

KIC 005551504

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})
005551504-01	OBS	3989.01	1.204537	131.937323	81.9	2.048	14.2	16.3	1.50	5340	1.65	3554.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005551504-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET

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

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

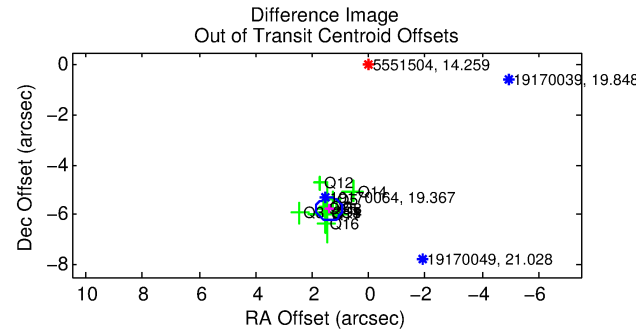
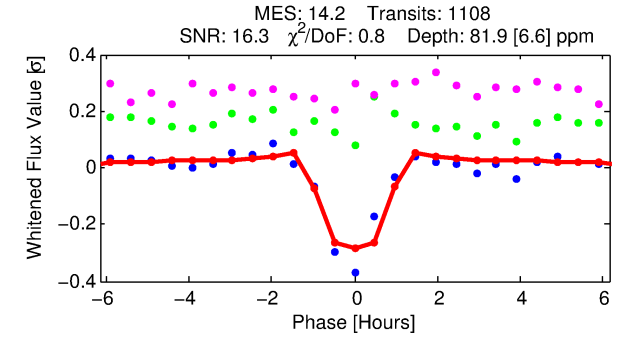
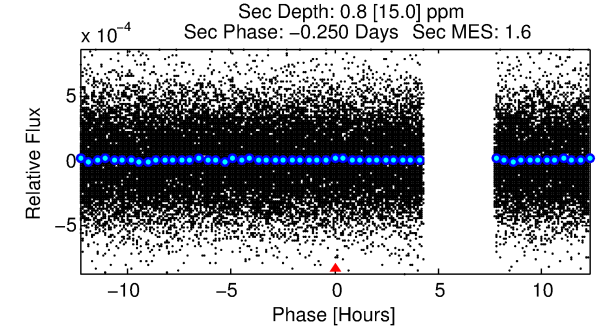
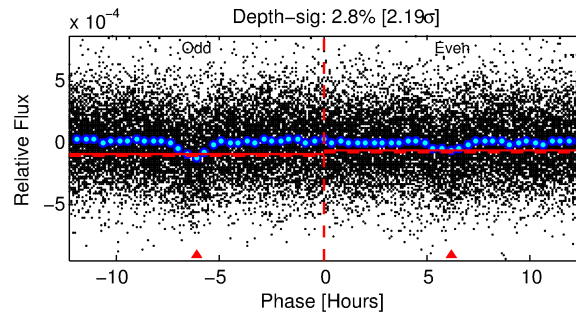
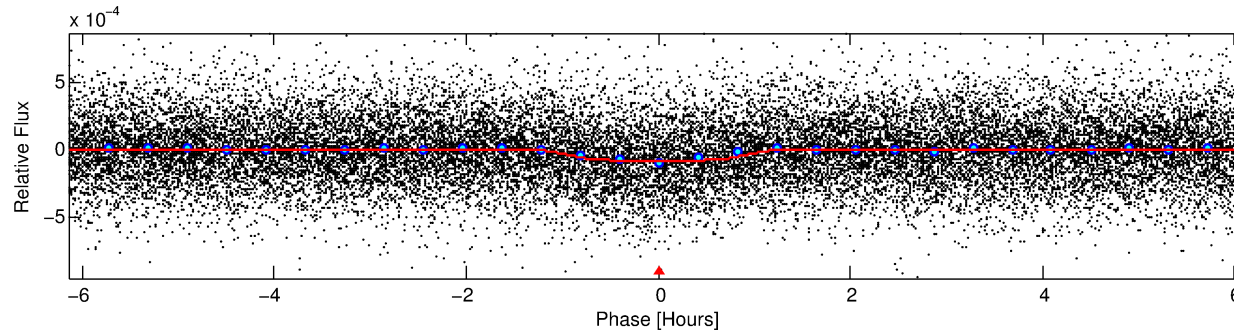
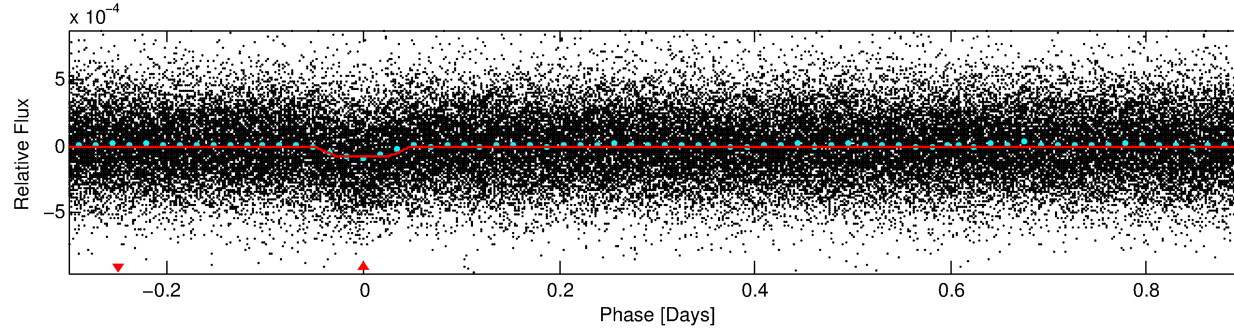
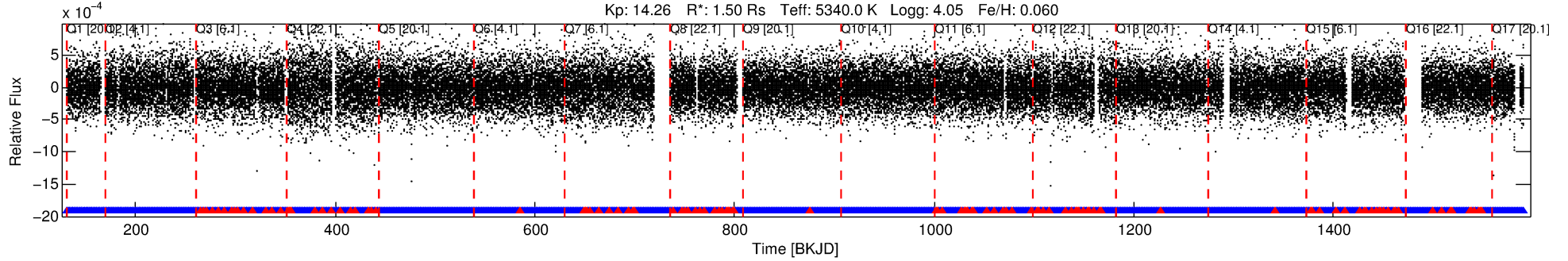
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005551504-01

No Significant Match Found

DV One-Page Summary

KIC: 5551504 Candidate: 1 of 1 Period: 1.205 d
KOI: K03989.01 Corr: 0.896



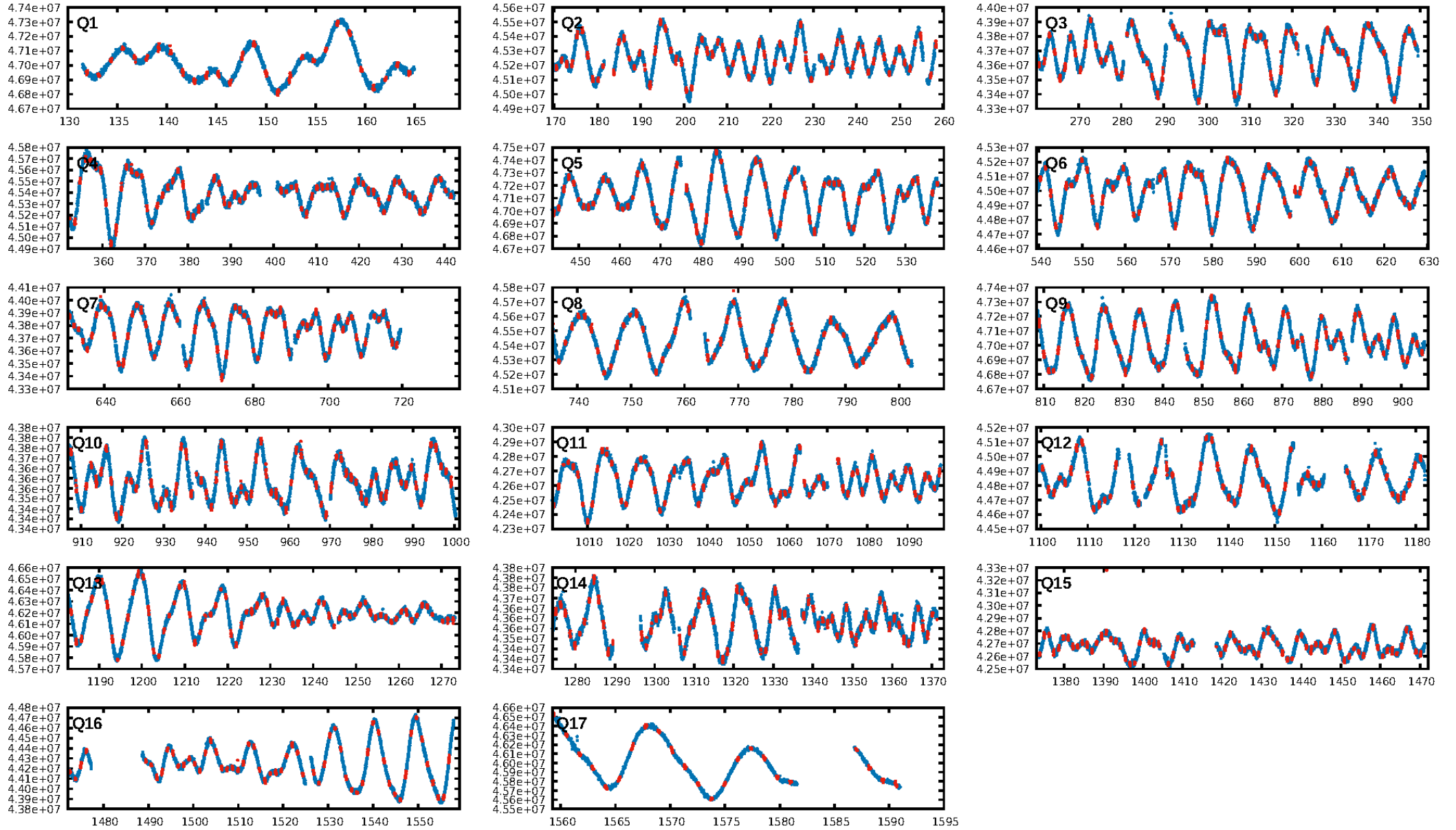
DV Fit Results:

Period = 1.20454 [0.00001] d
Epoch = 131.9373 [0.0015] BKJD
Rp/R* = 0.0100 [0.0048]
a/R* = 2.24 [3.76]
b = 0.90 [0.44]
Seff = 3554.66 [2870.21]
Teq = 1969 [397] K
Rp = 1.65 [1.07] Re
a = 0.0215 [0.0102] AU
Ag = 0.08 [1.41] [-0.65 σ]
Teffp = 1607 [7277] K [-0.05 σ]

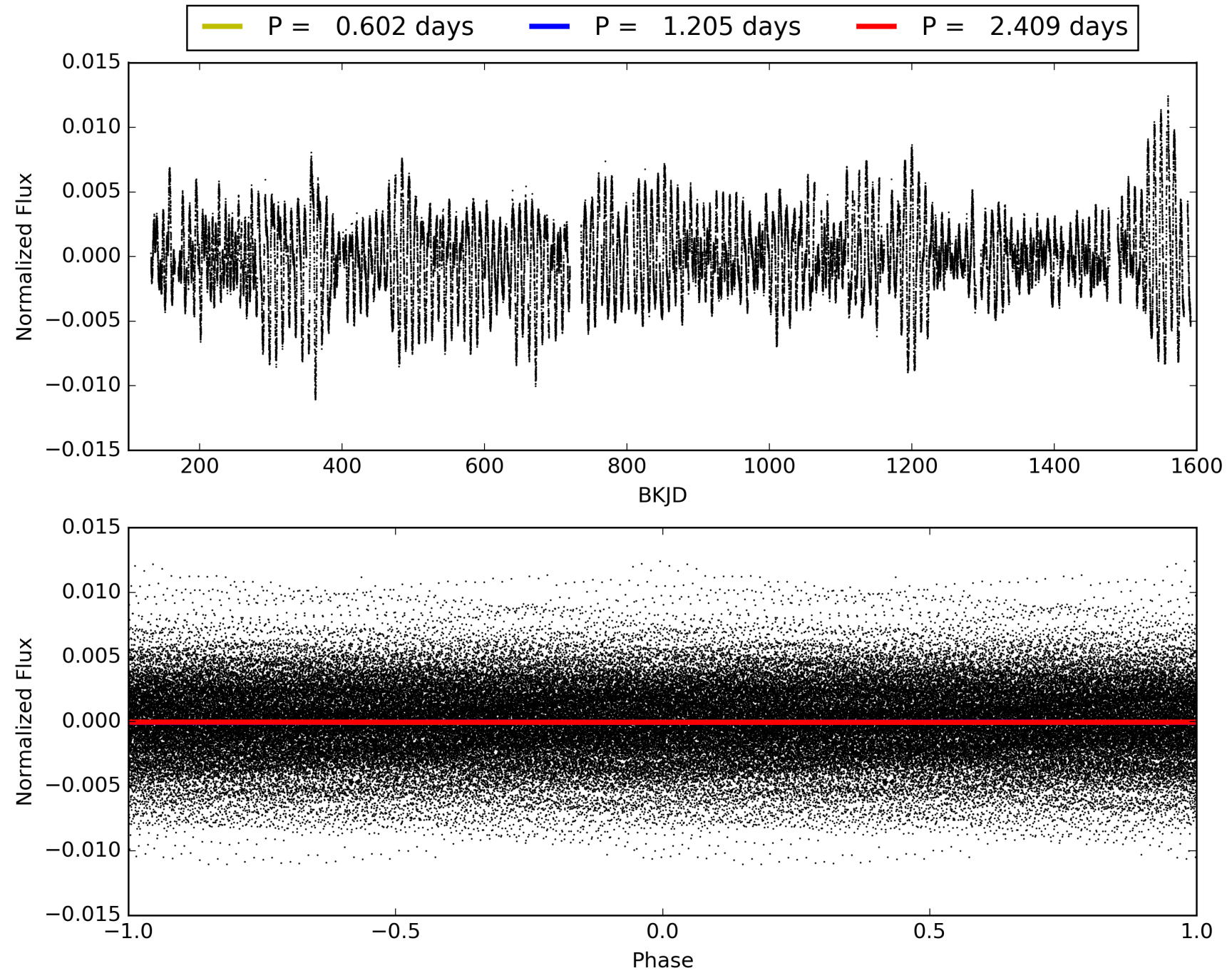
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.30e-42
RollingBand-fgt: 0.89 [942/1057]
GhostDiagnostic-chr: 0.3292
Centroid-sig: 0.0%
Centroid-so: 7.059 arcsec [9.38 σ]
OotOffset-rm: 5.953 arcsec [38.67 σ]
KicOffset-rm: 5.828 arcsec [34.15 σ]
OotOffset-st: 1/4/4/3 [12]
KicOffset-st: 1/4/4/3 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005551504-01, PDC Light Curves

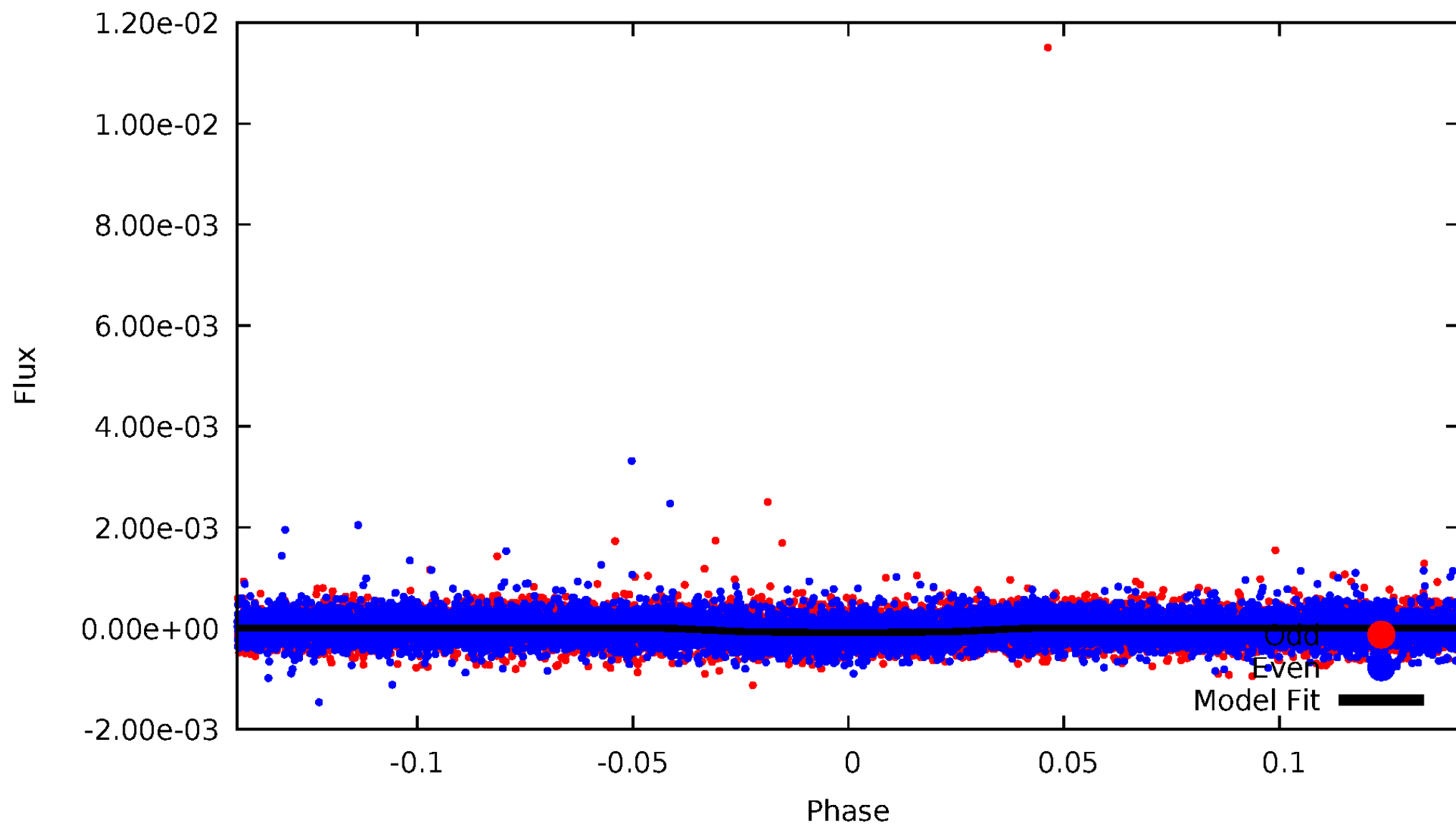


TCE 005551504-01



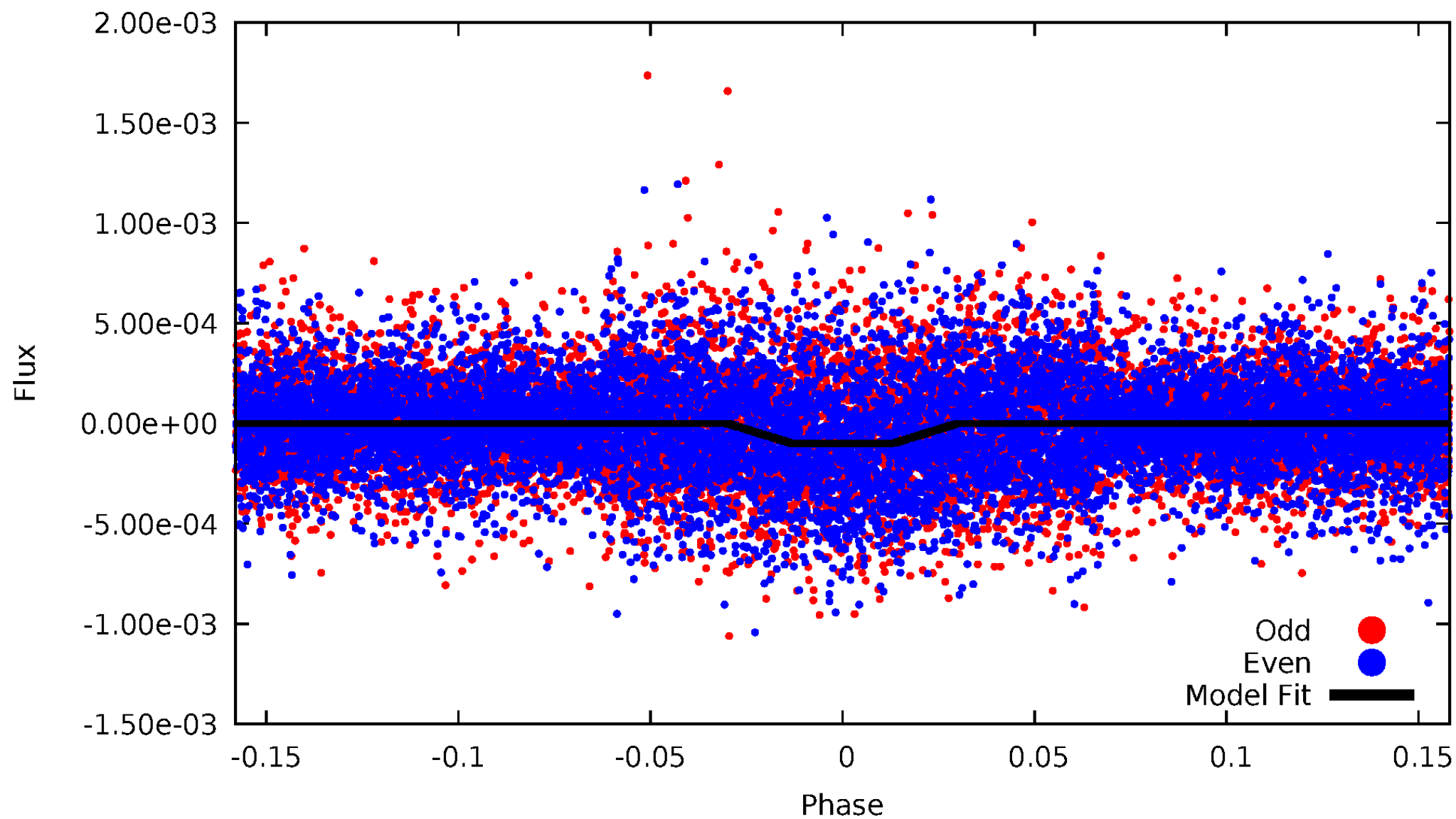
DV Odd/Even

TCE 005551504-01



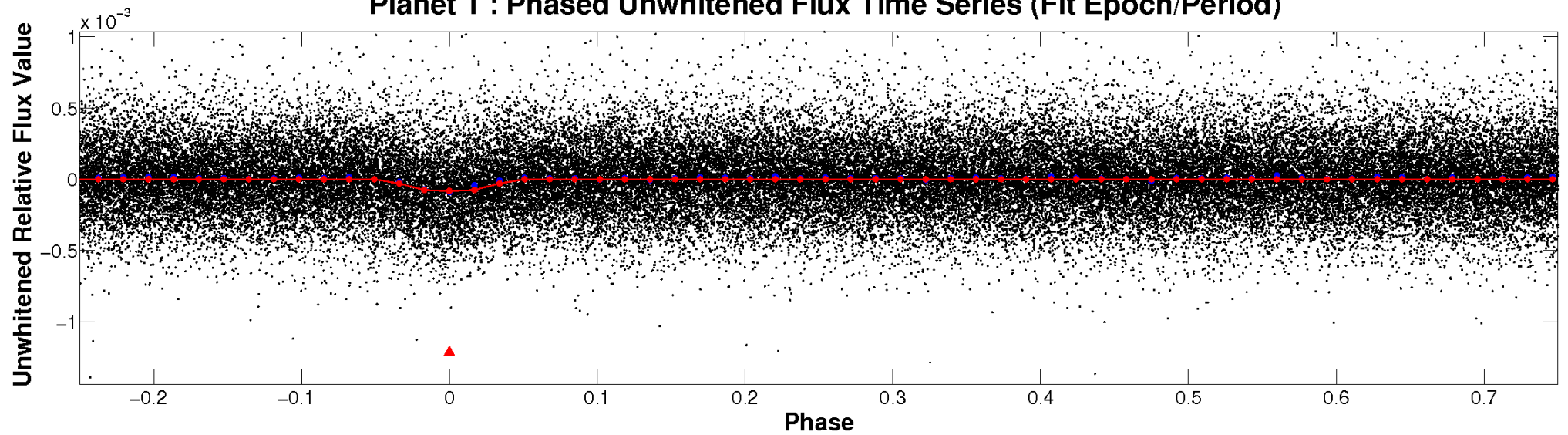
ALT Odd/Even

TCE 005551504-01

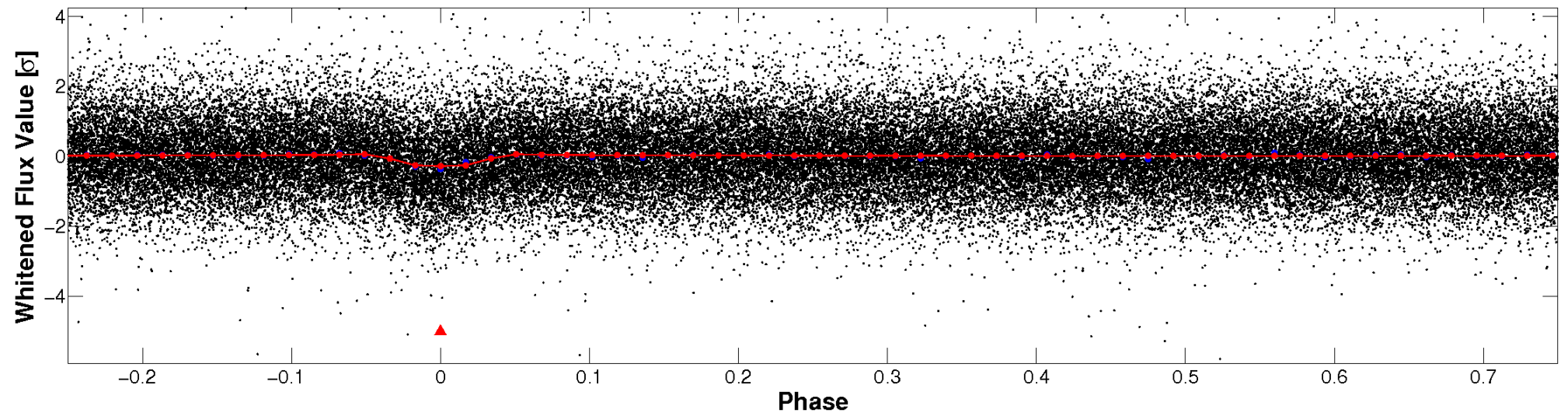


Non-Whitened Vs. Whitened Light Curve

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

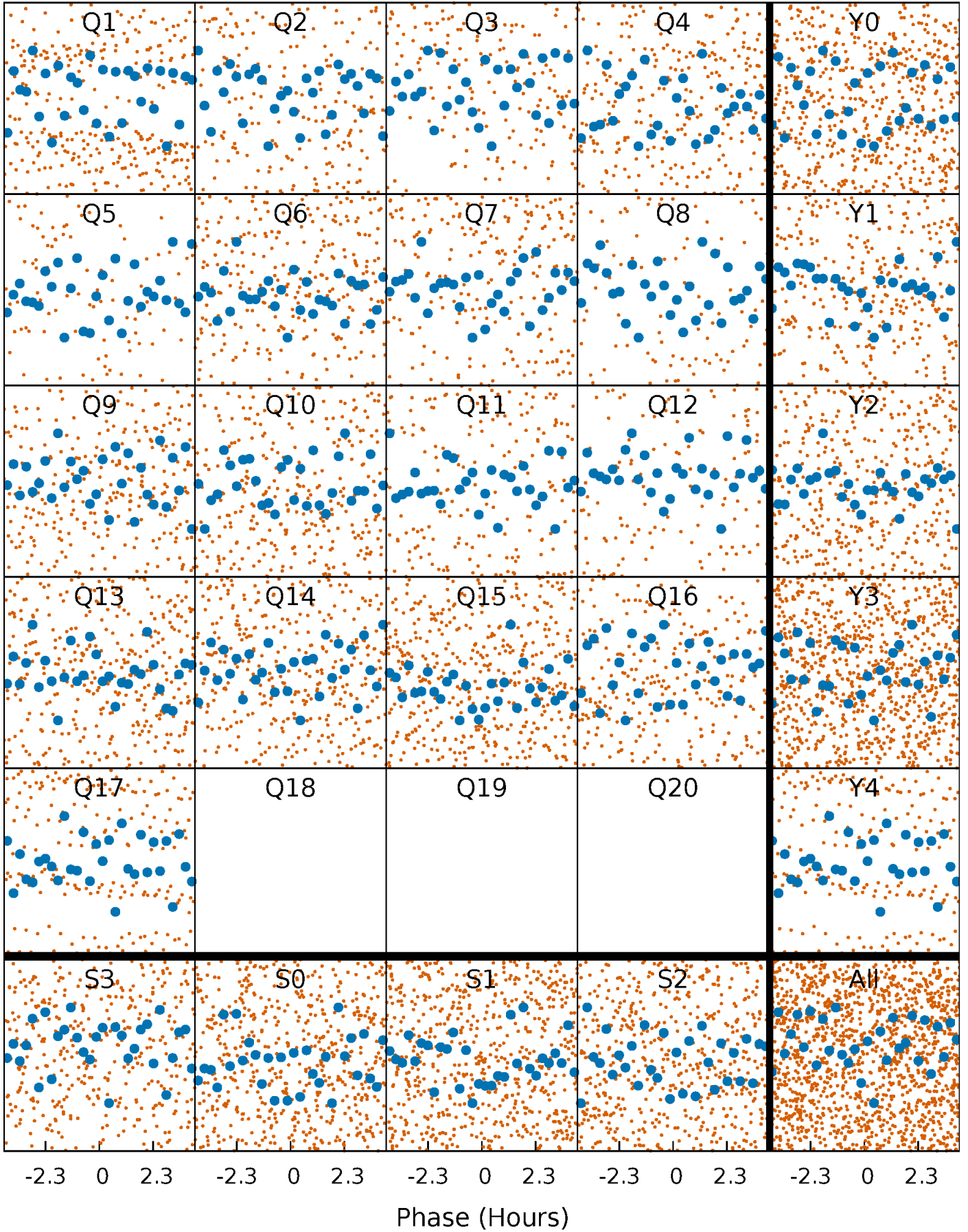


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



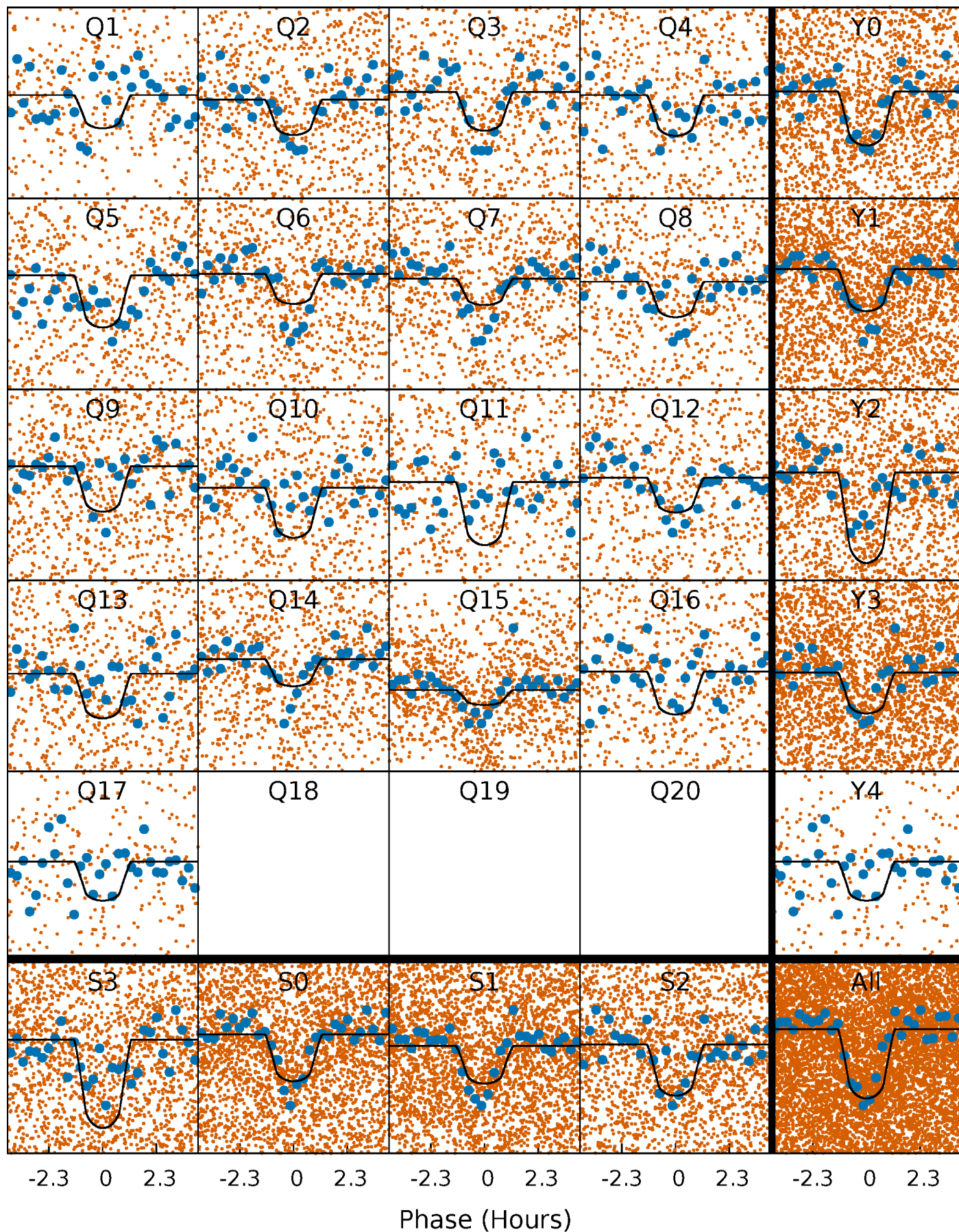
PDC Quarter-Phased Transit Curves

TCE 005551504-01 P= 1.204537 Days $T_0=131.937323$ (BKJD)



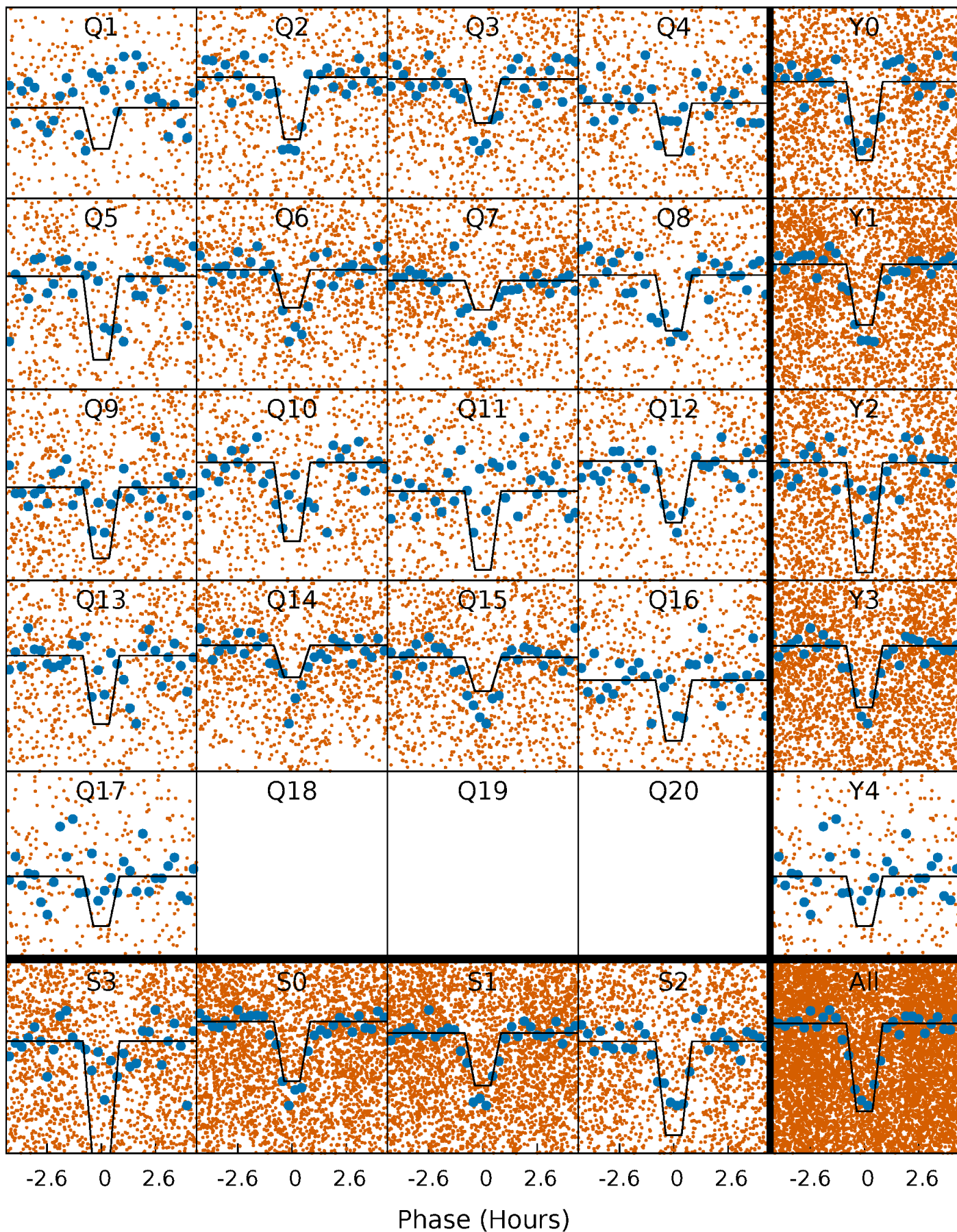
DV Quarter-Phased Transit Curves

TCE 005551504-01 P= 1.204537 Days $T_0=131.937323$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

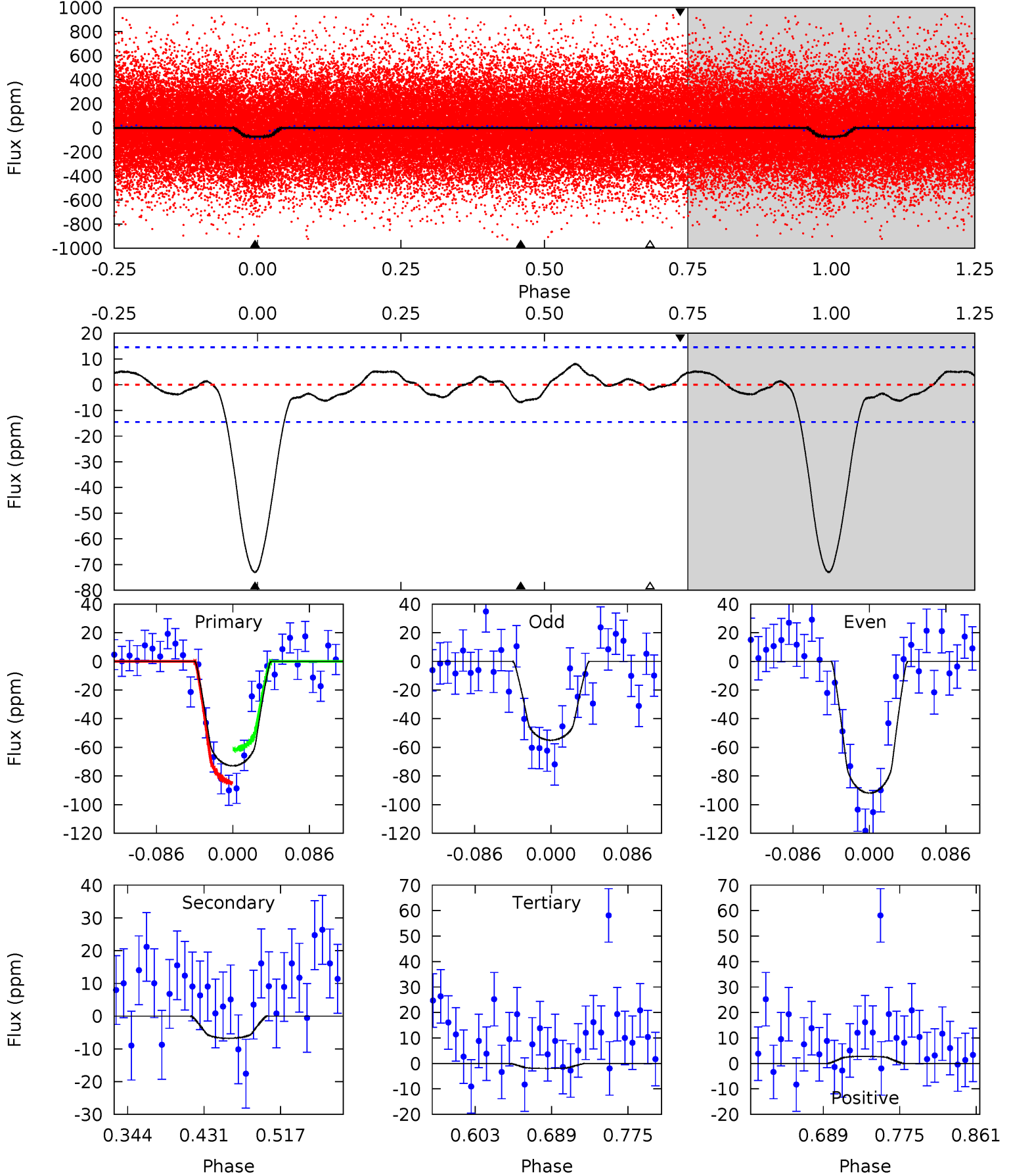
TCE 005551504-01 P= 1.204526 Days $T_0=131.938023$ (BKJD)



DV Model-Shift Uniqueness Test

005551504-01, P = 1.204537 Days, E = 130.732786 Days

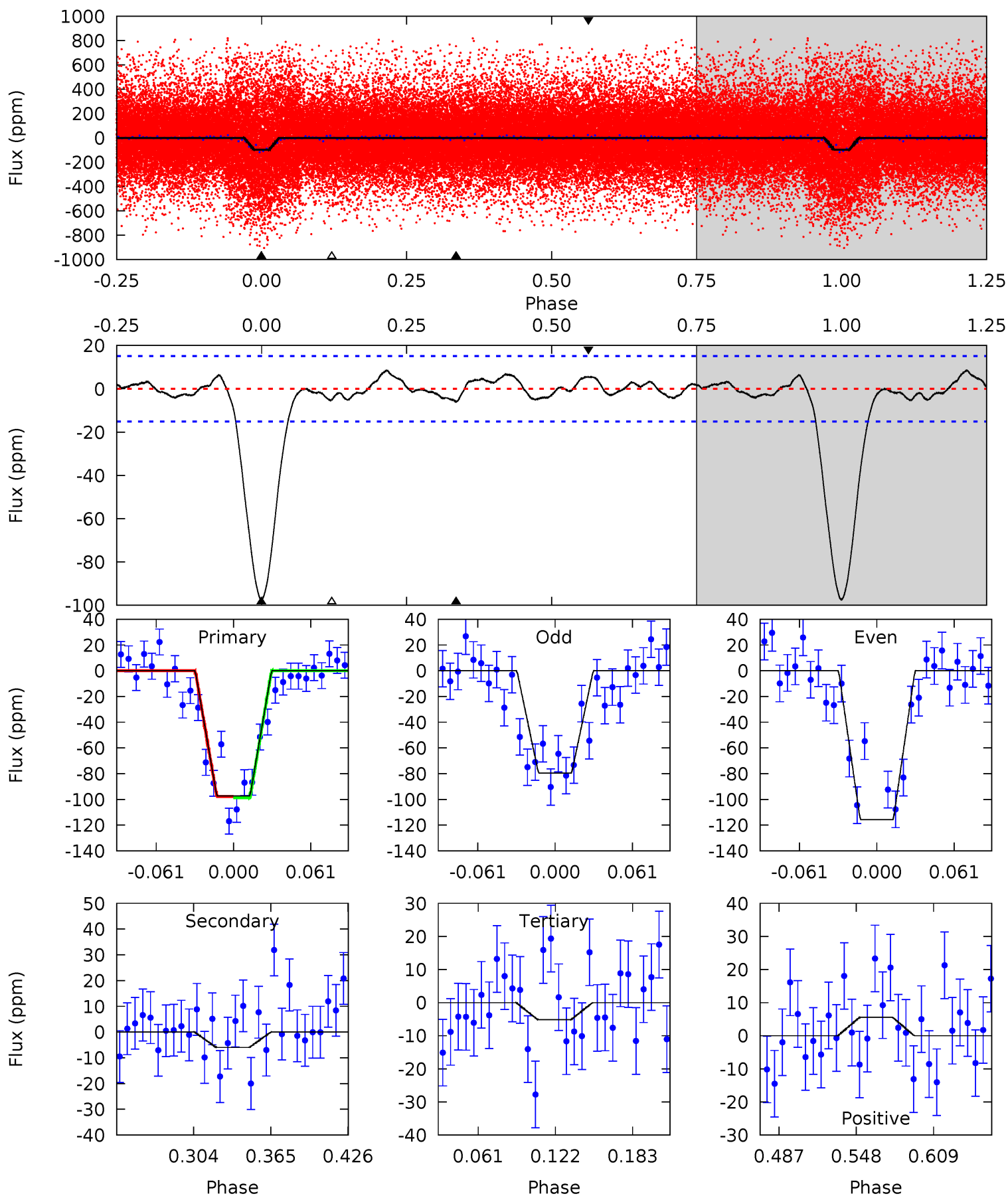
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.1	2.14	0.62	0.89	4.60	1.72	1.09	22.4	22.2	1.52	1.25	5.80	0.98	0.10	3.63



Alt Model-Shift Uniqueness Test

005551504-01, P = 1.204526 Days, E = 130.733497 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.0	1.84	1.59	1.71	4.67	1.87	1.00	28.5	28.3	0.25	0.13	5.57	0.90	0.08	0.14



Stellar Parameters For KIC 005551504

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5340^{+175}_{-159}	$4.046^{+0.483}_{-0.207}$	$0.060^{+0.300}_{-0.250}$	$1.504^{+0.539}_{-0.658}$	$0.917^{+0.074}_{-0.099}$	$0.380^{+1.765}_{-0.197}$
	+3%/-3%	+12%/-5%	+500%/-417%	+36%/-44%	+8%/-11%	+465%/-52%
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 005551504-01 / KOI 3989.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7 ± 3	$1.55^{+0.82}_{-0.76}$	2691^{+293}_{-331}	2995^{+847}_{-5281}	$0.732^{+2.103}_{-0.477}$
Alt.	-6 ± 3	$1.50^{+0.96}_{-0.69}$	2709^{+281}_{-352}	2862^{+920}_{-5500}	$0.582^{+1.773}_{-0.407}$

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

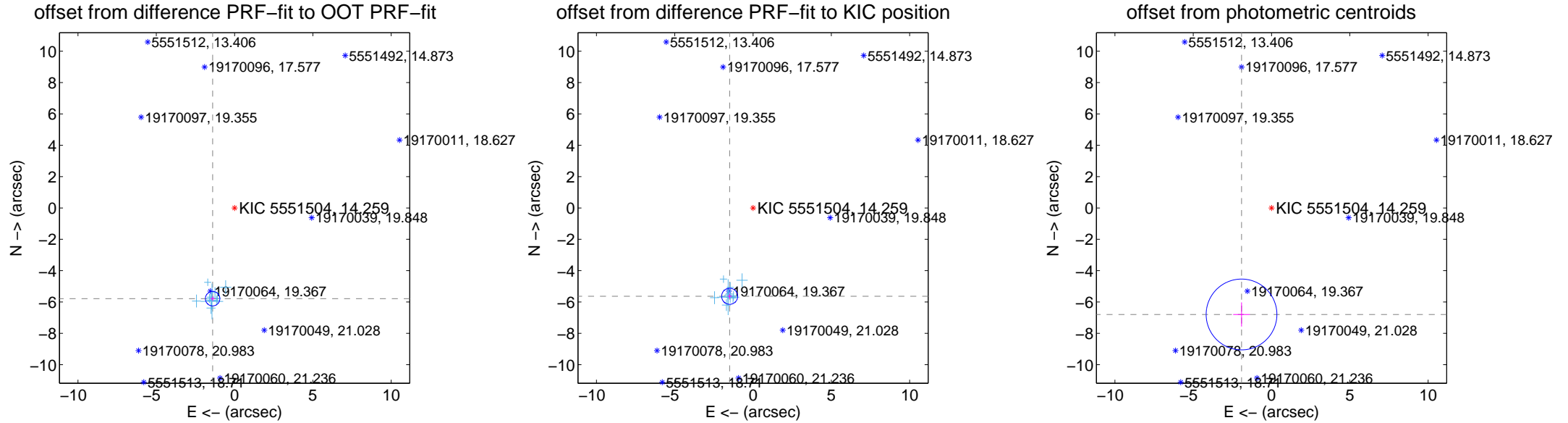
DV Centroid Data

Supplemental centroid analysis for 005551504-01. Kepler magnitude: 14.26. Transit SNR 16.29

There are 12 quarters with good PRF difference image offsets

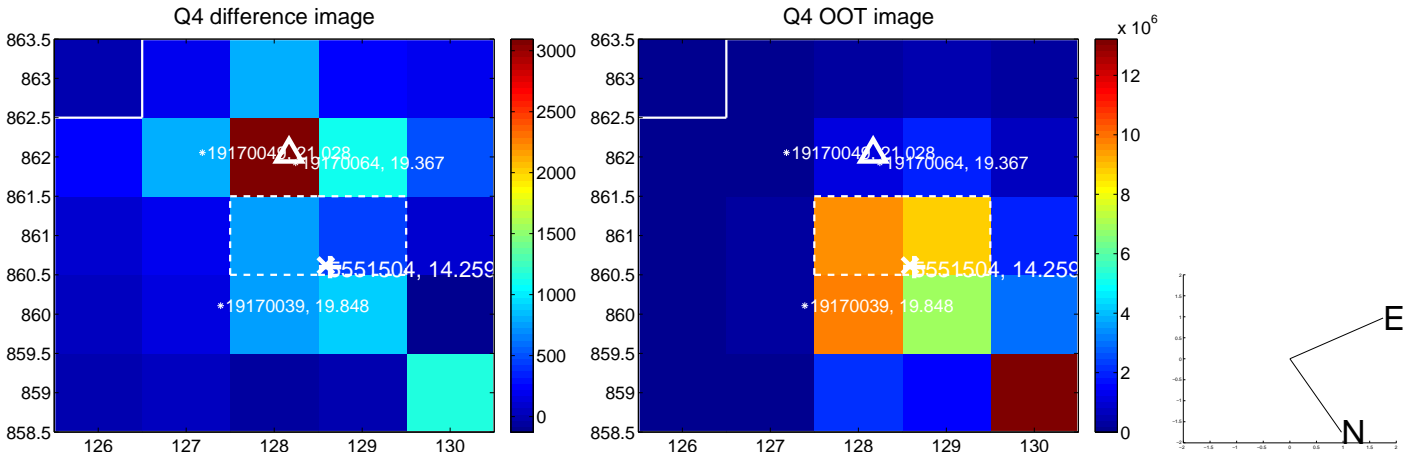
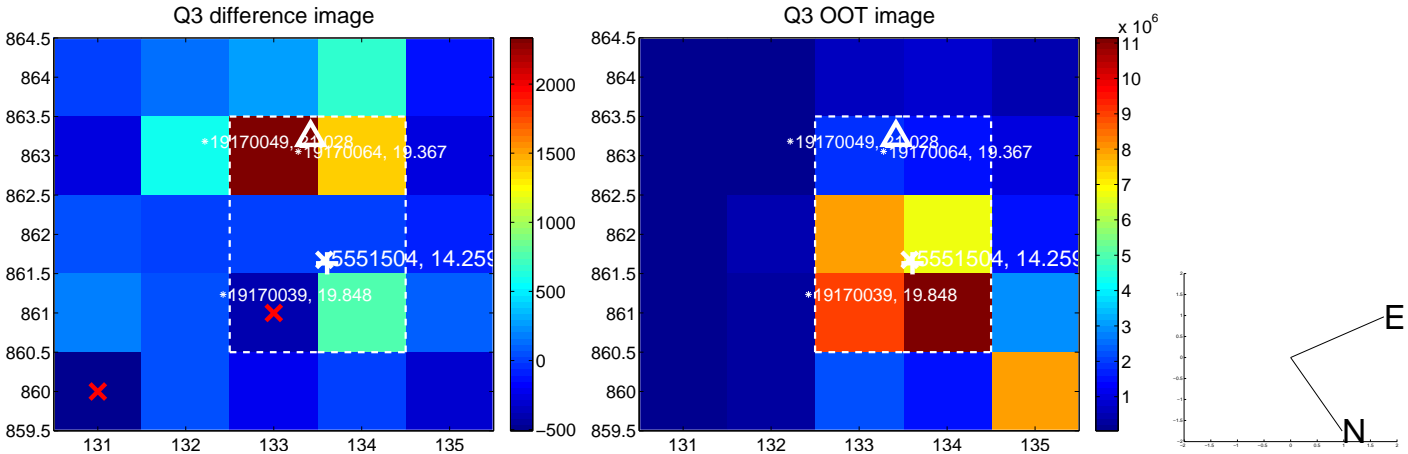
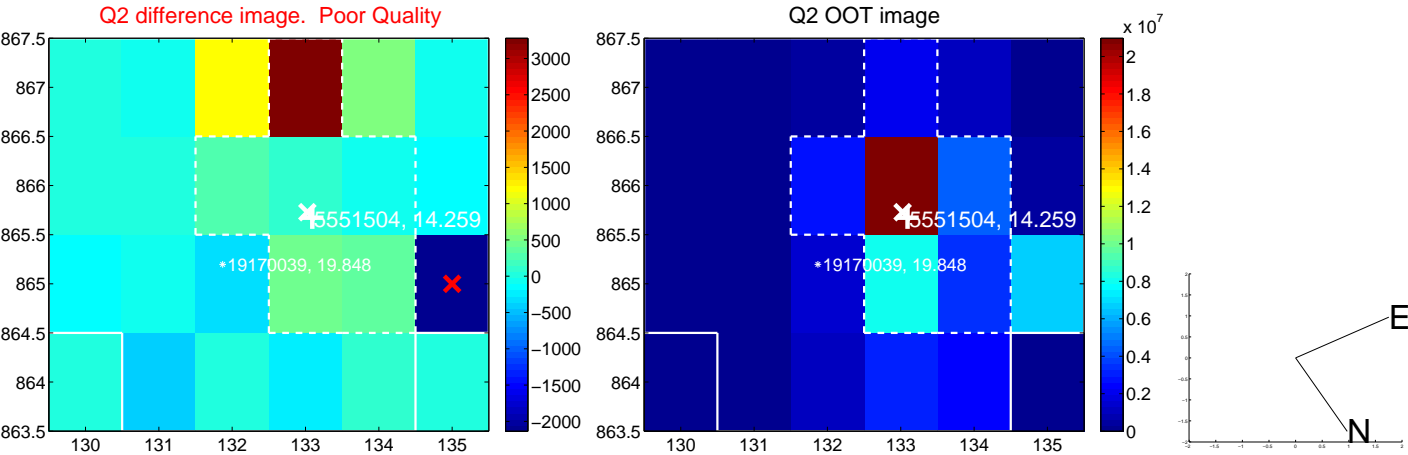
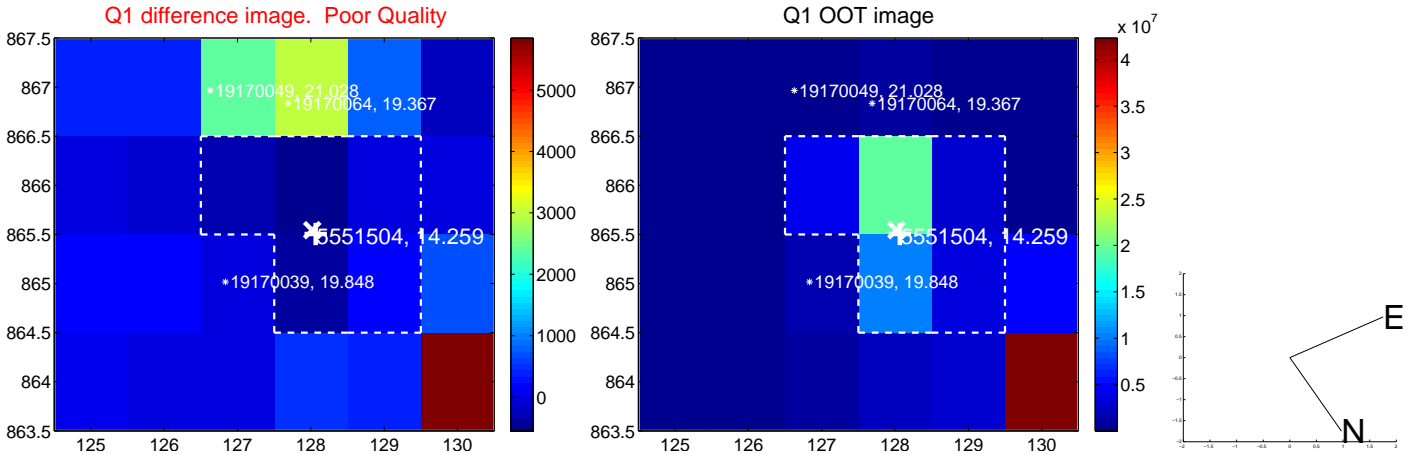
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.953 ± 0.154	38.67	1.402 ± 0.137	-5.786 ± 0.148
PRF-fit source offset from KIC position	5.828 ± 0.171	34.15	1.493 ± 0.141	-5.633 ± 0.166
photometric centroid source offset	7.06 ± 0.75	9.38	1.91 ± 0.53	-6.79 ± 0.77

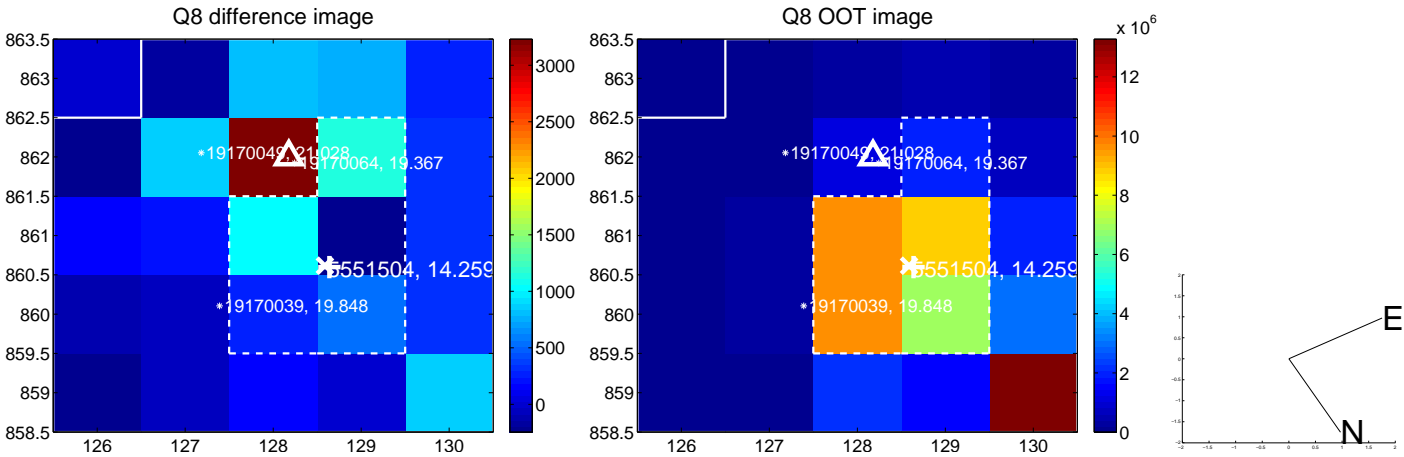
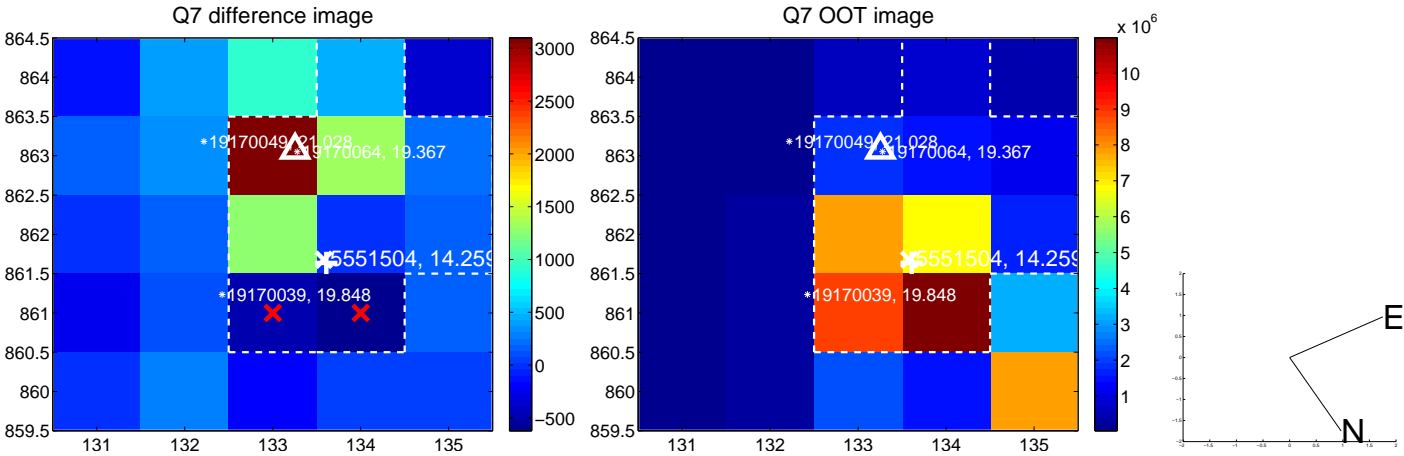
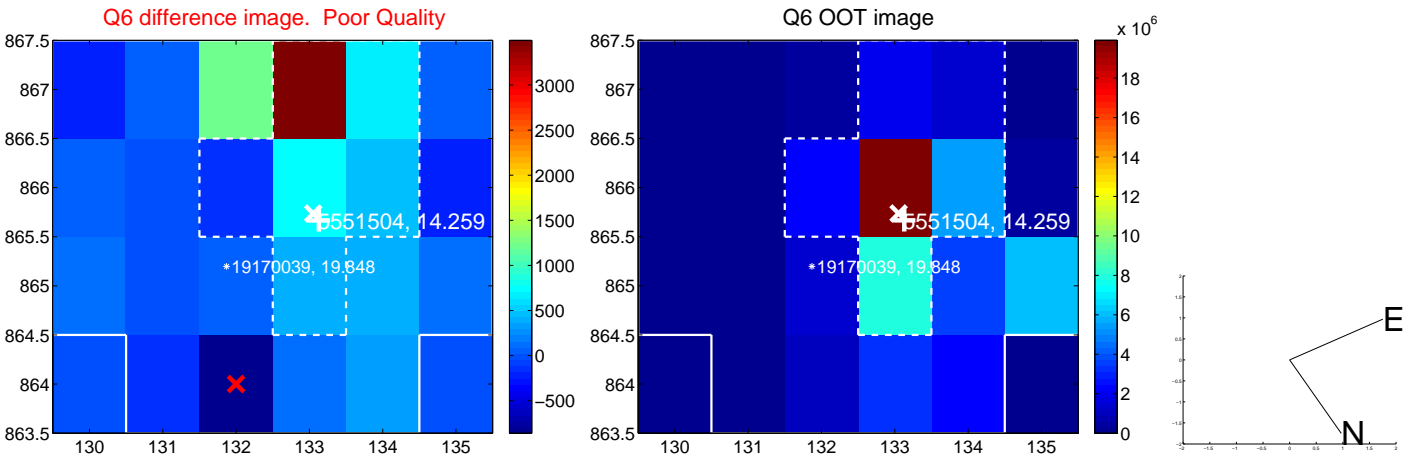
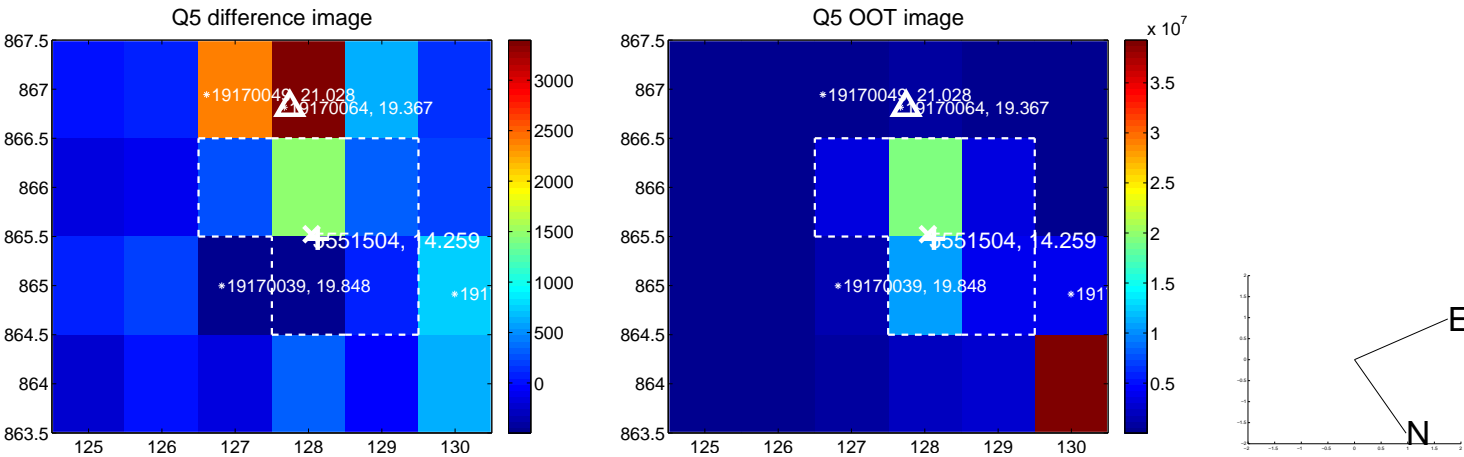


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

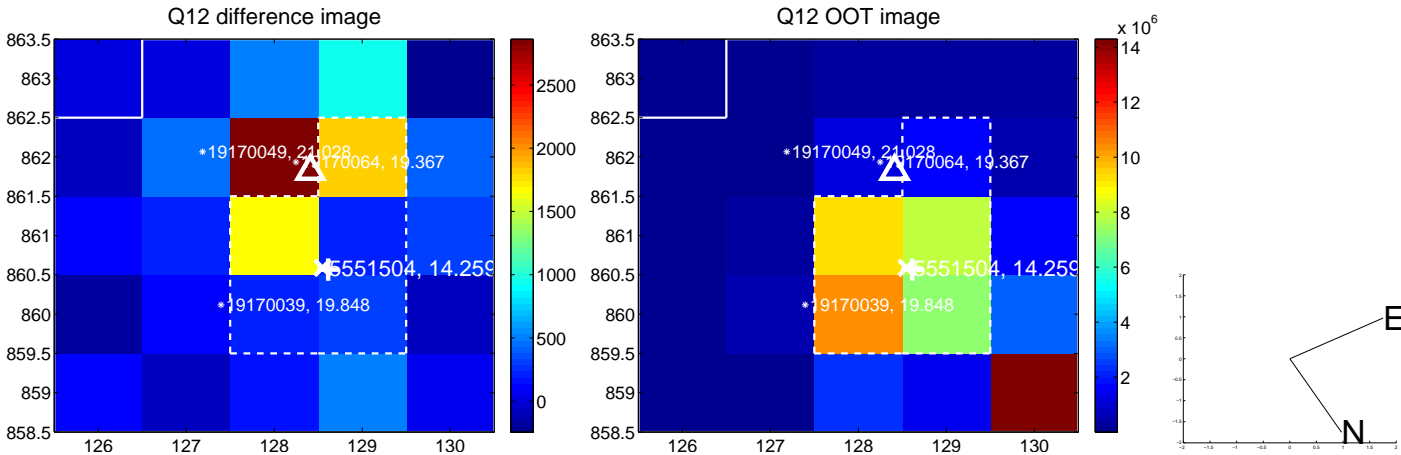
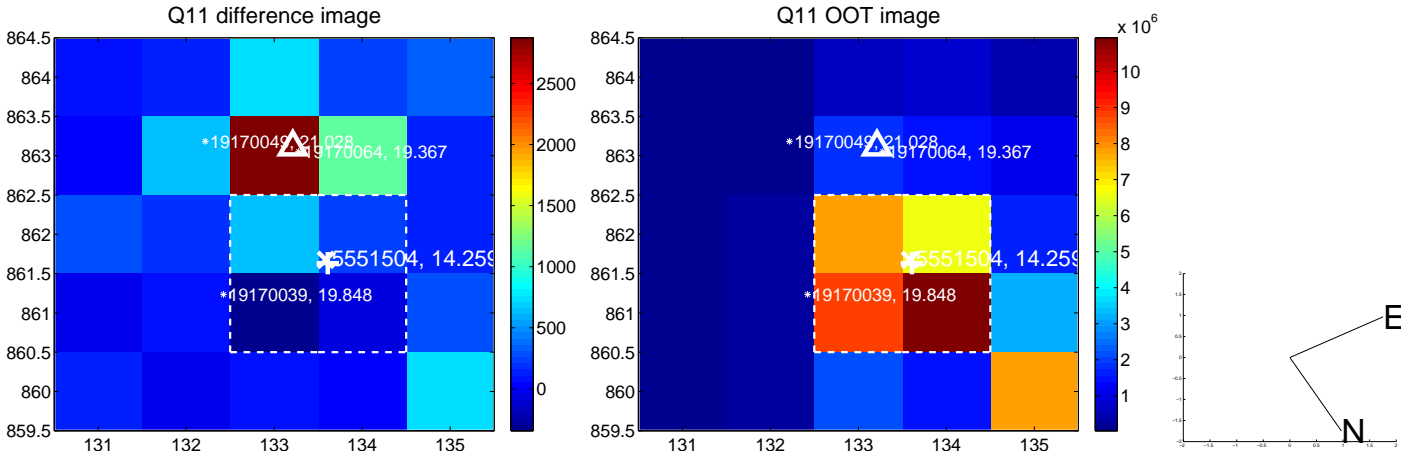
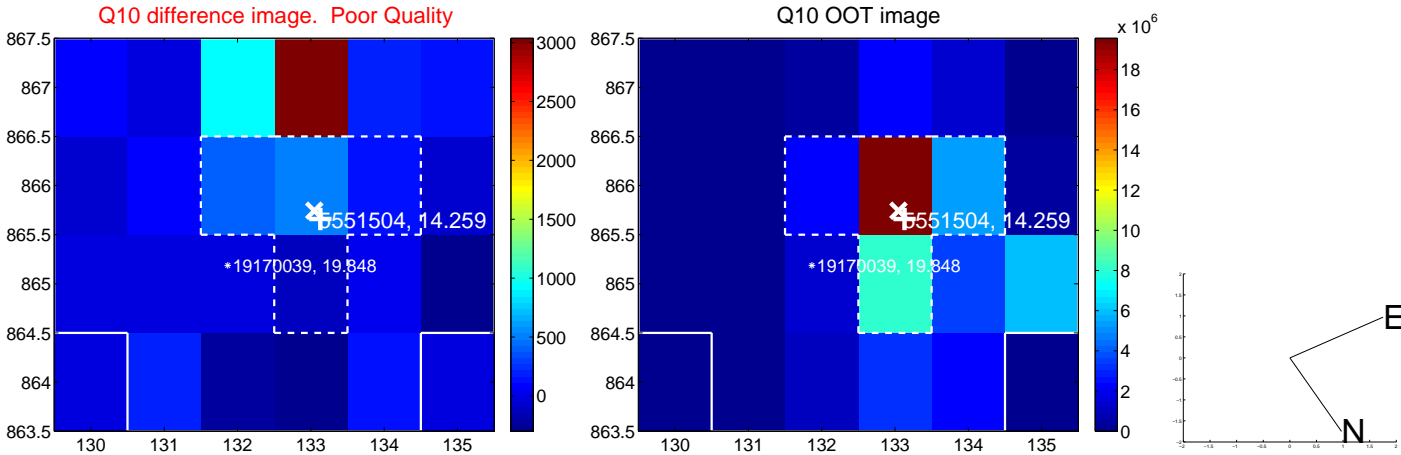
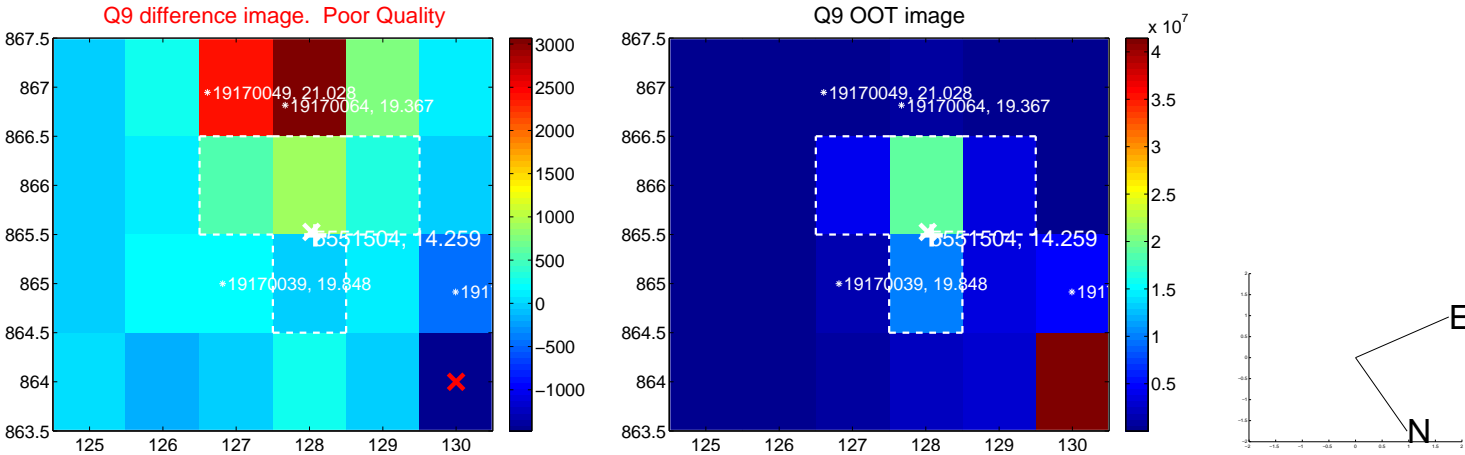
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



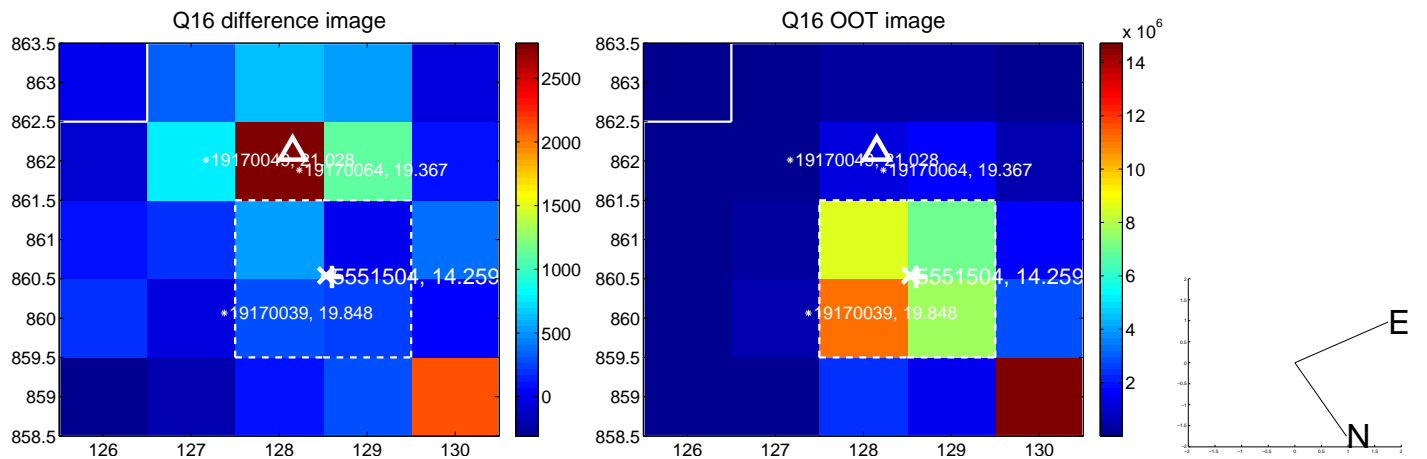
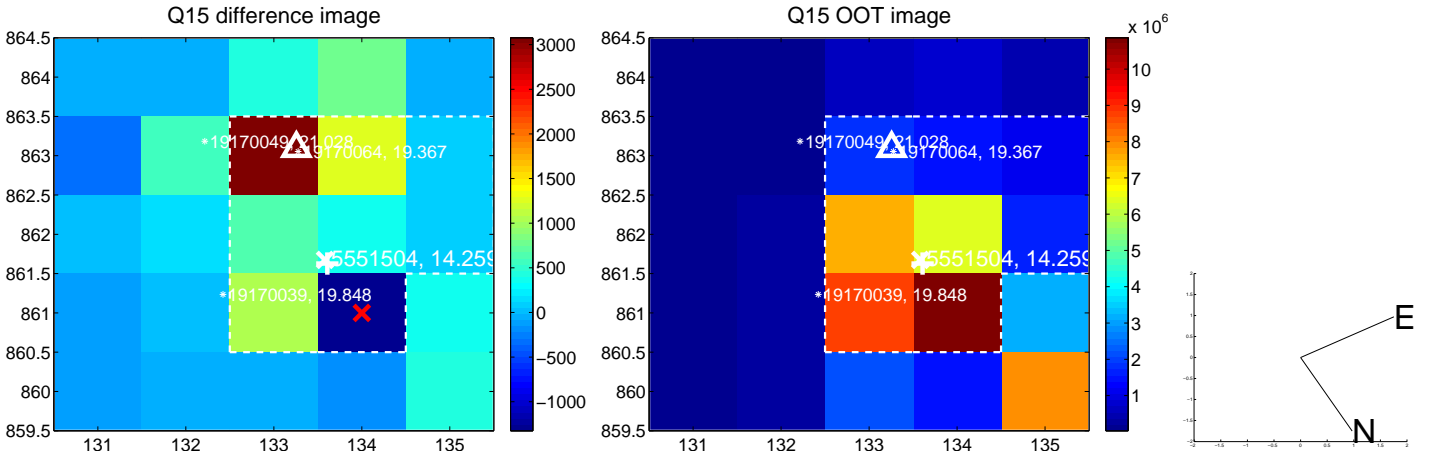
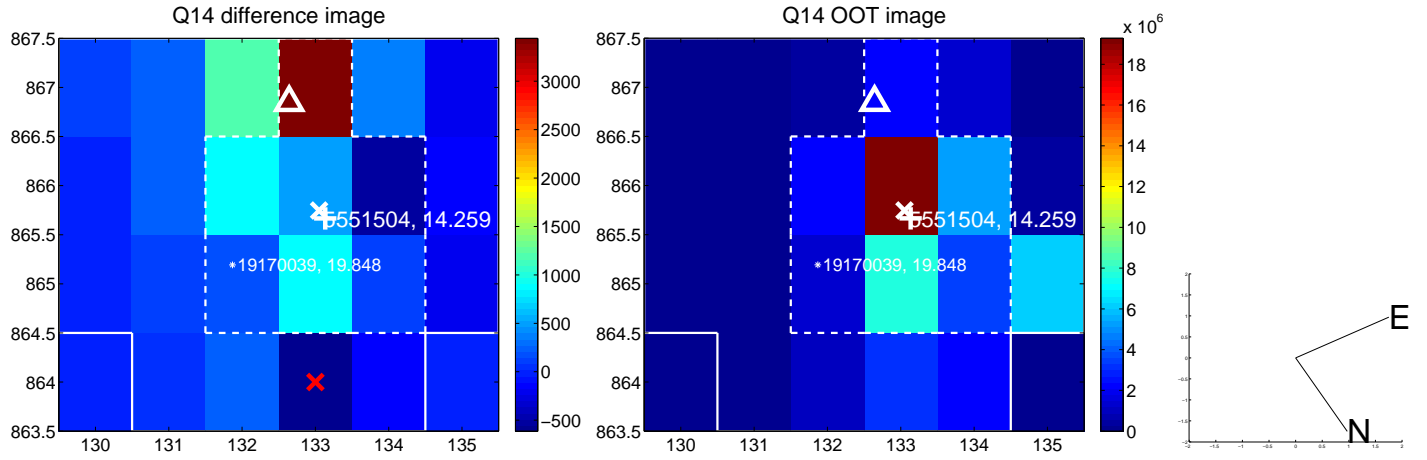
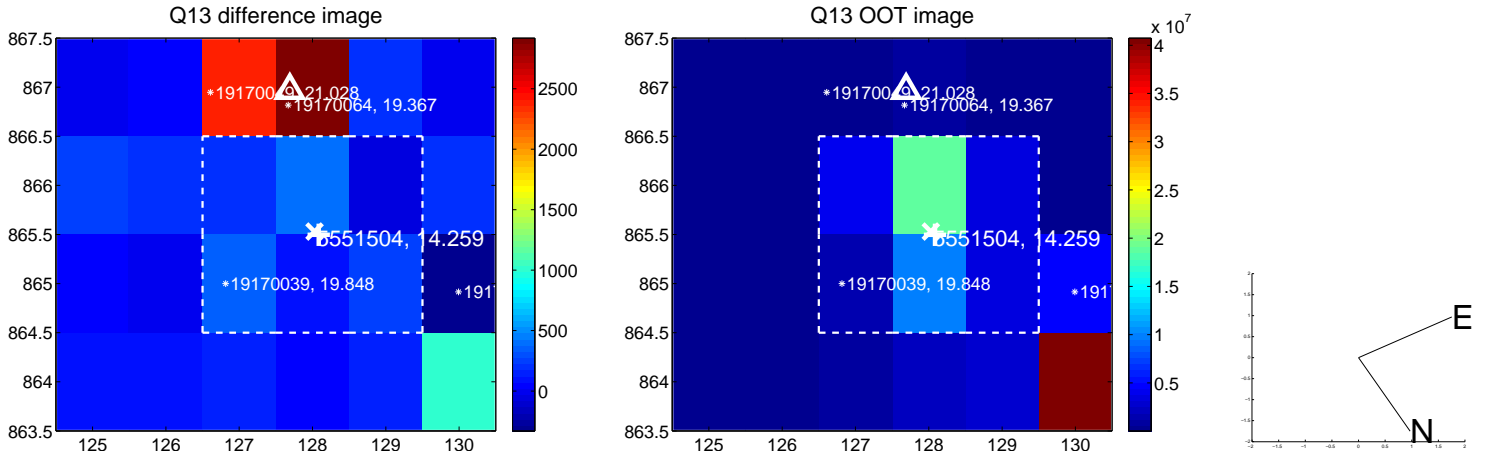
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



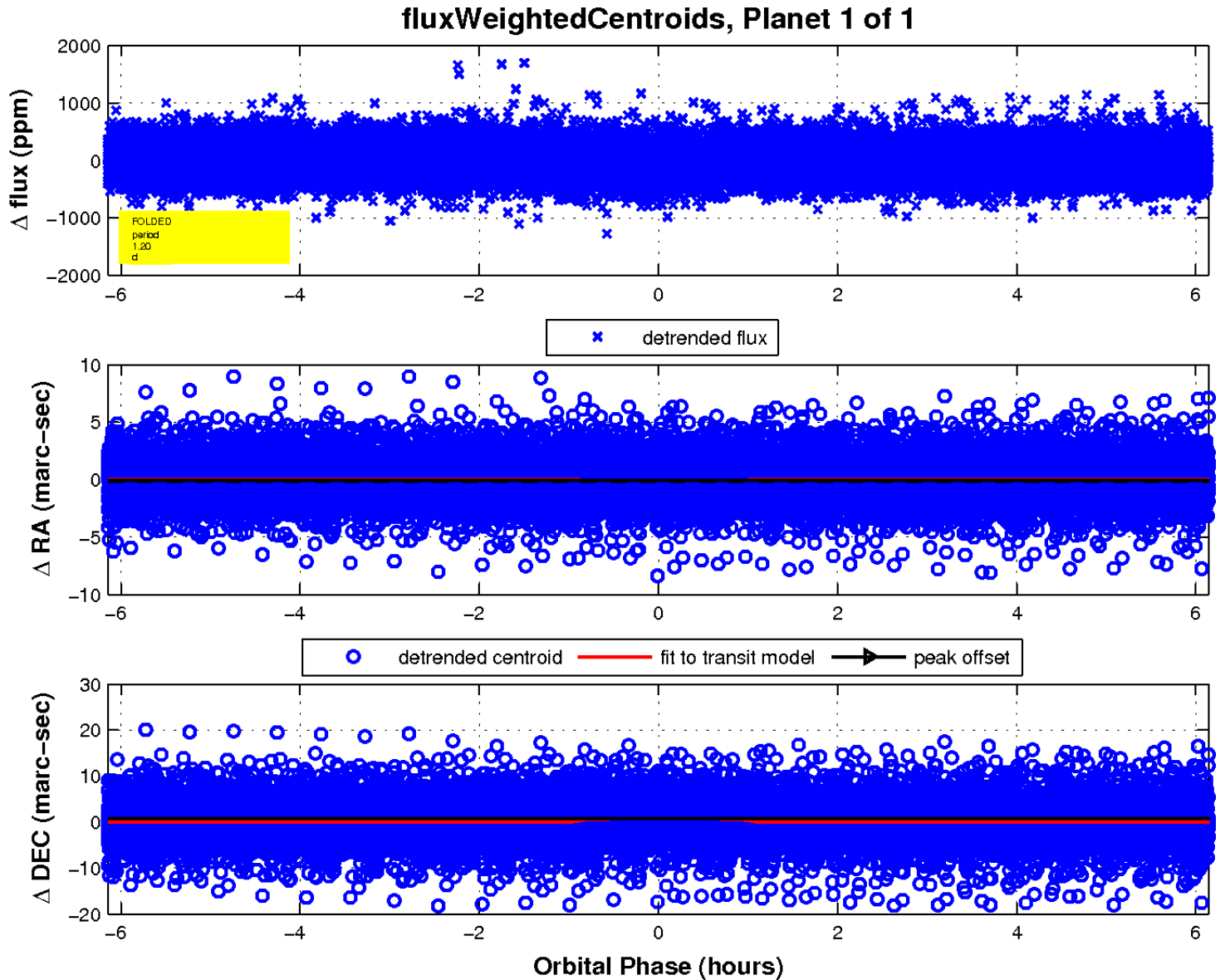
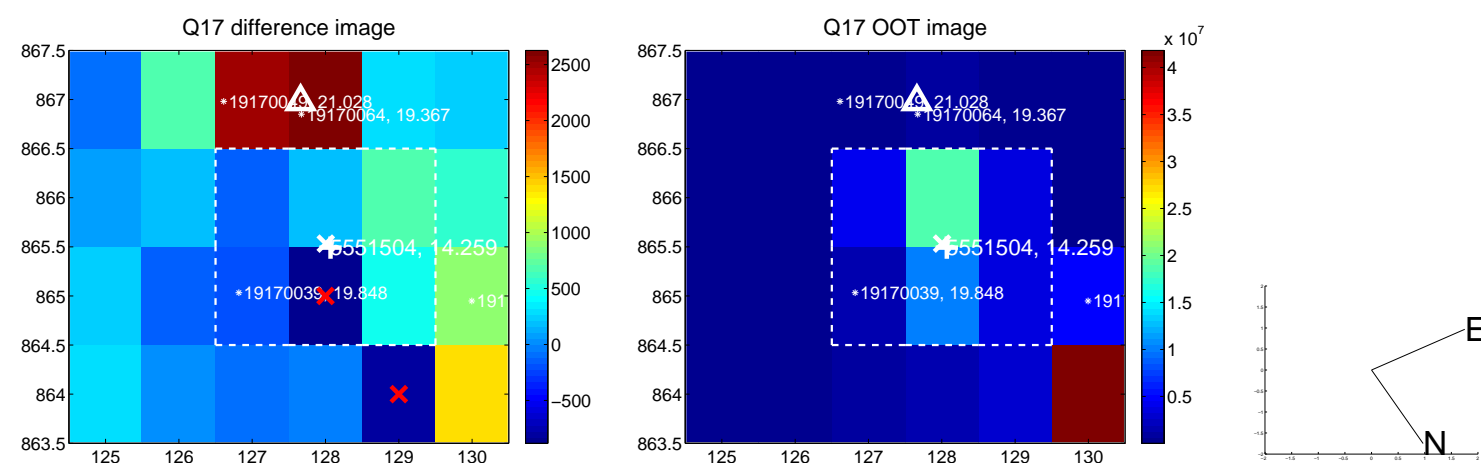
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UKIRT Image

