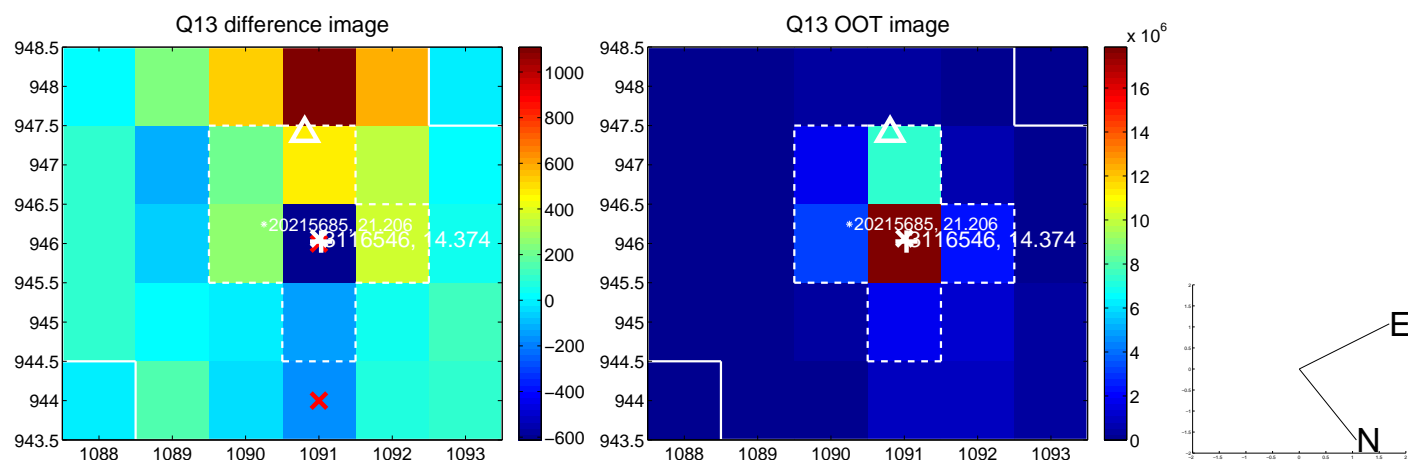
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



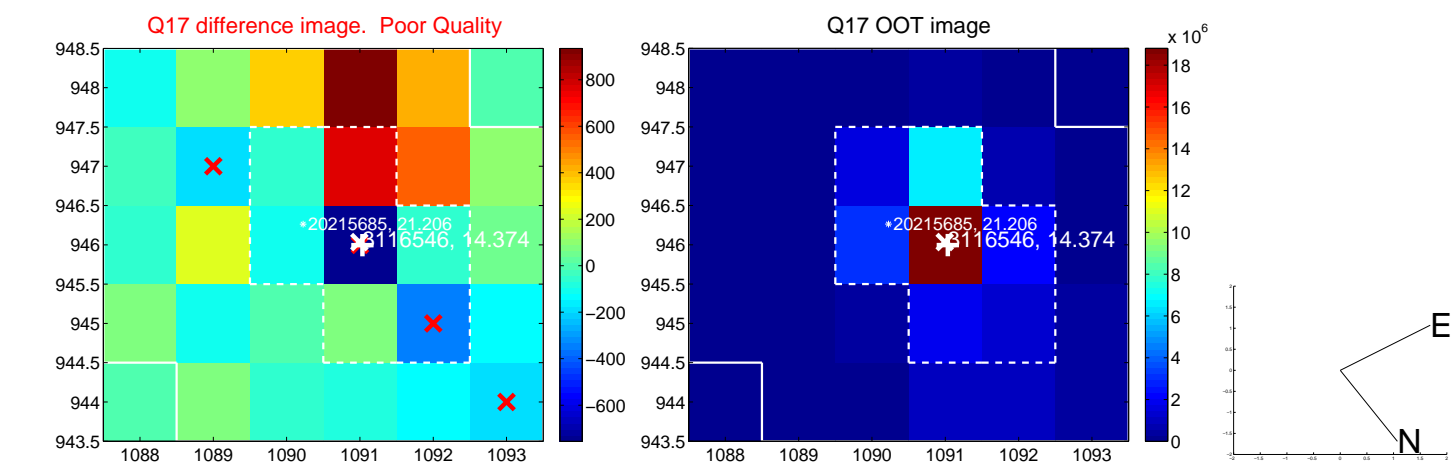
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



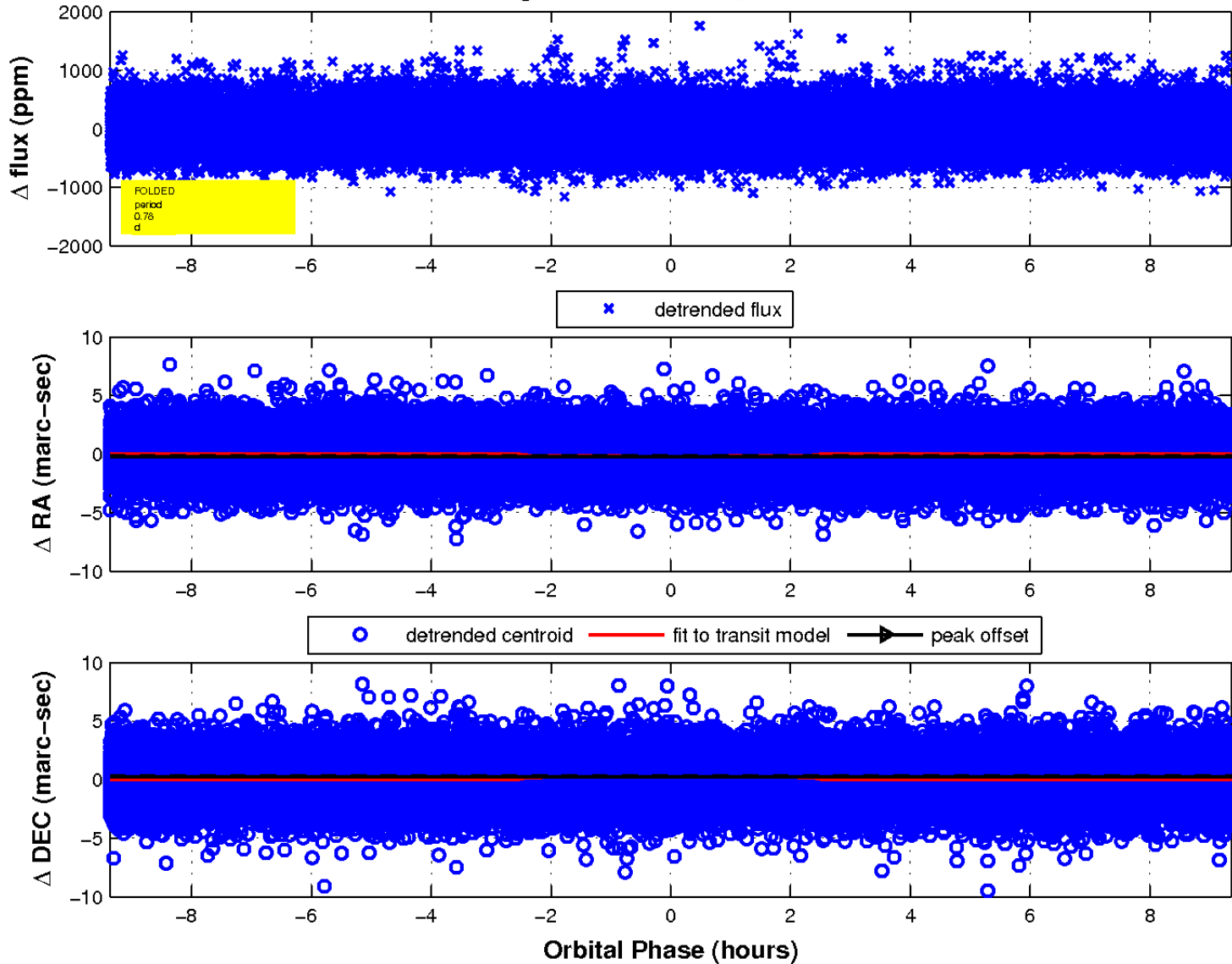
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

