

KIC 008494542

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})
008494542-01	OBS	2204.01	10.860622	136.658536	191.3	2.322	18.1	19.9	1.50	6455	2.32	356.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008494542-01	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.

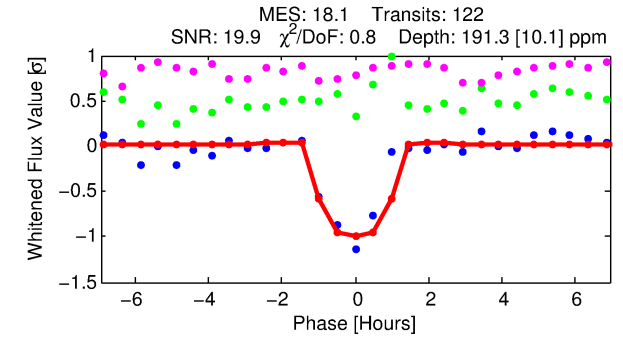
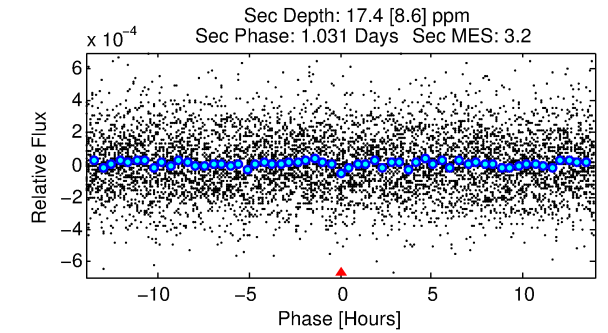
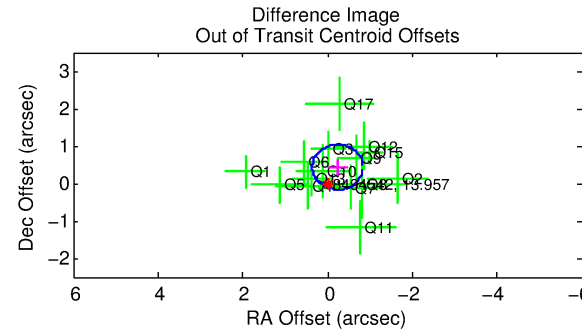
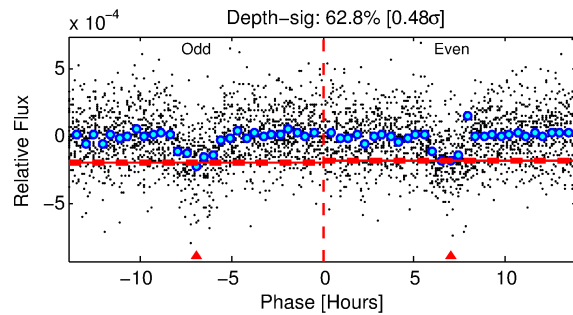
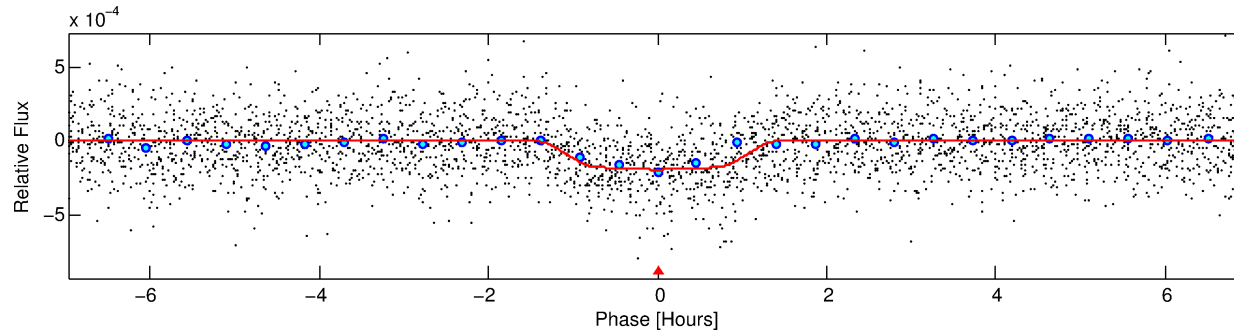
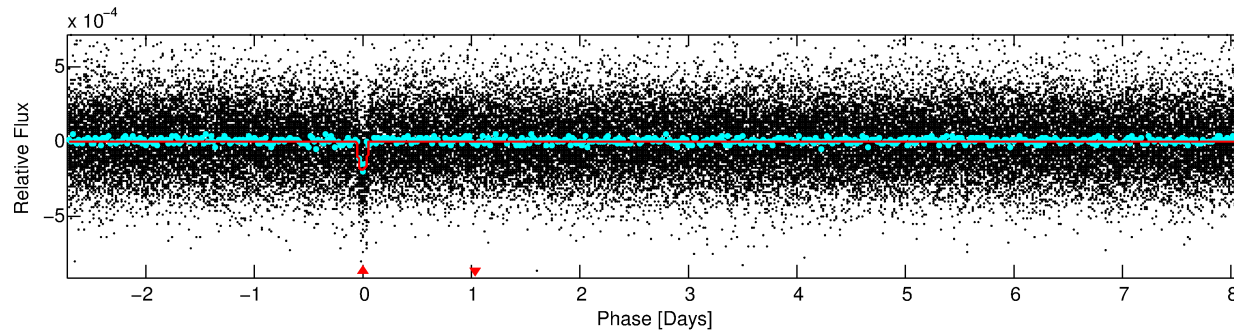
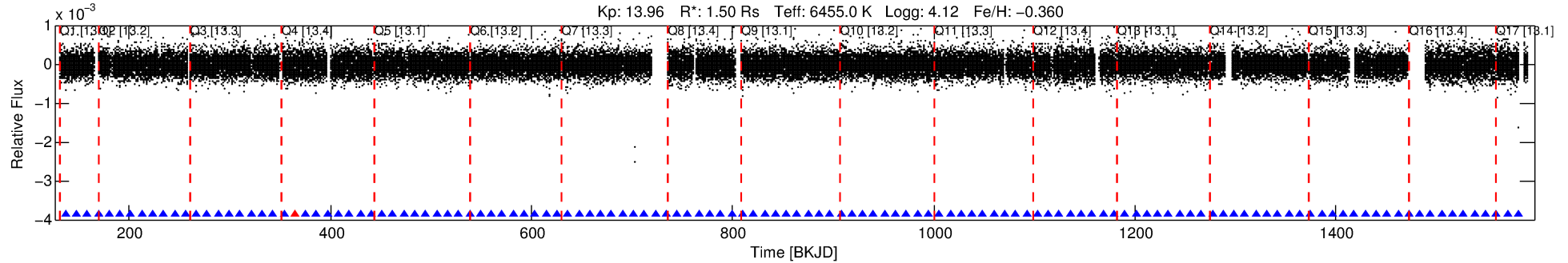
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008494542-01

No Significant Match Found

DV One-Page Summary

KIC: 8494542 Candidate: 1 of 1 Period: 10.861 d
KOI: K02204.01 Corr: 0.988



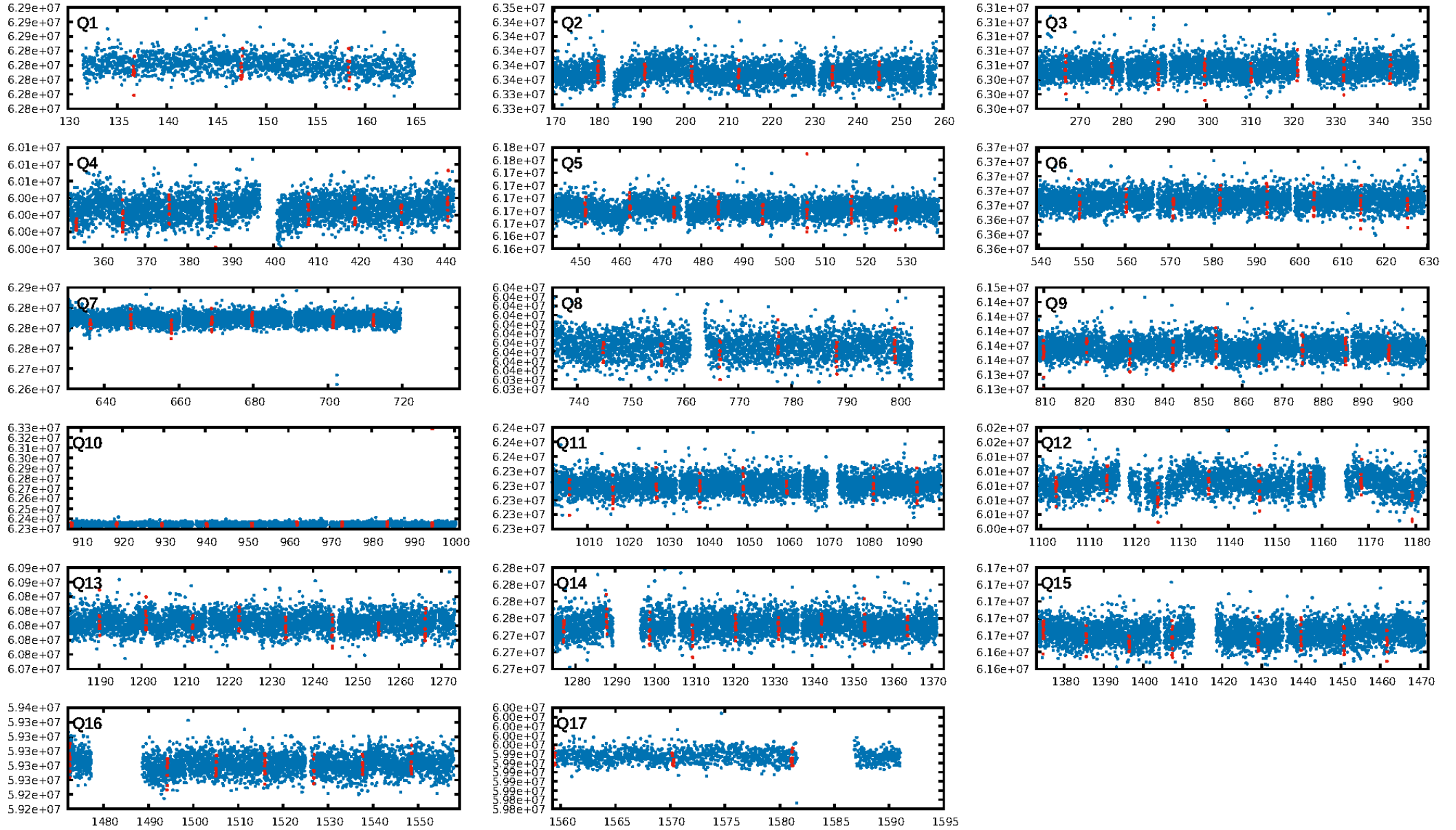
DV Fit Results:

Period = 10.86062 [0.00004] d
Epoch = 136.6585 [0.0027] BKJD
Rp/R* = 0.0142 [0.0056]
a/R* = 20.62 [45.95]
b = 0.83 [0.82]
Seff = 356.97 [160.60]
Teq = 1108 [125] K
Rp = 2.32 [1.13] Re
a = 0.0988 [0.0266] AU
Ag = 17.33 [17.79] [0.92 σ]
Teffp = 3497 [823] K [2.87 σ]

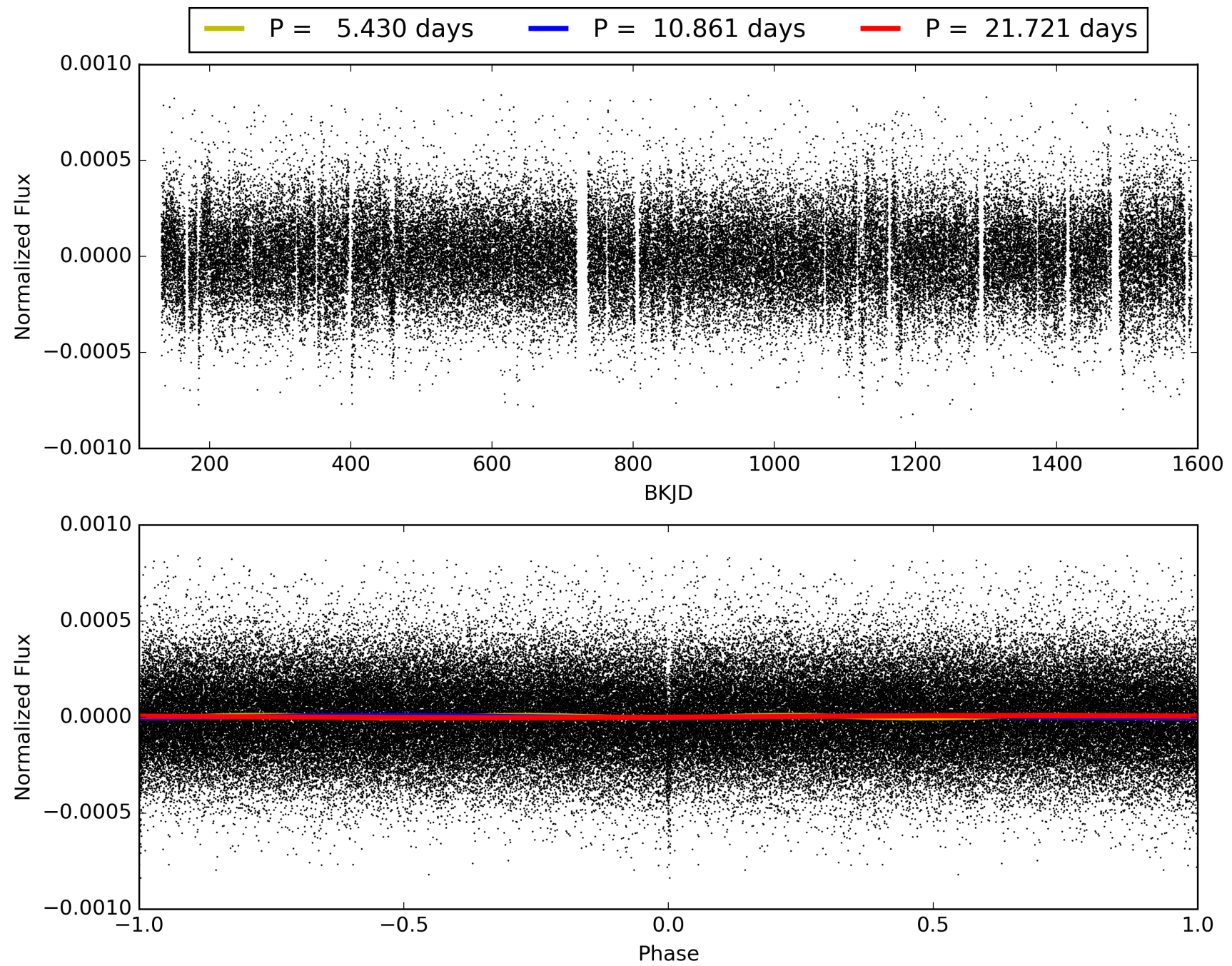
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.64e-72
RollingBand-fgt: 0.99 [115/116]
GhostDiagnostic-chr: 1.798
Centroid-sig: 0.2%
Centroid-so: 0.826 arcsec [1.31 σ]
OotOffset-rm: 0.496 arcsec [2.48 σ]
KicOffset-rm: 0.516 arcsec [2.36 σ]
OotOffset-st: 3/4/3/5 [15]
KicOffset-st: 3/4/3/5 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008494542-01, PDC Light Curves

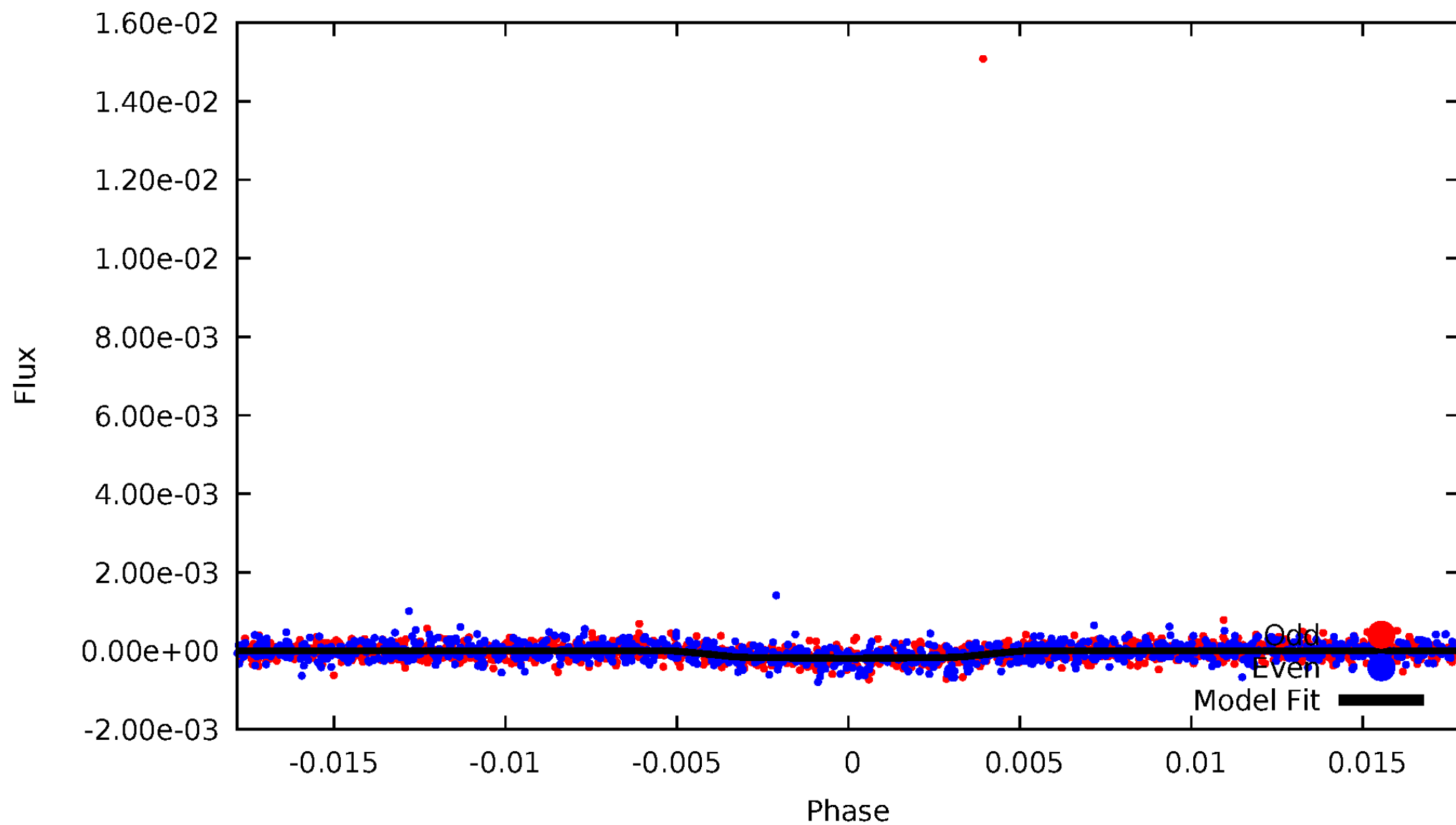


TCE 008494542-01



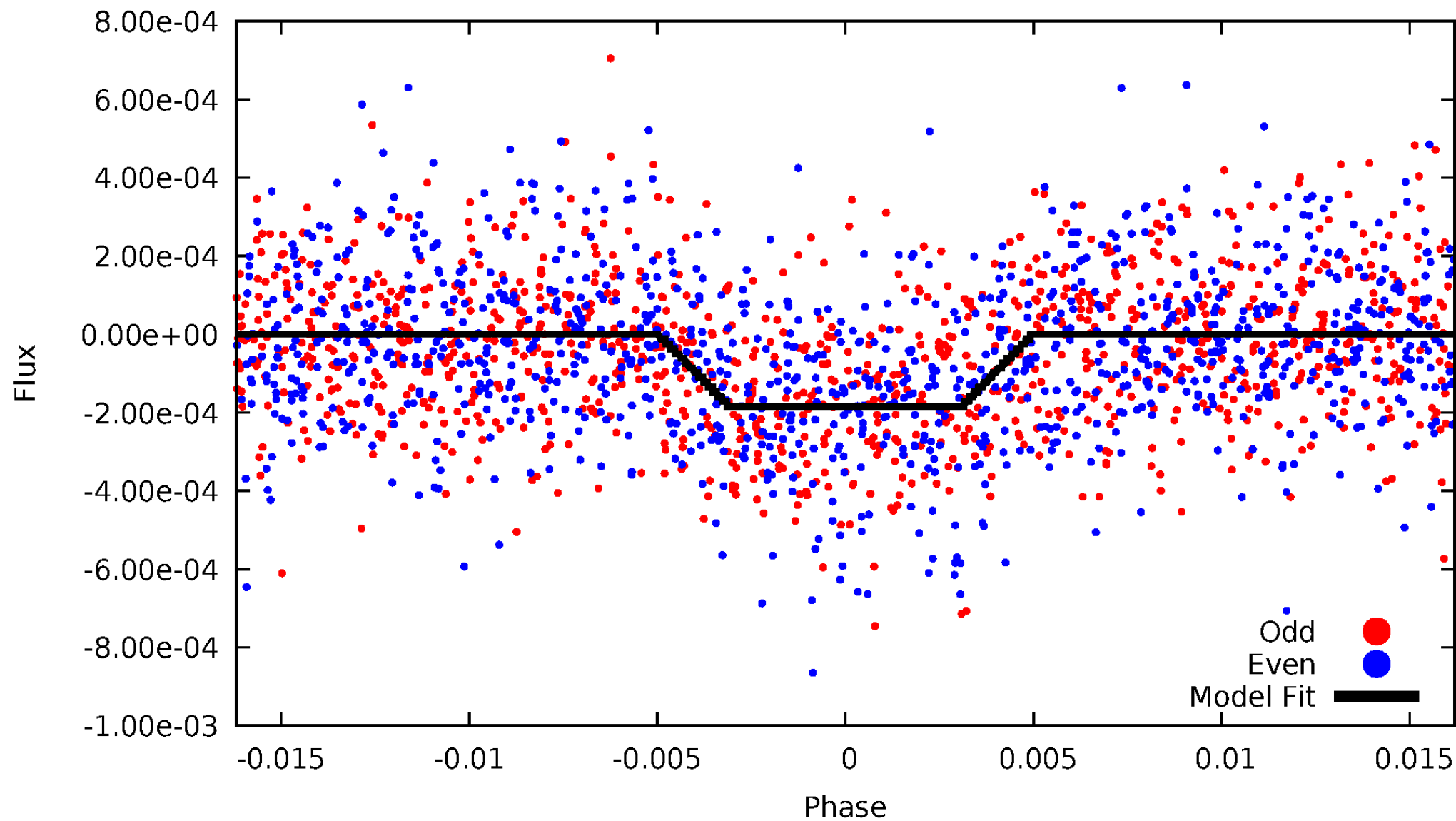
DV Odd/Even

TCE 008494542-01

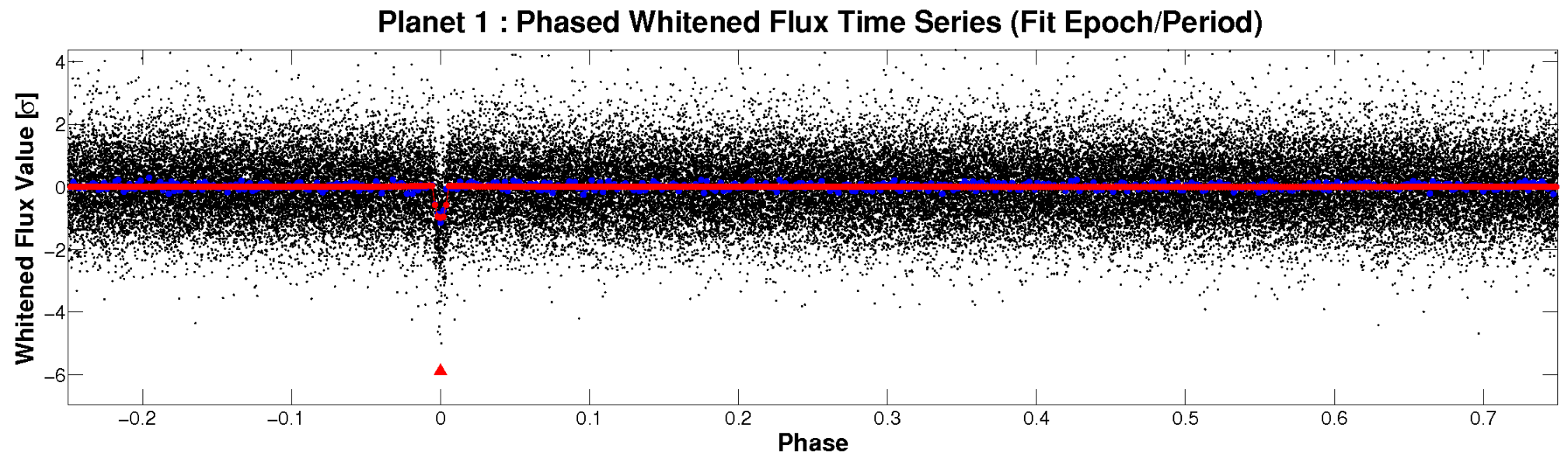
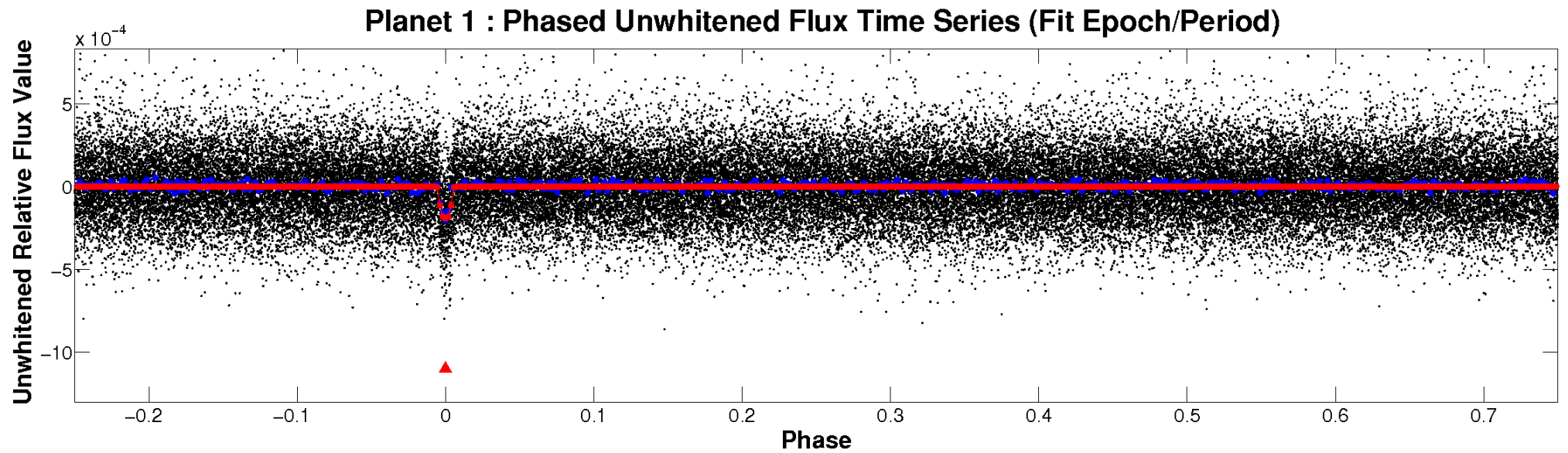


ALT Odd/Even

TCE 008494542-01

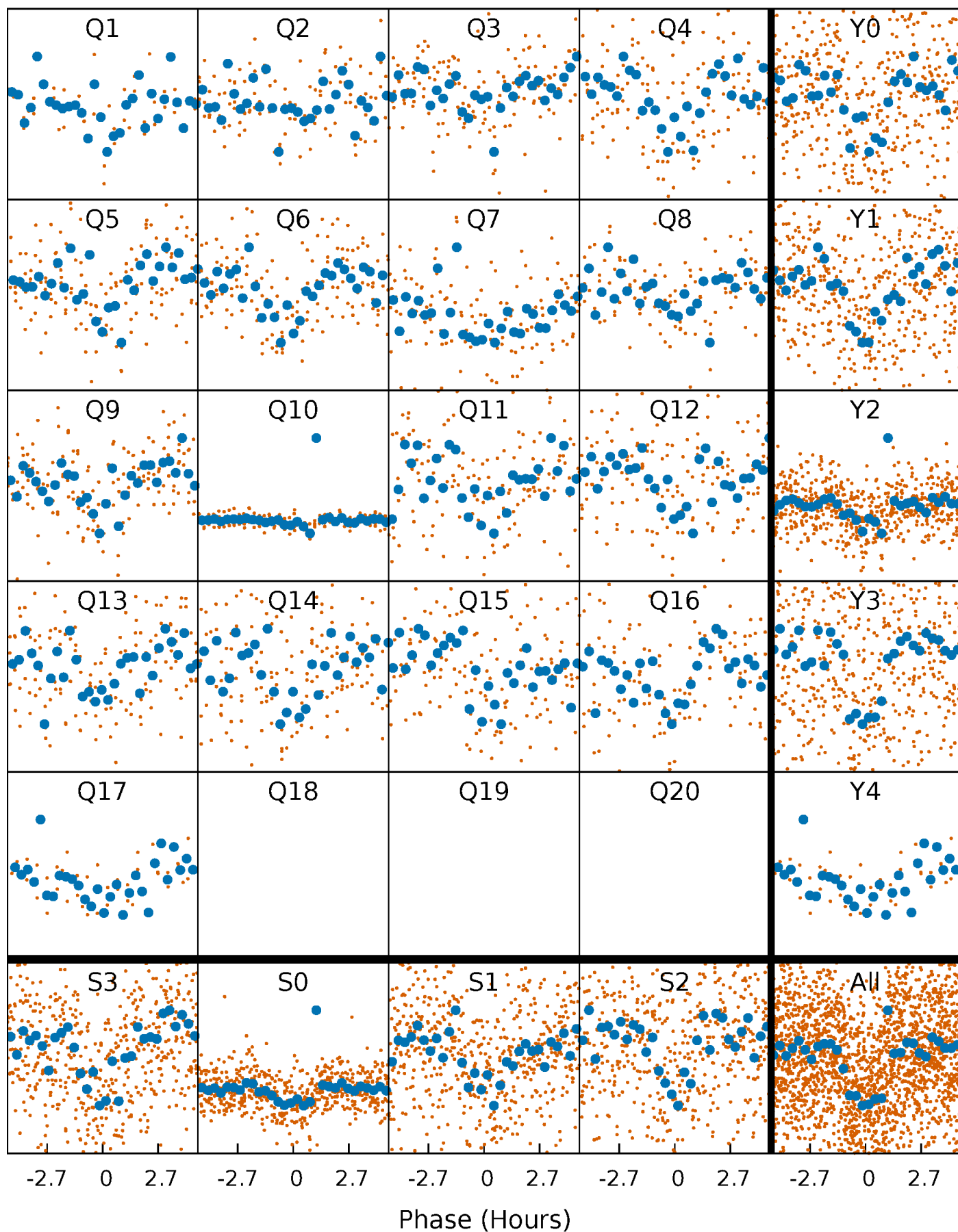


Non-Whitened Vs. Whitened Light Curve



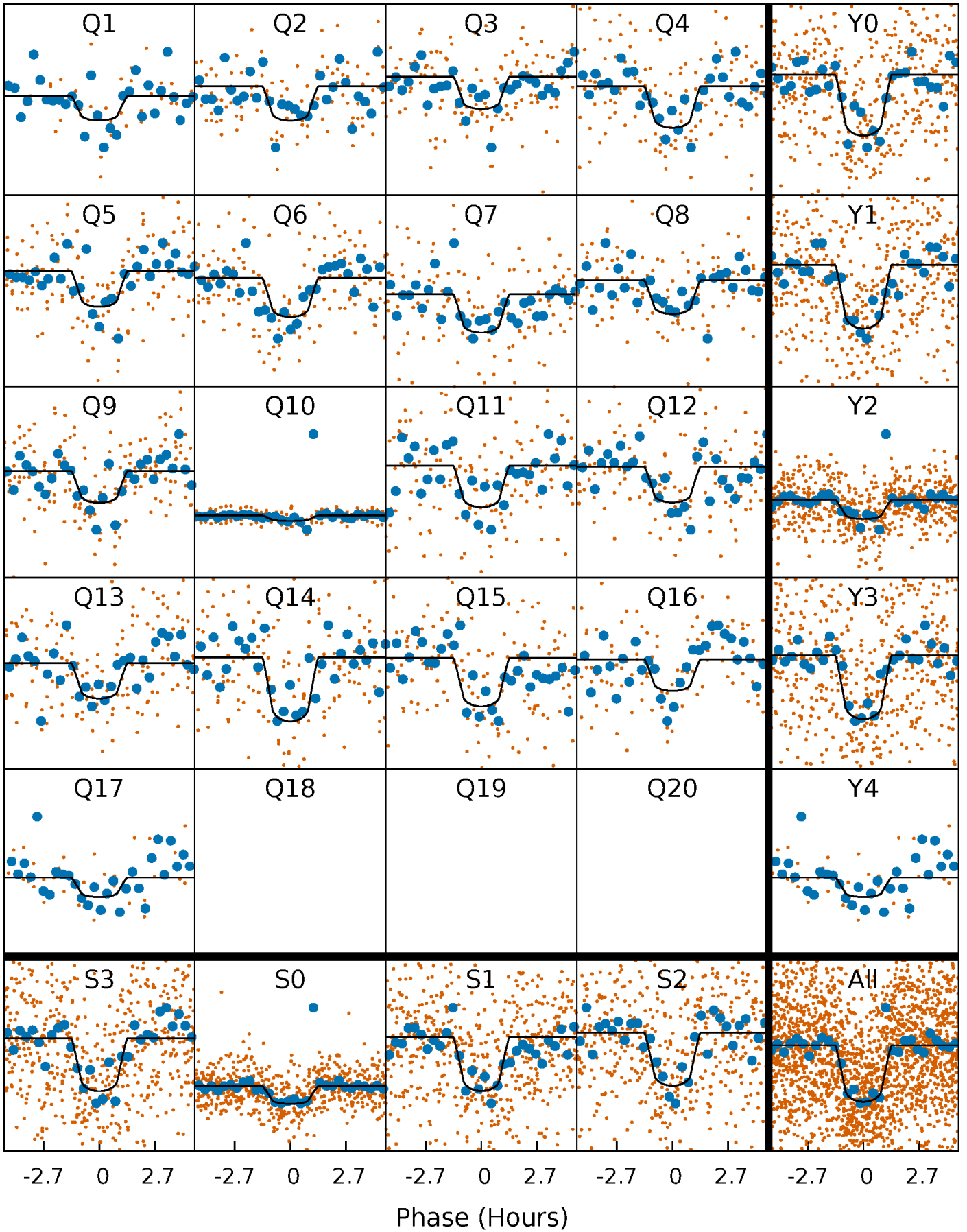
PDC Quarter-Phased Transit Curves

TCE 008494542-01 P= 10.860622 Days $T_0=136.658536$ (BKJD)



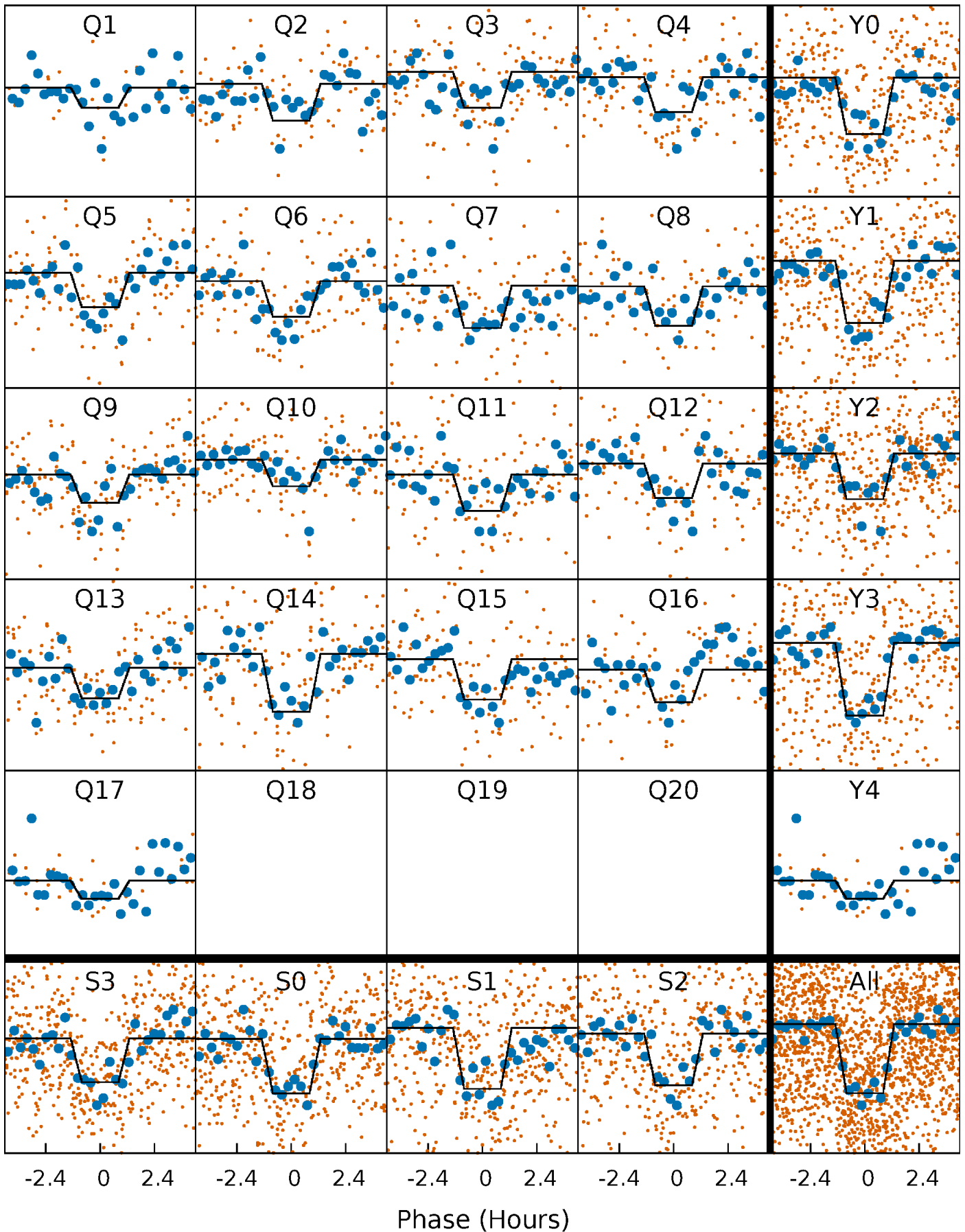
DV Quarter-Phased Transit Curves

TCE 008494542-01 P= 10.860622 Days $T_0=136.658536$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

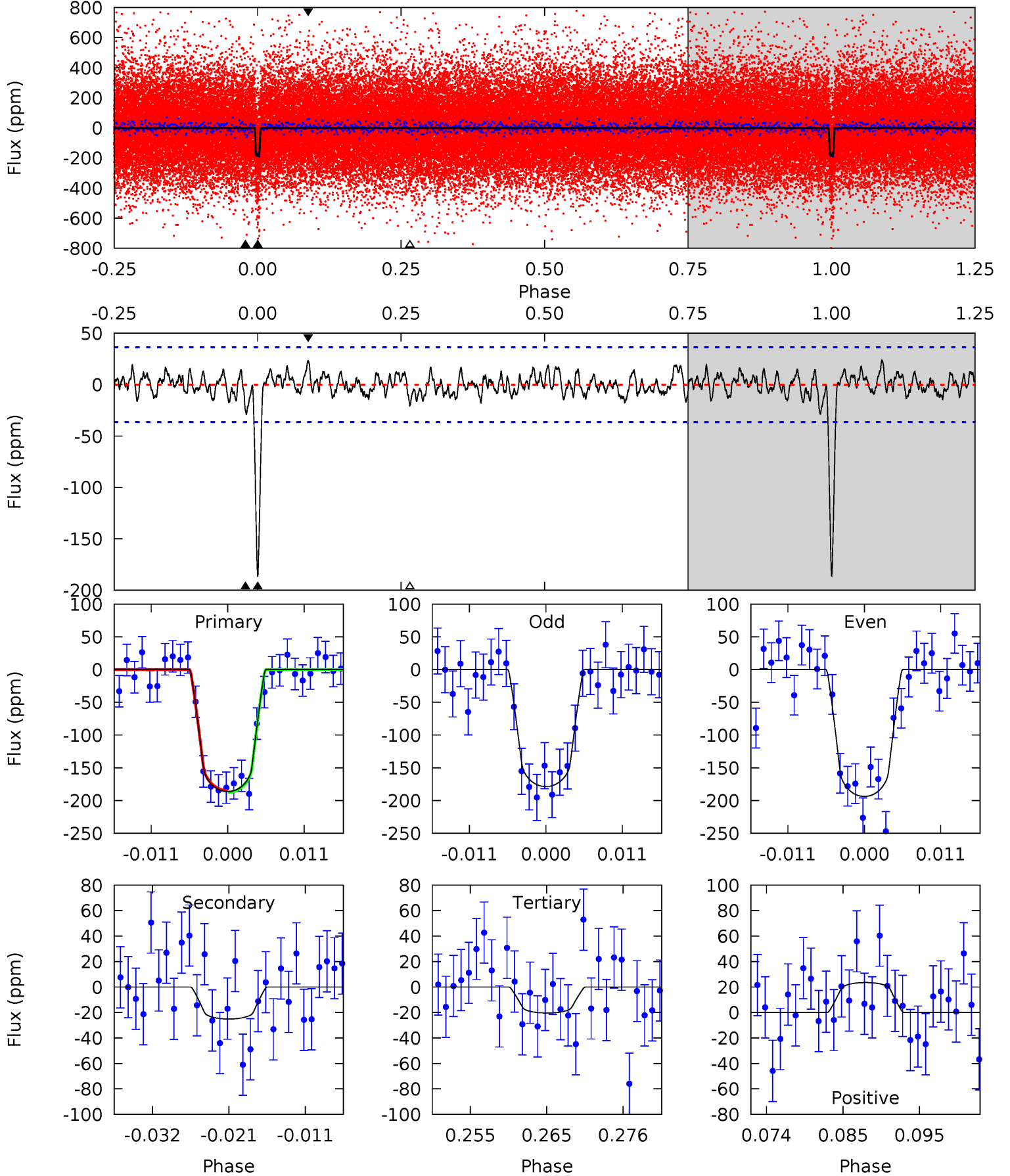
TCE 008494542-01 P= 10.860672 Days $T_0=136.655276$ (BKJD)



DV Model-Shift Uniqueness Test

008494542-01, $P = 10.860622$ Days, $E = 125.797914$ Days

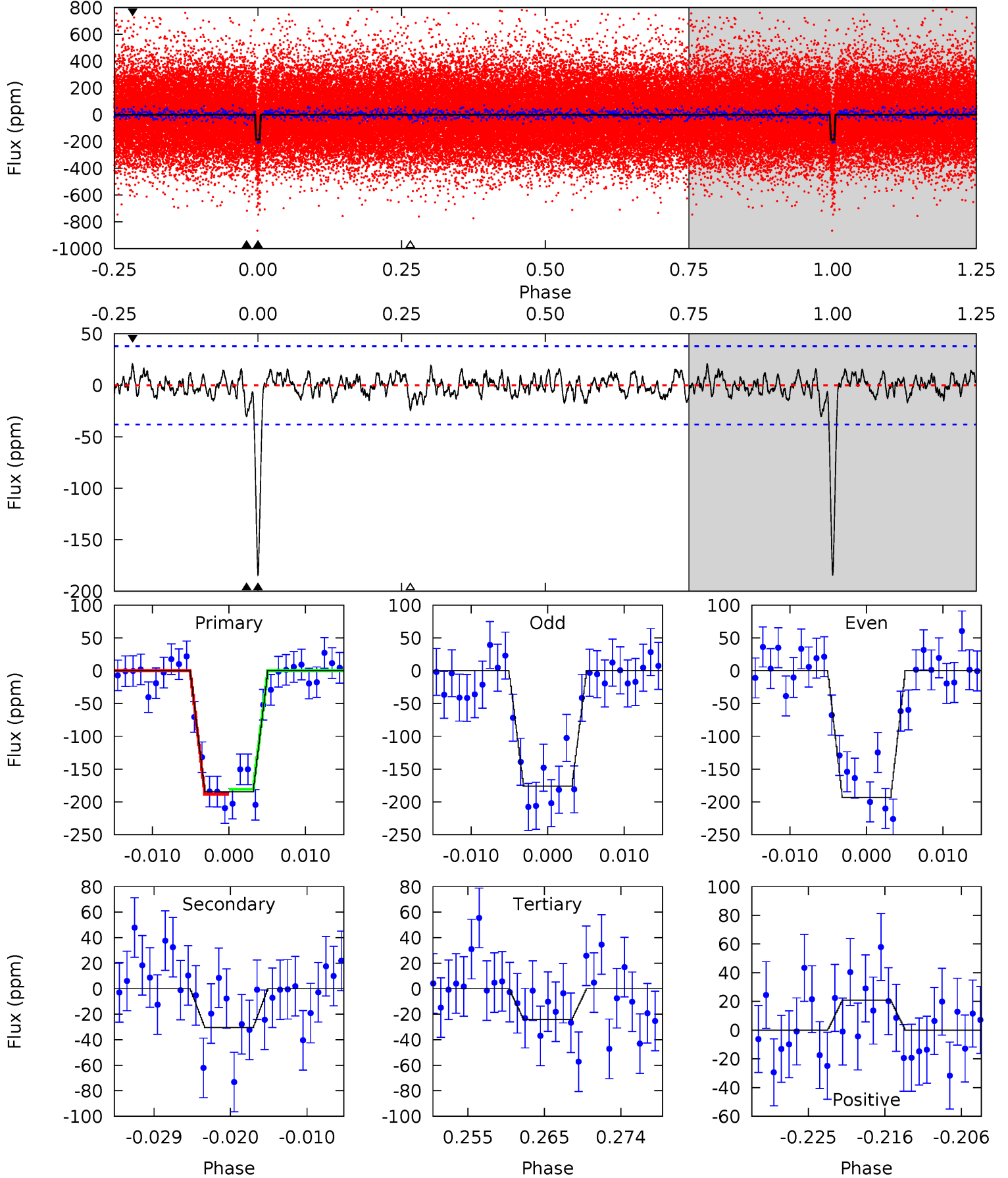
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.6	3.46	2.81	3.24	5.01	2.56	1.12	22.8	22.4	0.65	0.22	1.04	0.94	0.11	0.19



Alt Model-Shift Uniqueness Test

008494542-01, P = 10.860672 Days, E = 125.794604 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.4	4.03	3.18	2.75	5.03	2.58	1.03	21.2	21.6	0.85	1.28	1.15	1.07	0.10	0.50



Stellar Parameters For KIC 008494542

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6455^{+175}_{-214}	$4.125^{+0.252}_{-0.168}$	$-0.360^{+0.250}_{-0.300}$	$1.496^{+0.421}_{-0.421}$	$1.087^{+0.174}_{-0.139}$	$0.457^{+0.681}_{-0.208}$
	+3%/-3%	+6%/-4%	+69%/-83%	+28%/-28%	+16%/-13%	+149%/-46%
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 008494542-01 / KOI 2204.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-25 ± 7	$2.18^{+1.03}_{-0.89}$	1535^{+121}_{-118}	4157^{+989}_{-544}	28^{+58}_{-15}
Alt.	-30 ± 8	$2.22^{+1.02}_{-1.00}$	1542^{+118}_{-134}	4289^{+1041}_{-555}	33^{+73}_{-19}

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 $A_{obs} \gg 1.0$

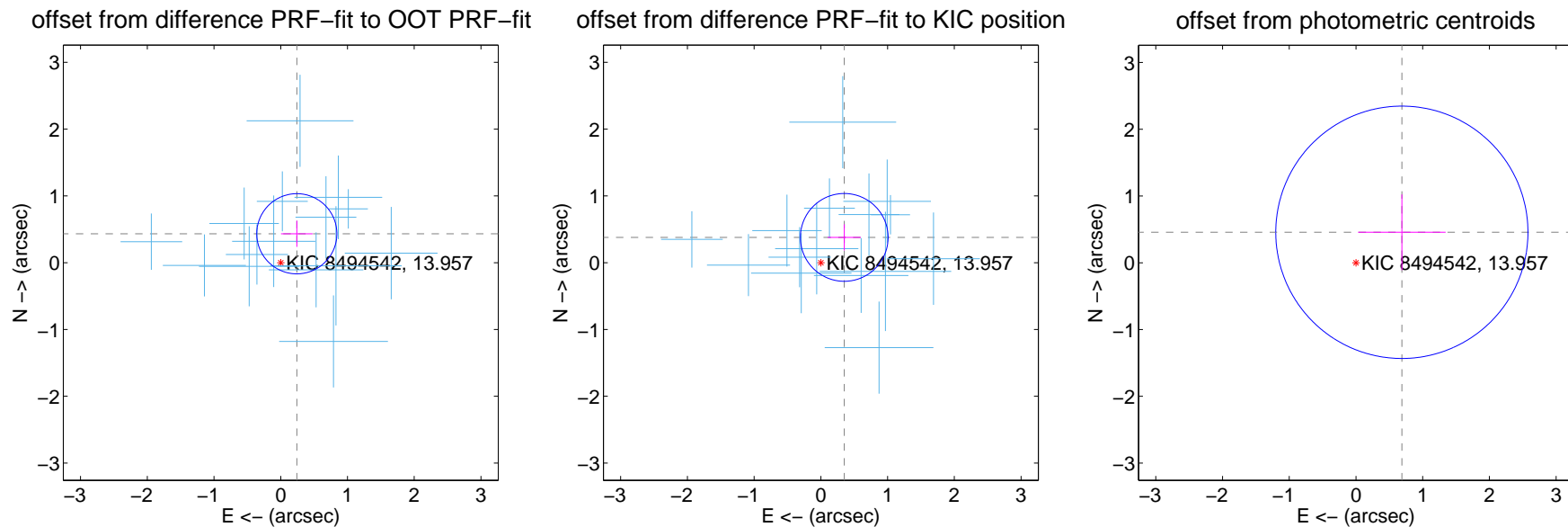
DV Centroid Data

Supplemental centroid analysis for 008494542-01. Kepler magnitude: 13.96. Transit SNR 19.85

There are 15 quarters with good PRF difference image offsets

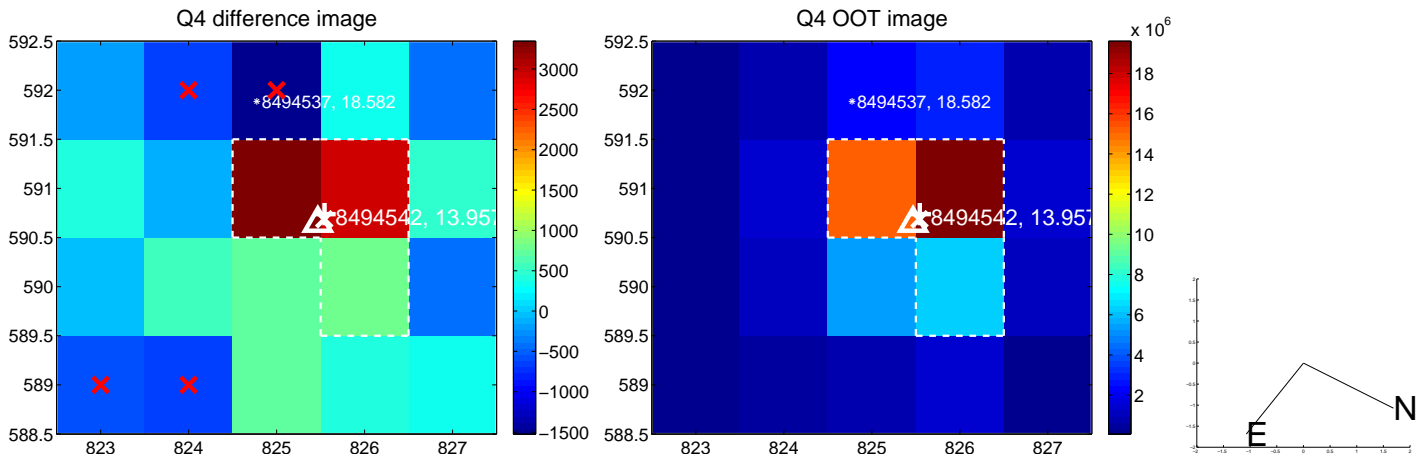
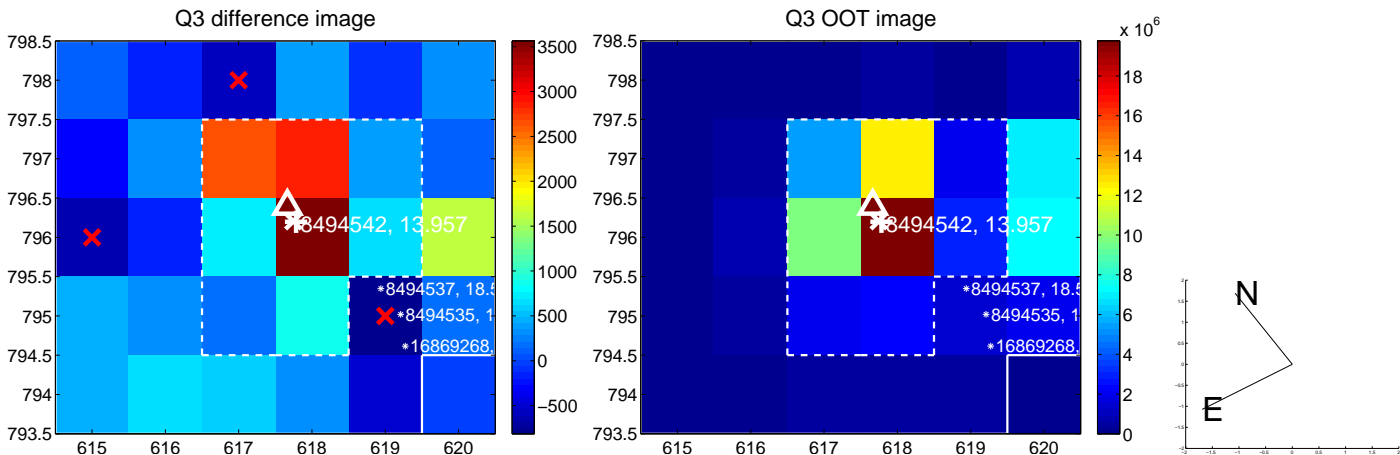
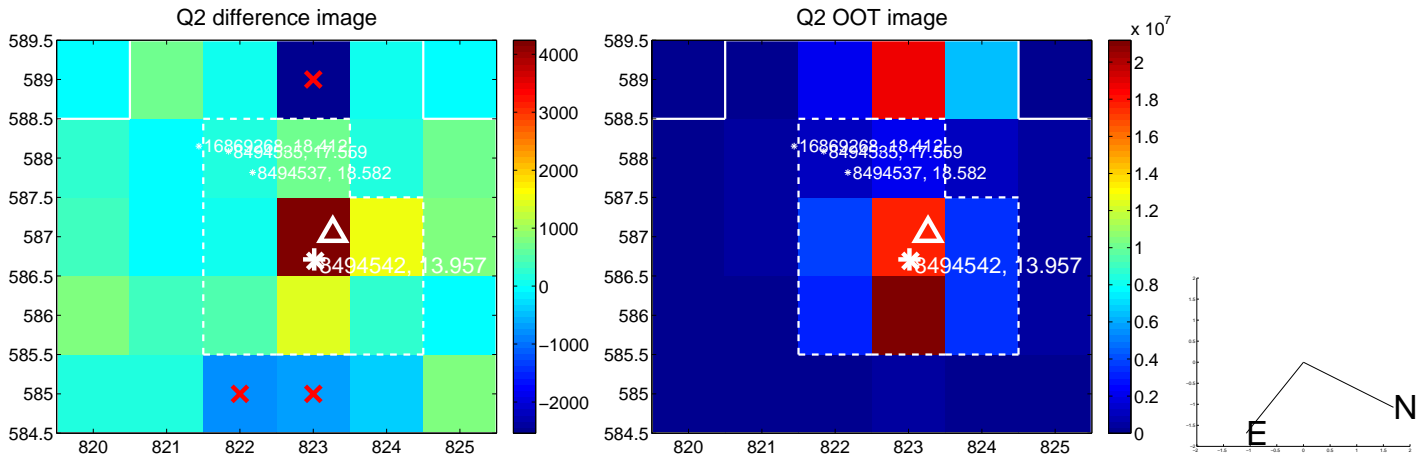
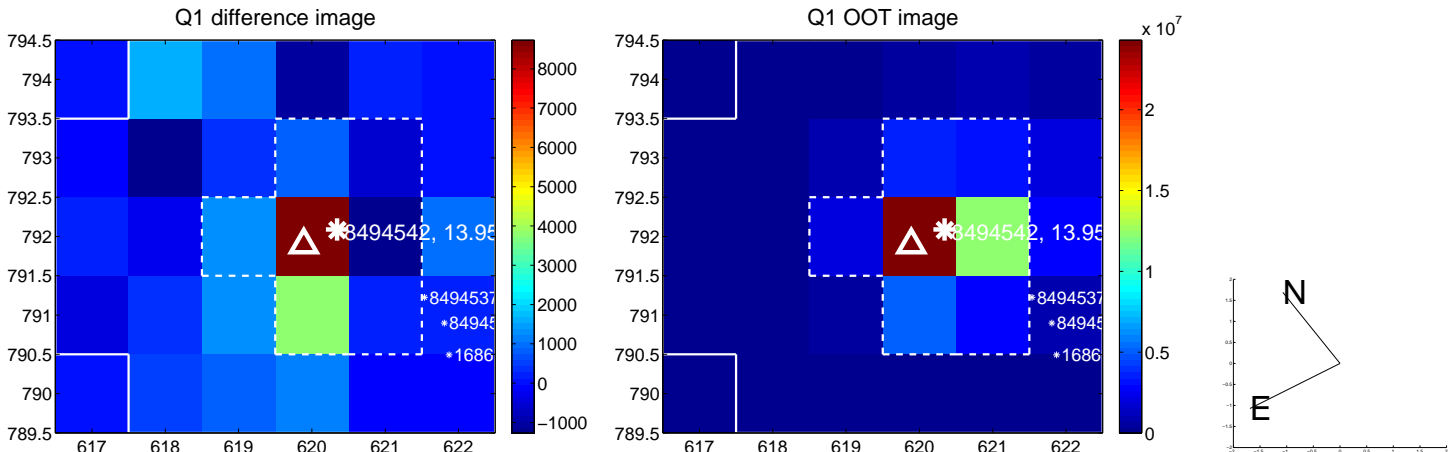
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.496 ± 0.200	2.48	-0.241 ± 0.237	0.433 ± 0.196
PRF-fit source offset from KIC position	0.516 ± 0.219	2.36	-0.350 ± 0.247	0.379 ± 0.196
photometric centroid source offset	0.83 ± 0.63	1.31	-0.69 ± 0.66	0.46 ± 0.57

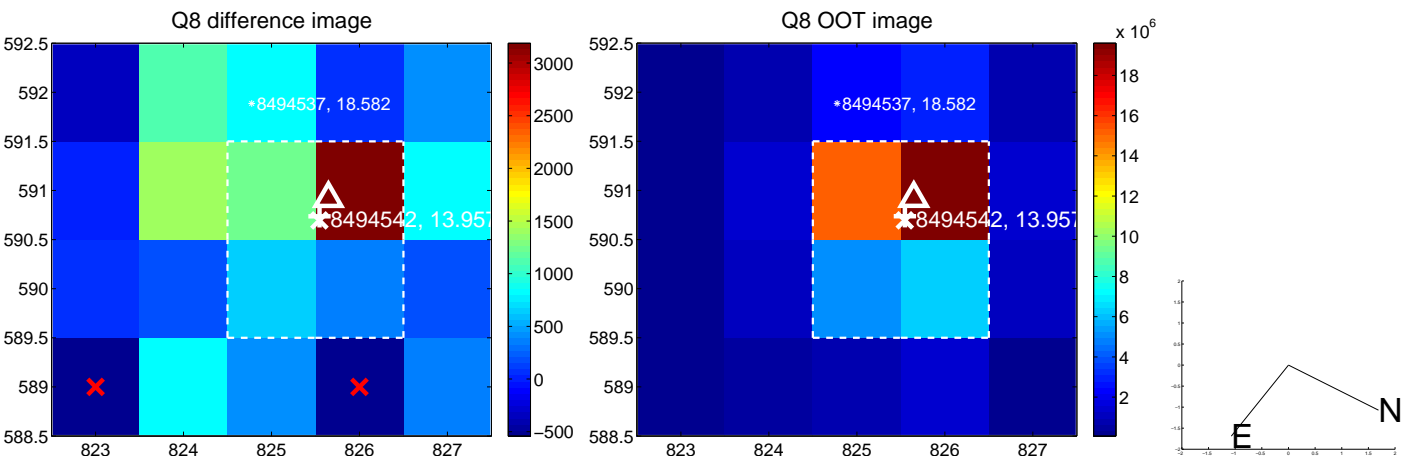
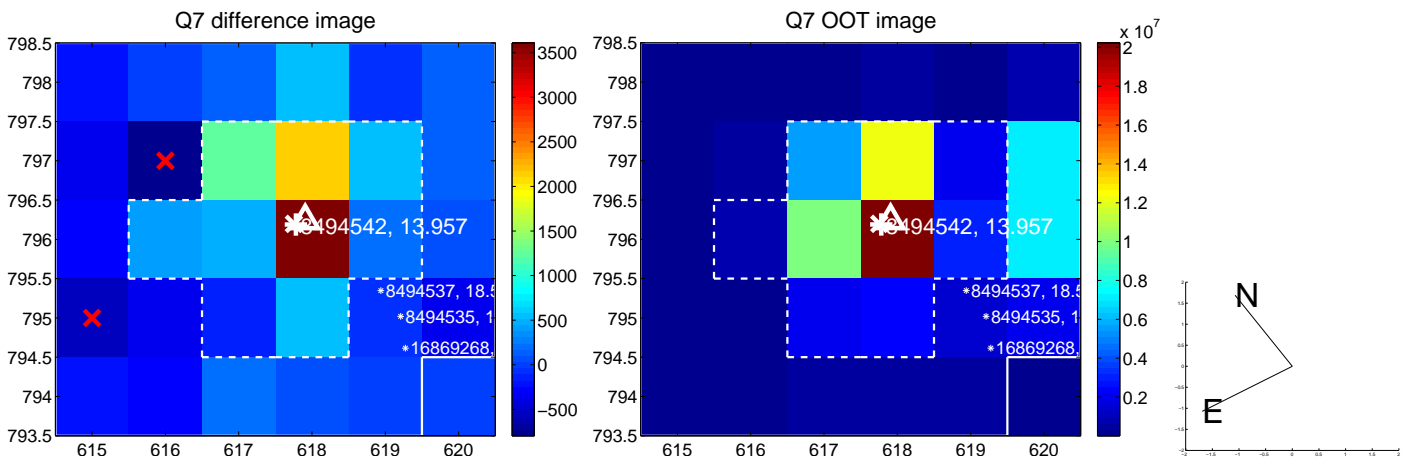
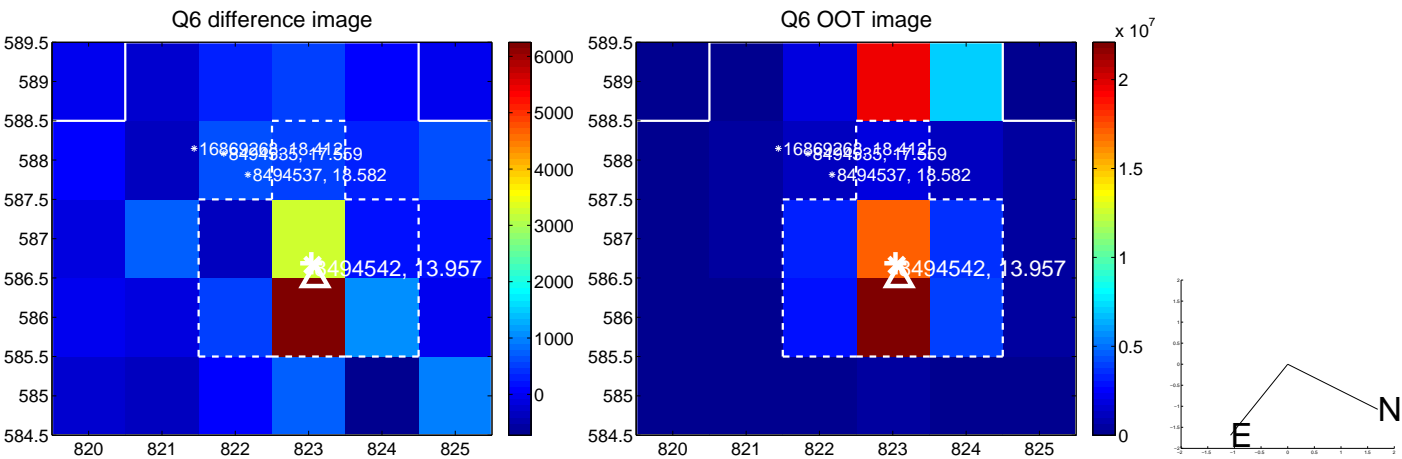
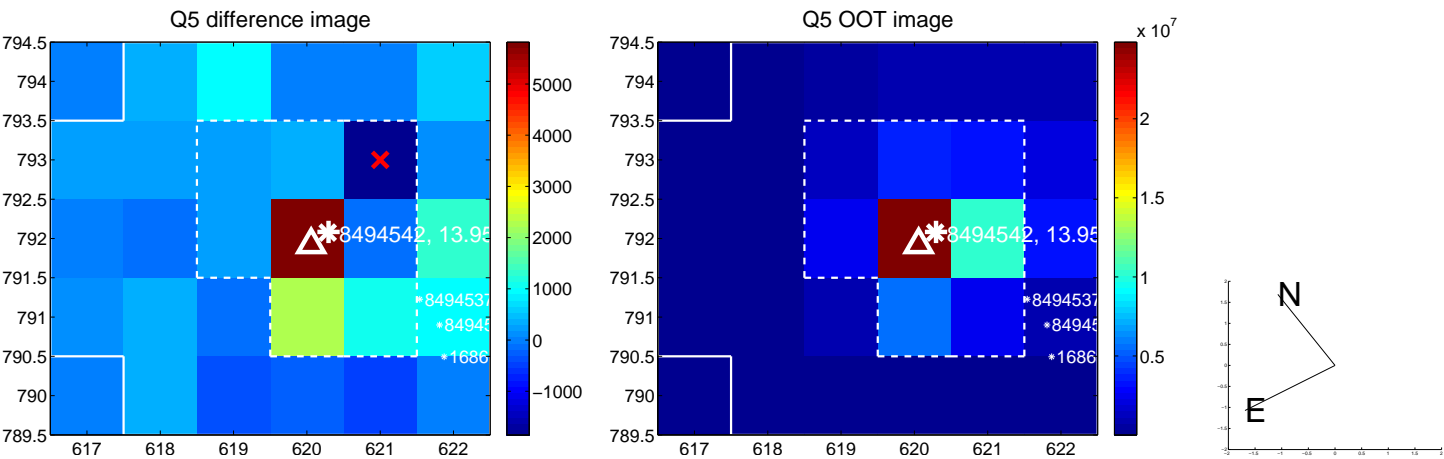


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

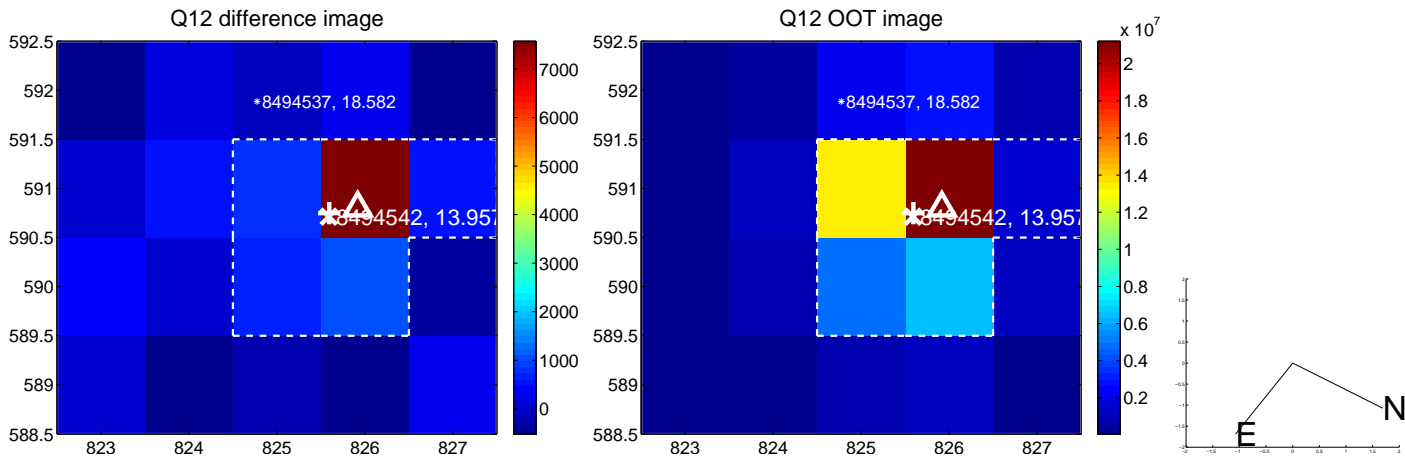
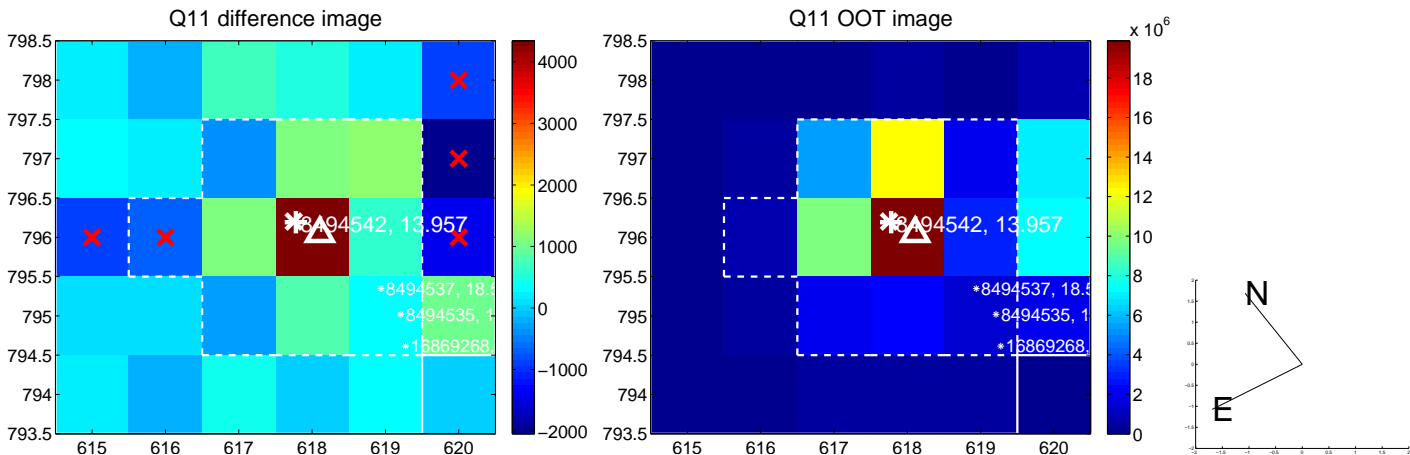
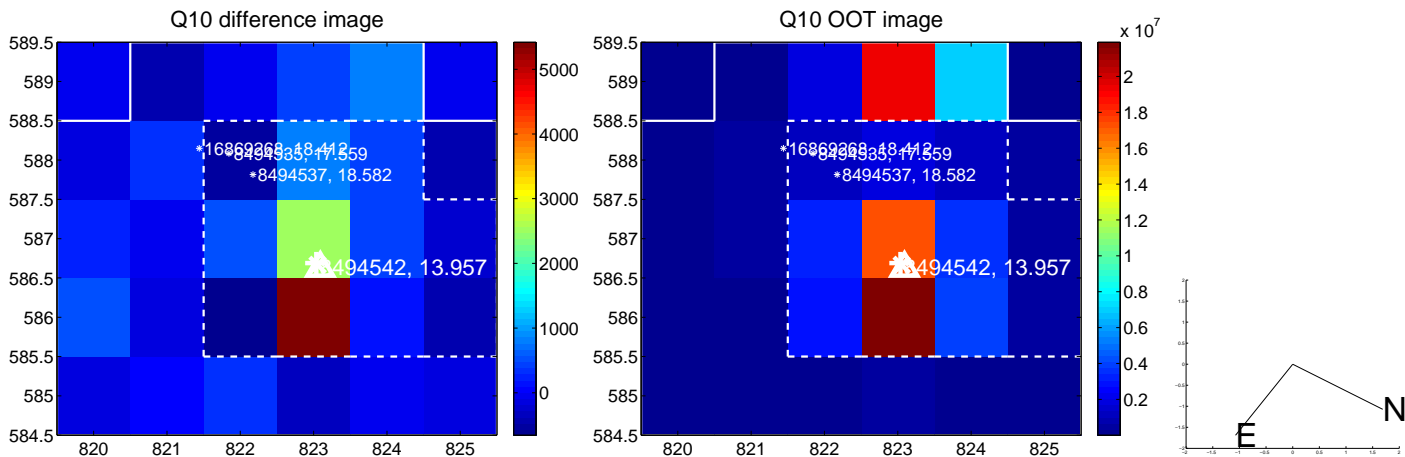
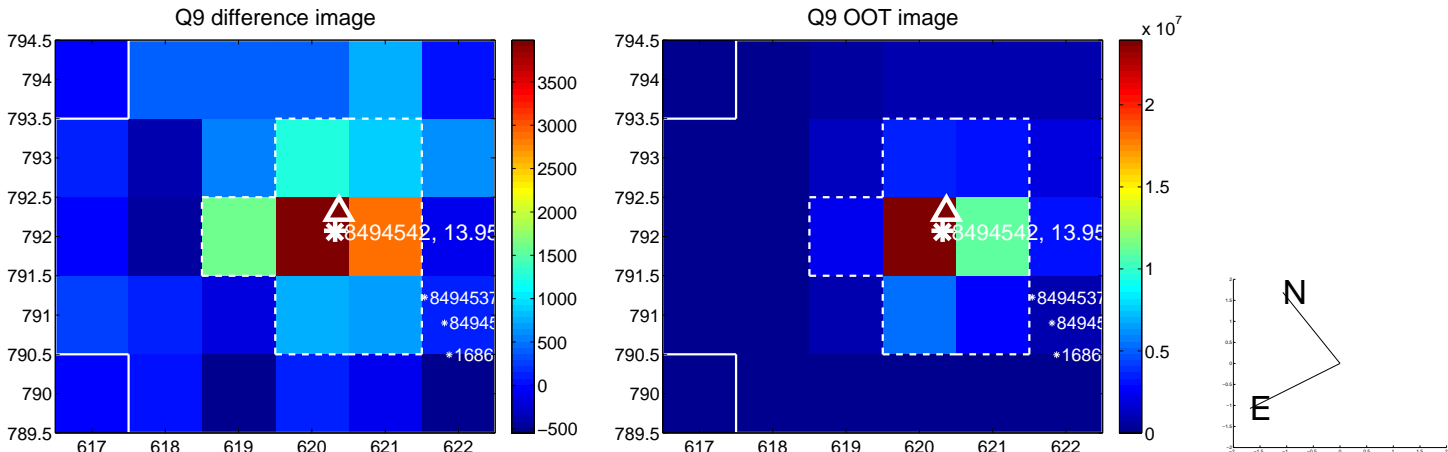
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



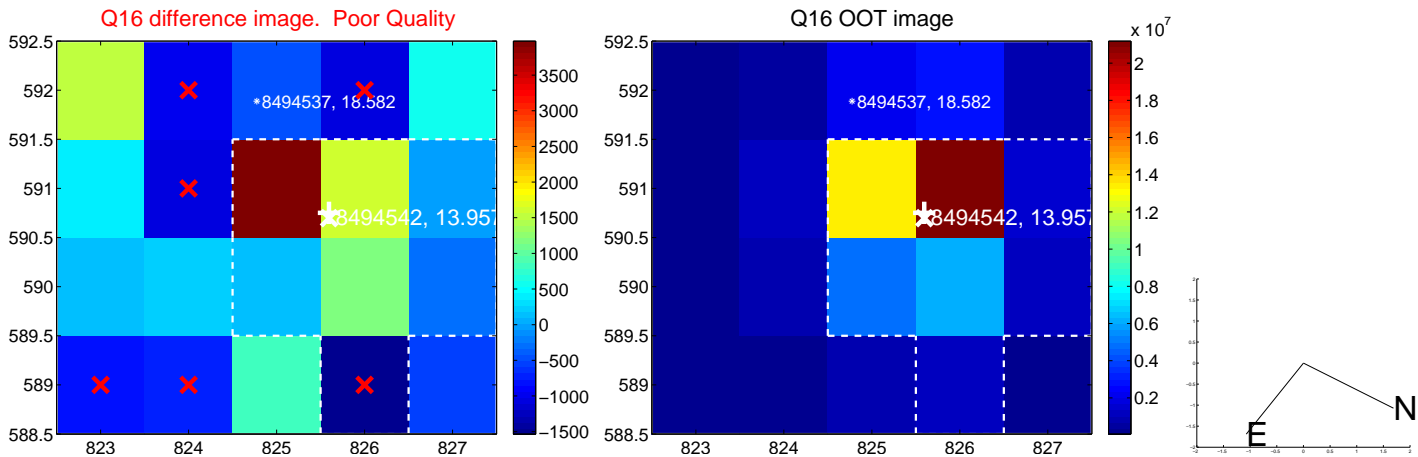
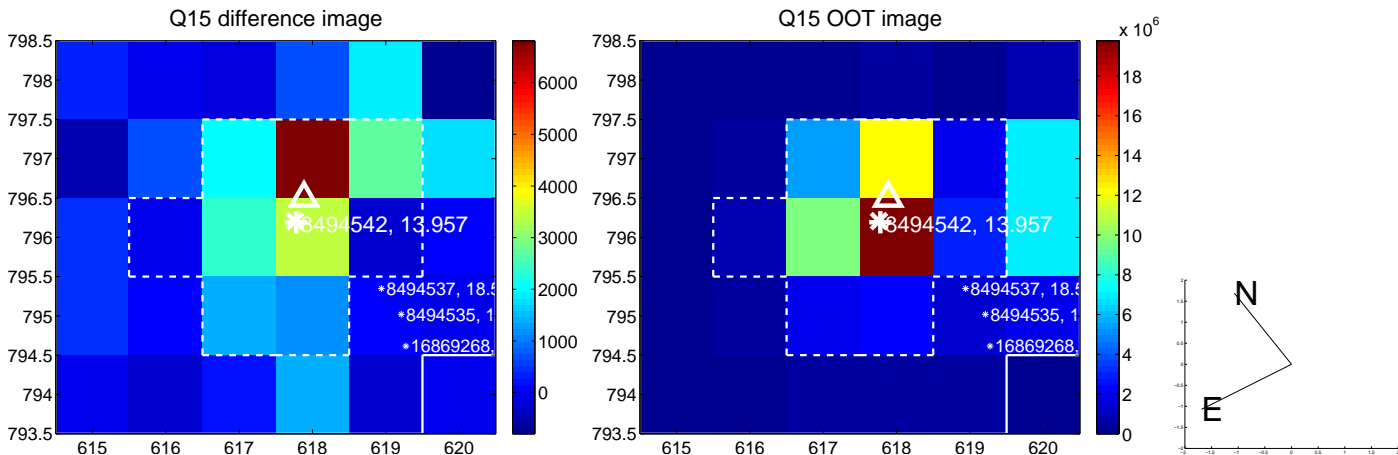
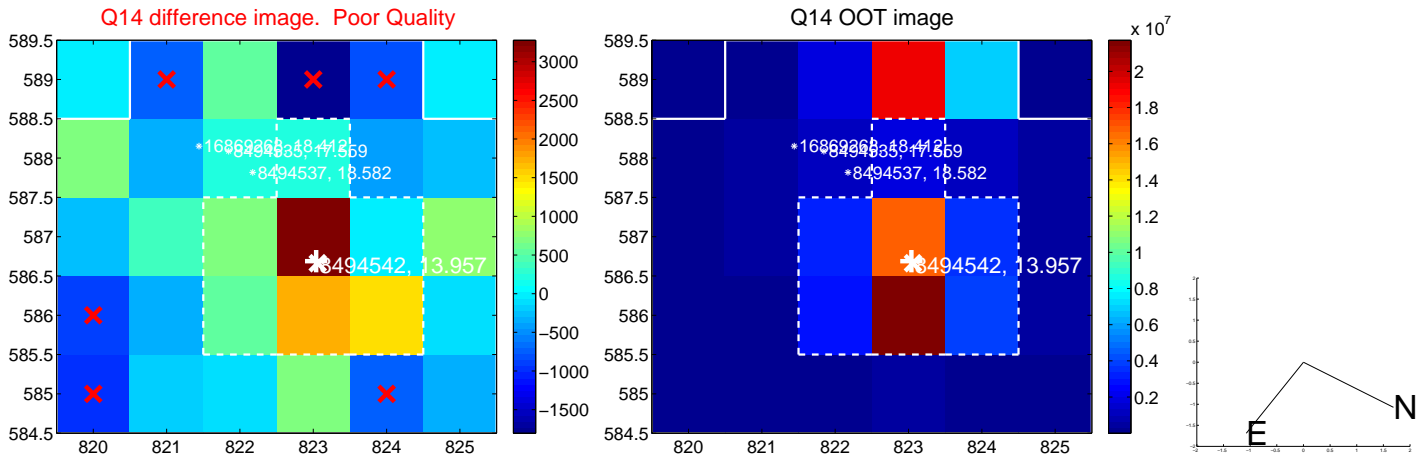
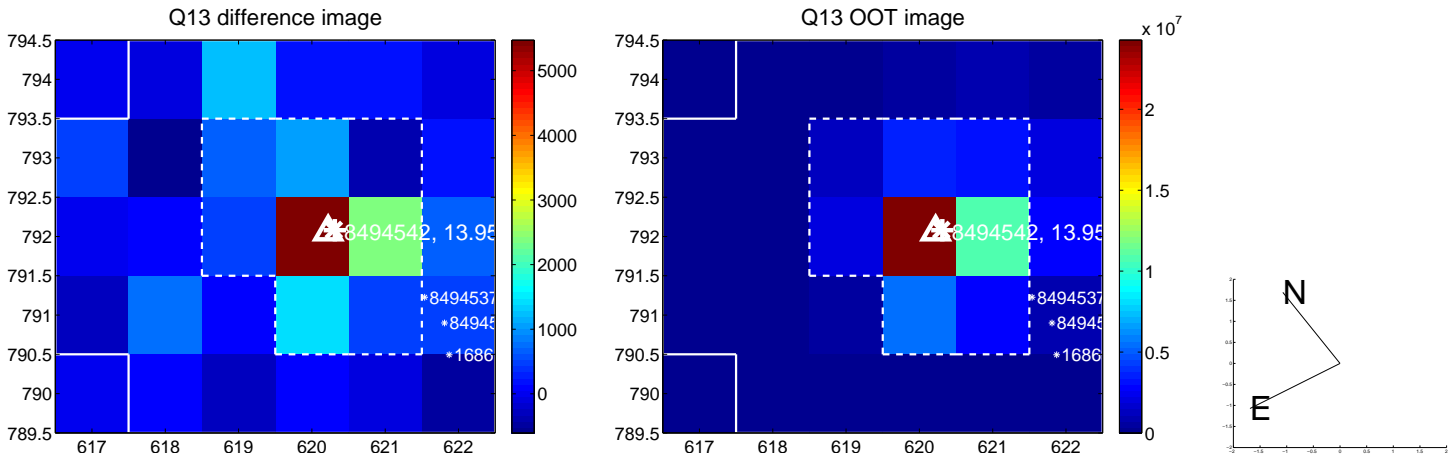
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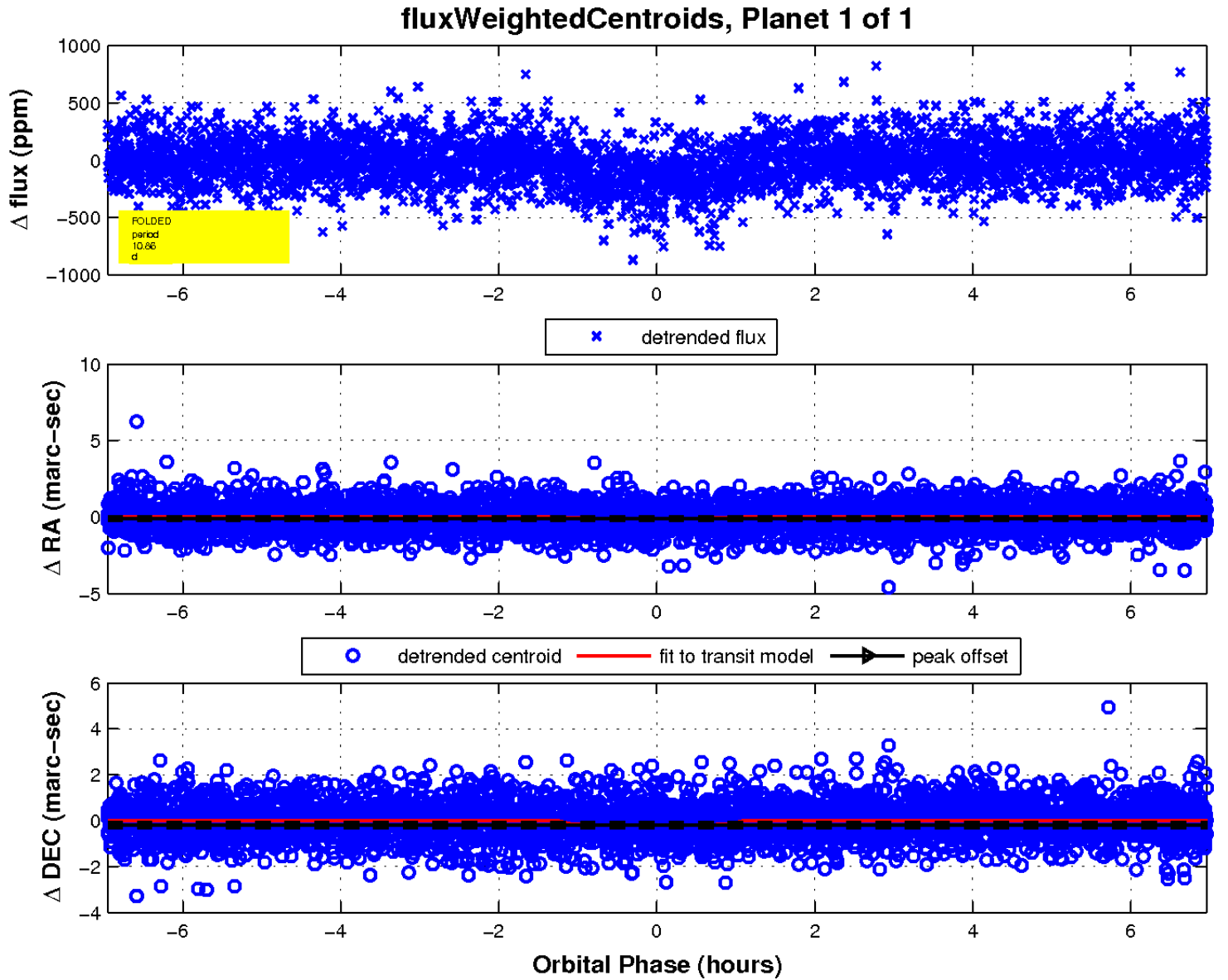
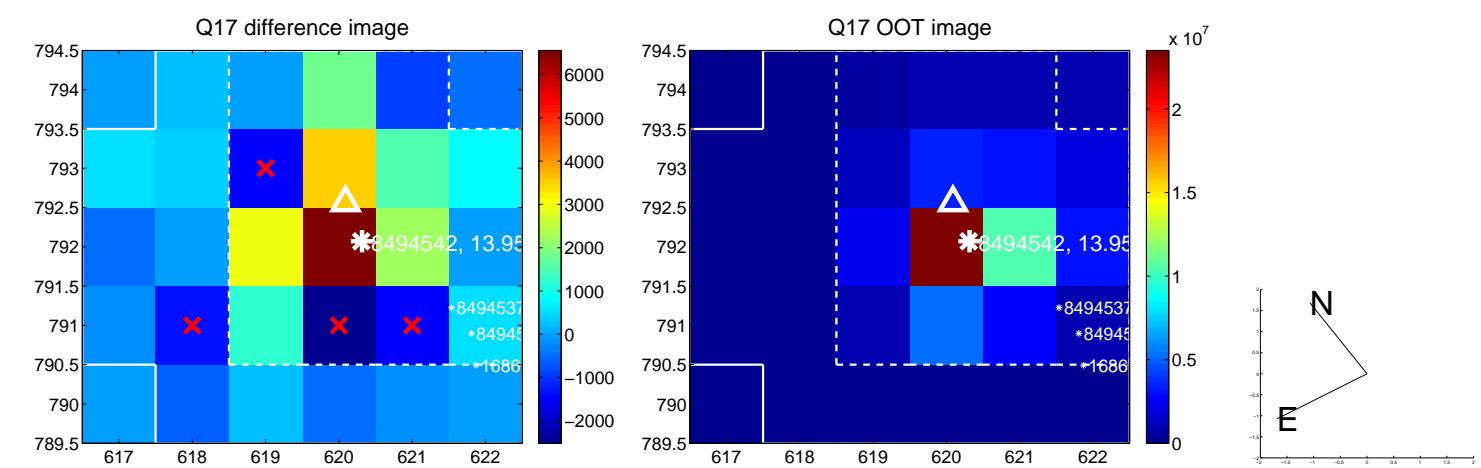
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UKIRT Image

Declination

