

KIC 010384798

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})
010384798-01	OBS	1997.01	38.505336	158.303223	678.8	5.947	28.7	30.7	0.88	5974	2.46	19.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010384798-01	OBS	PC	1.00	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.

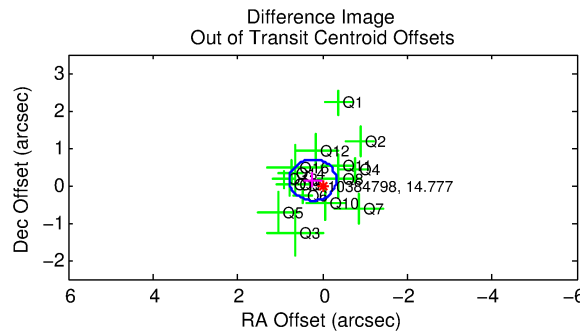
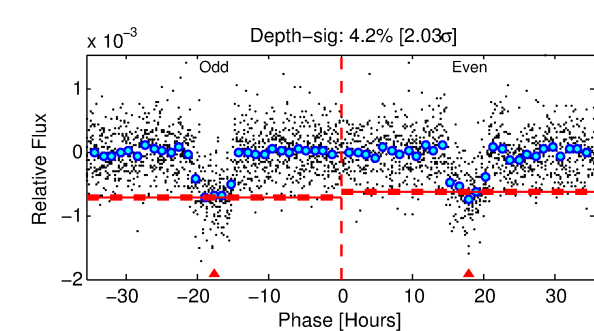
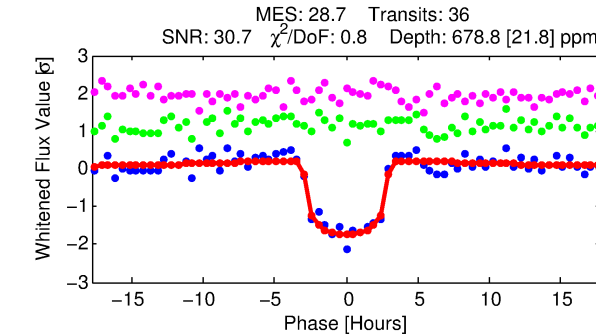
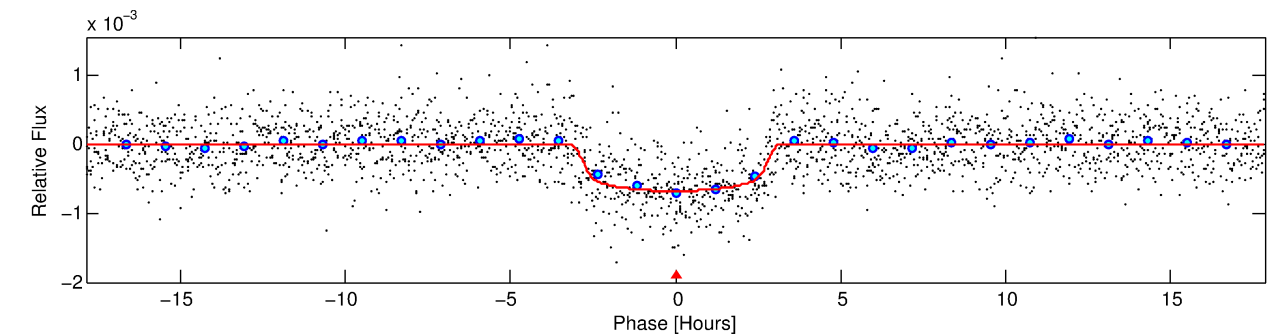
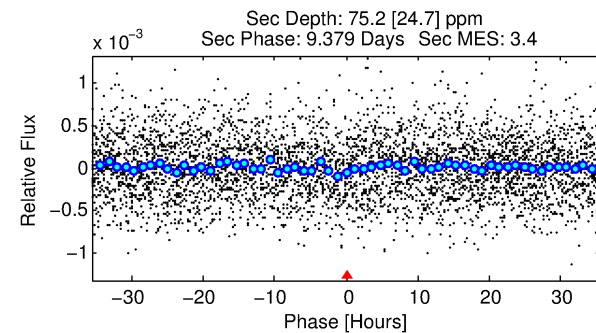
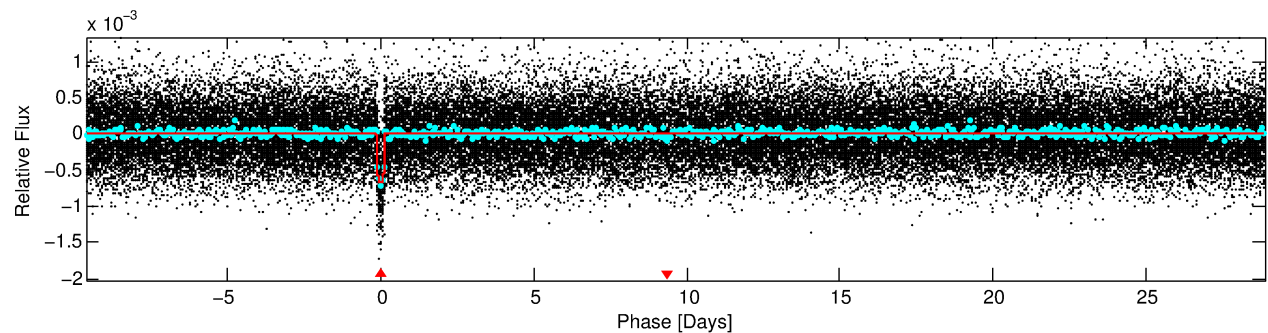
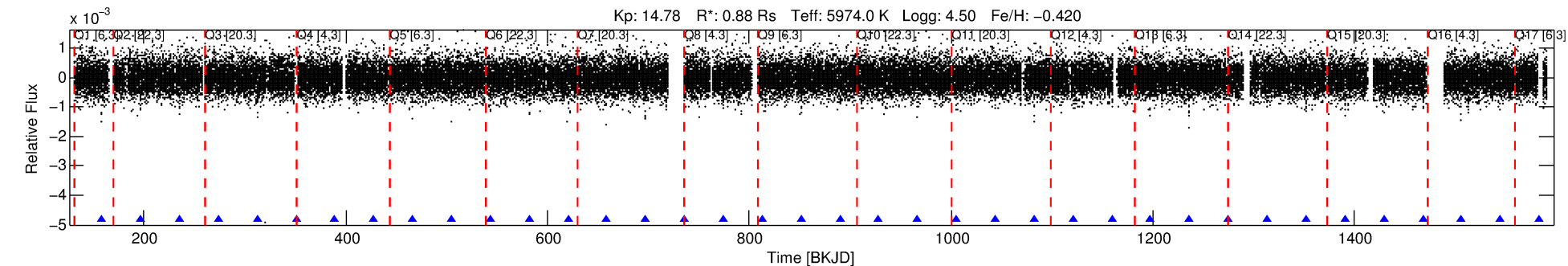
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010384798-01

No Significant Match Found

DV One-Page Summary

KIC: 10384798 Candidate: 1 of 1 Period: 38.505 d
KOI: K01997.01 Corr: 0.996



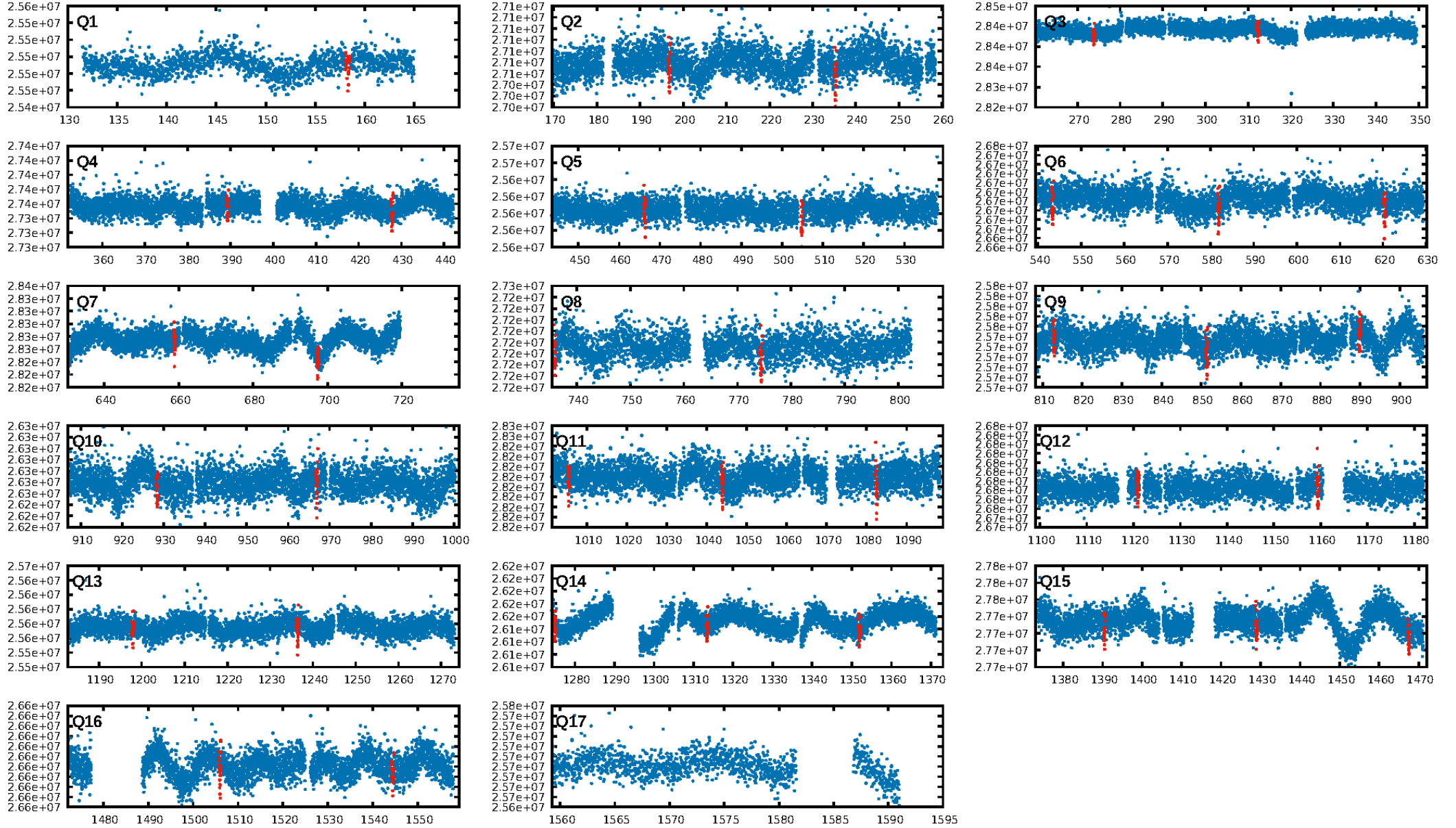
DV Fit Results:

Period = 38.50534 [0.00017] d
Epoch = 158.3032 [0.0038] BKJD
Rp/R* = 0.0256 [0.0046]
a/R* = 36.46 [32.46]
b = 0.71 [0.62]
Seff = 19.02 [6.82]
Teff = 533 [48] K
Rp = 2.46 [0.81] Re
a = 0.2158 [0.0504] AU
Ag = 317.64 [188.91] [1.68 σ]
Teffp = 3476 [433] K [6.76 σ]

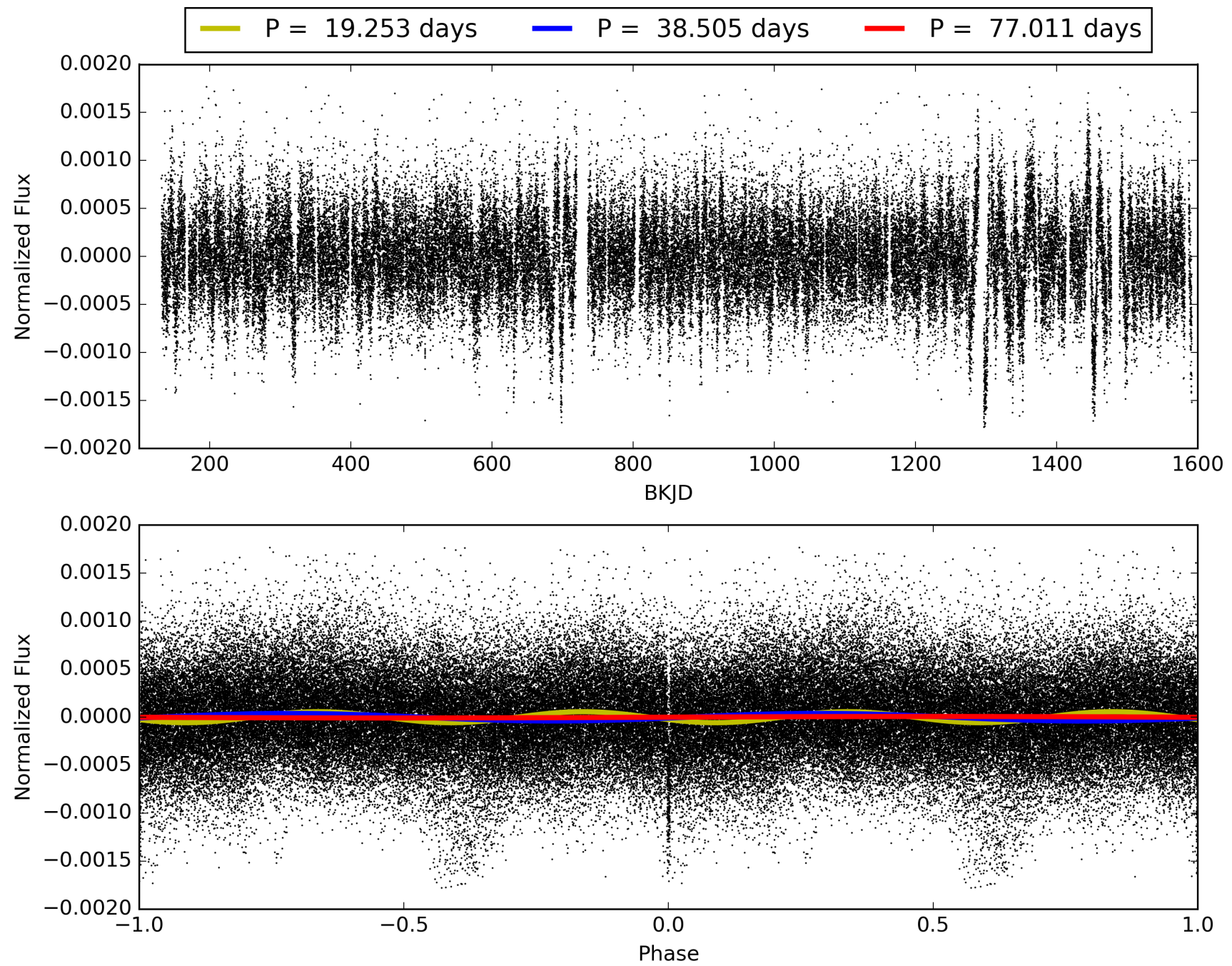
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 97.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.39e-168
RollingBand-fgt: 1.00 [35/35]
GhostDiagnostic-chr: 2.102
Centroid-sig: 0.0%
Centroid-so: 1.030 arcsec [2.11 σ]
OotOffset-rm: 0.274 arcsec [1.48 σ]
KicOffset-rm: 0.298 arcsec [1.65 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 010384798-01, PDC Light Curves

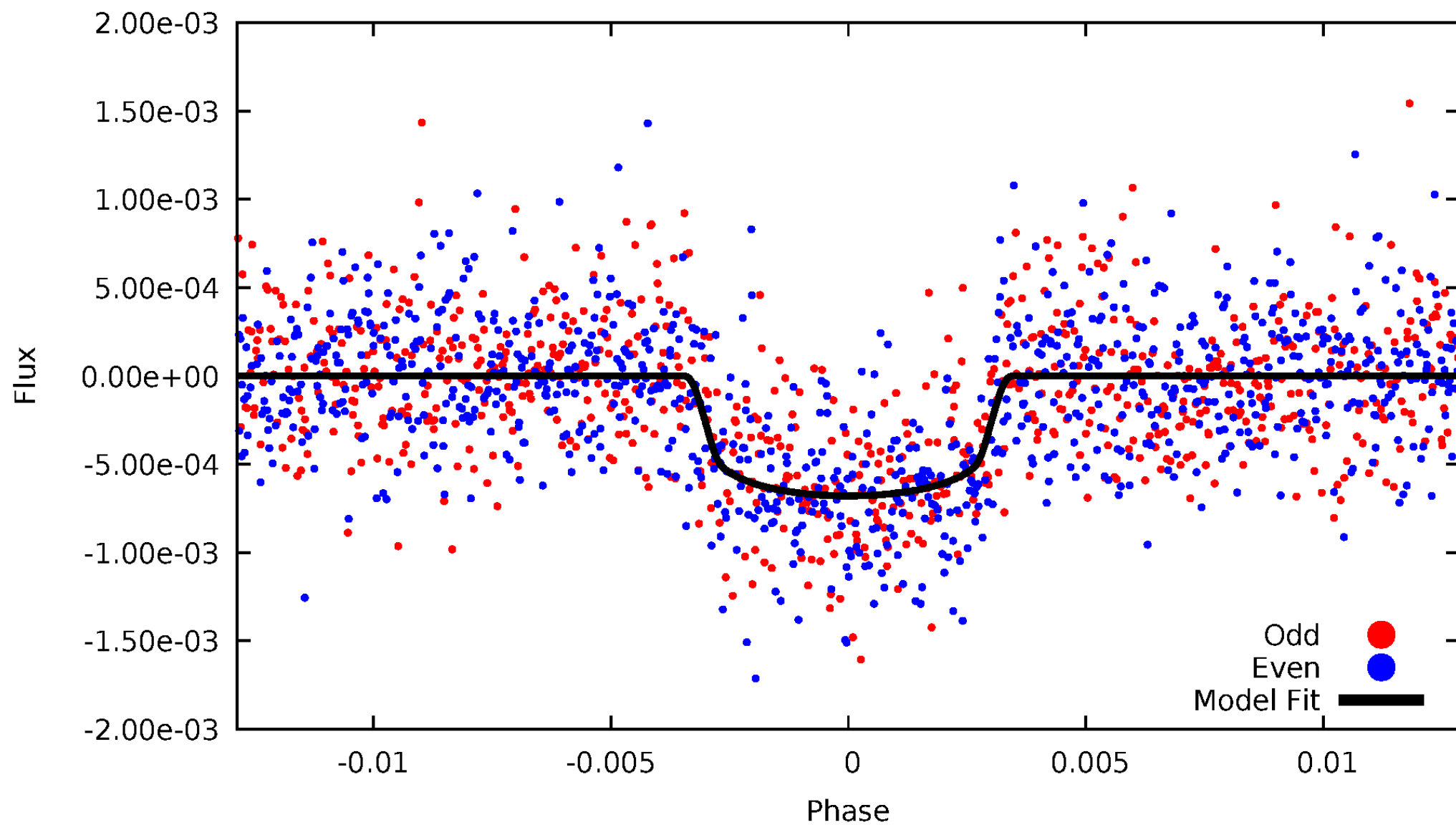


TCE 010384798-01



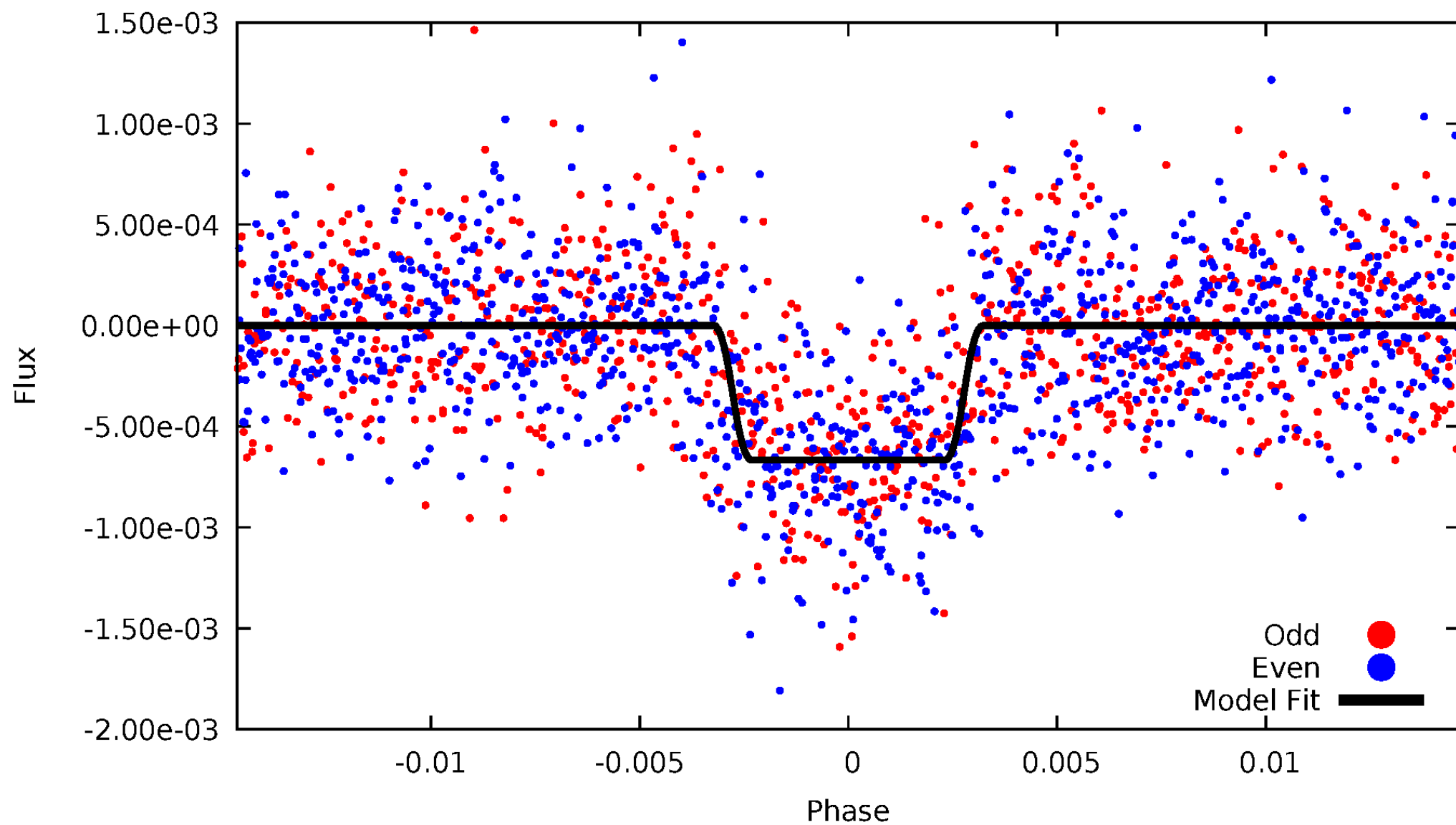
DV Odd/Even

TCE 010384798-01



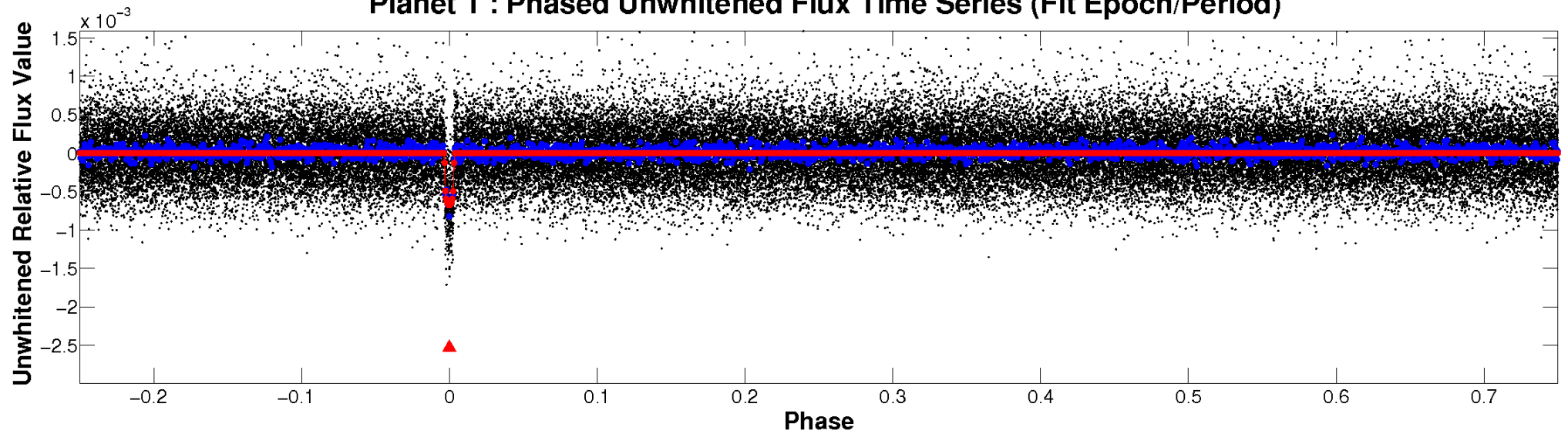
ALT Odd/Even

TCE 010384798-01

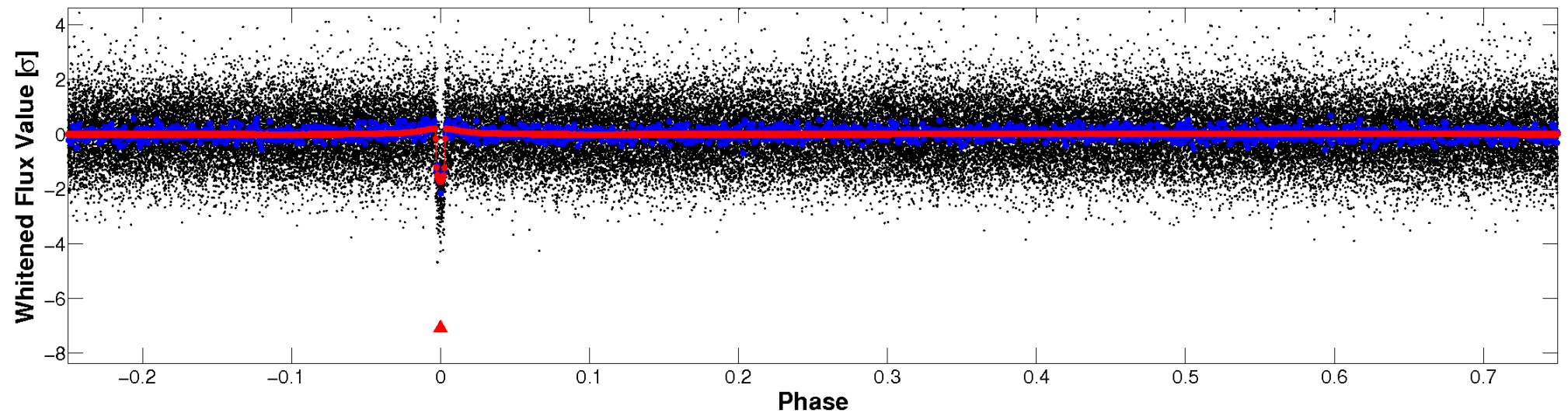


Non-Whitened Vs. Whitened Light Curve

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

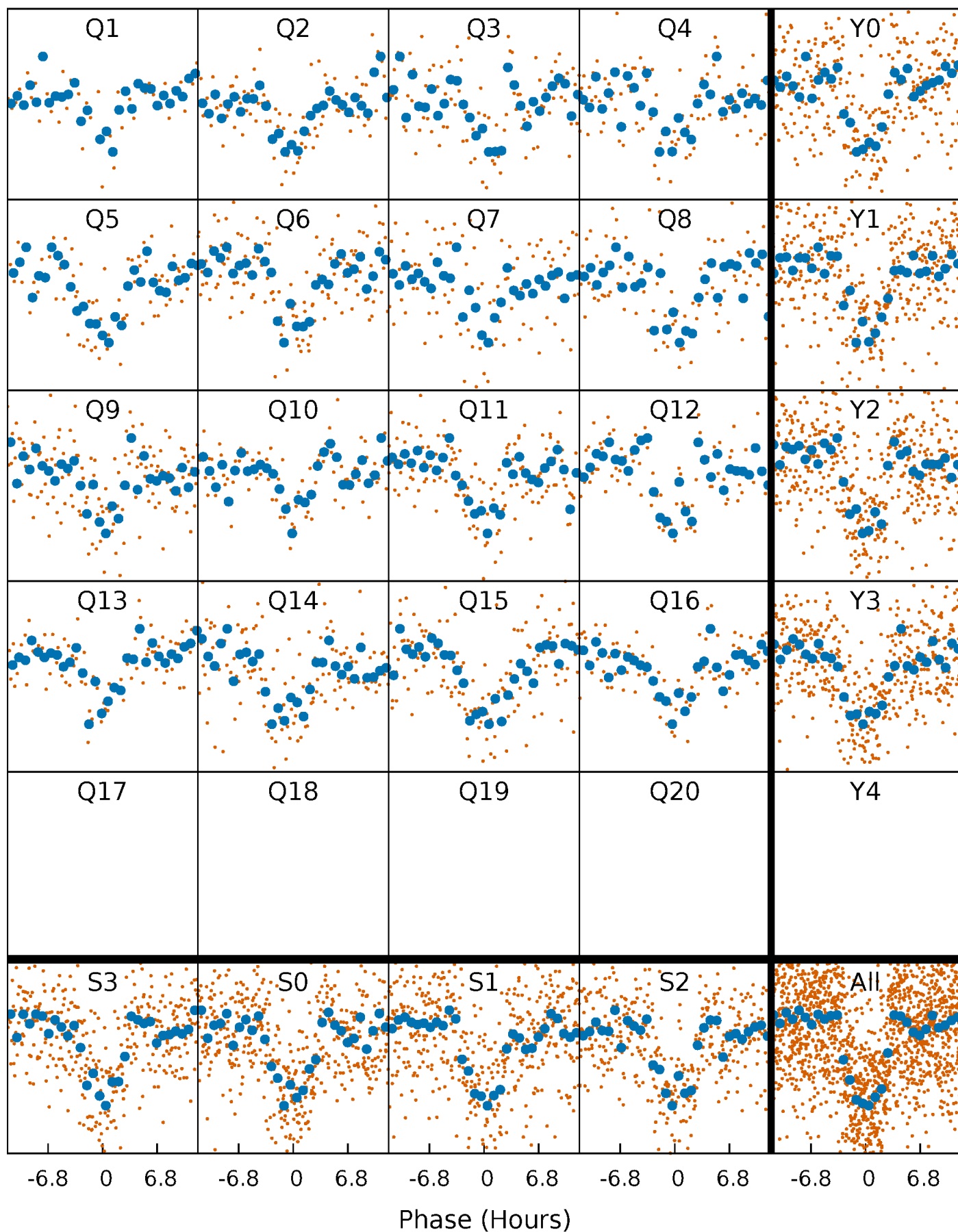


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



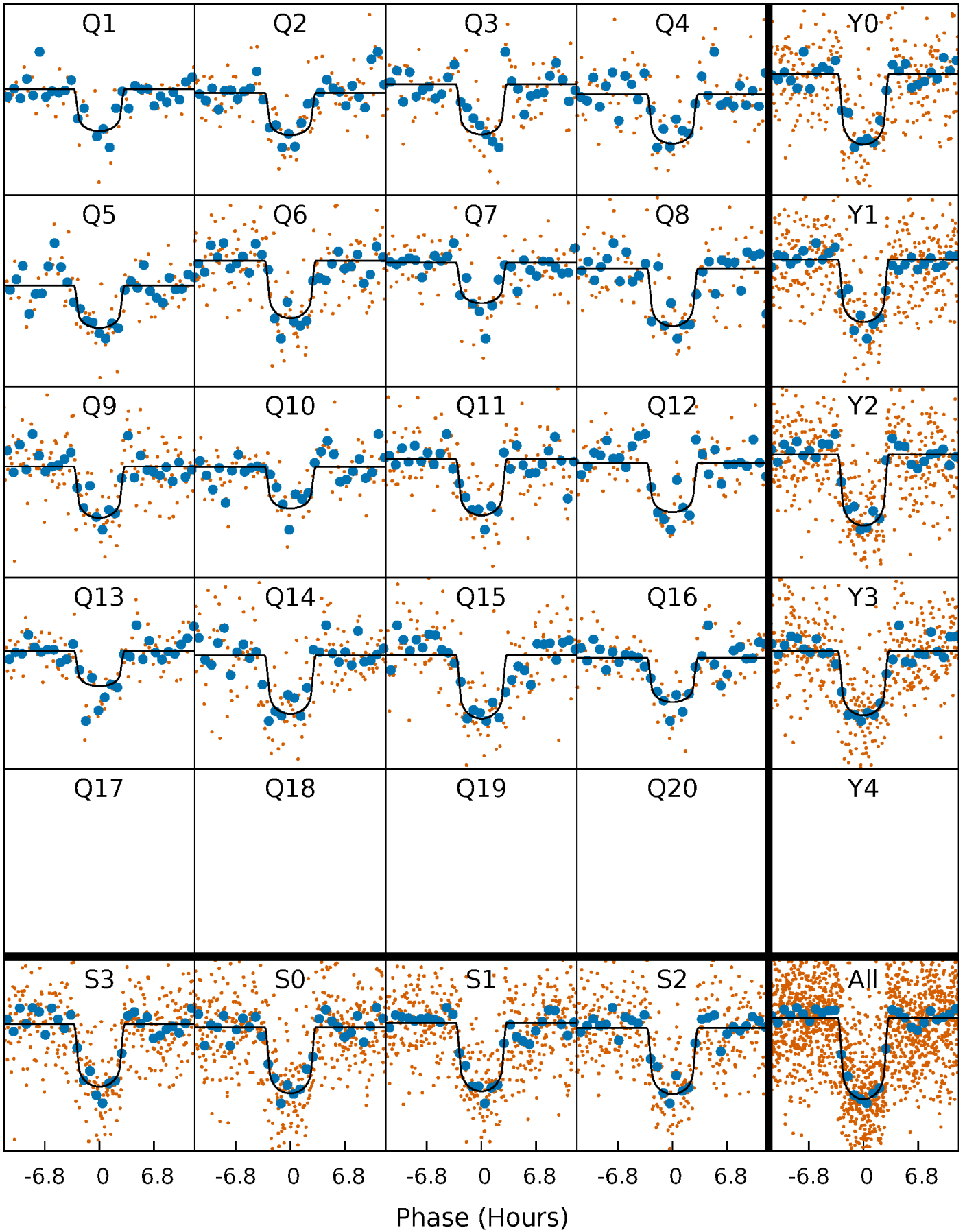
PDC Quarter-Phased Transit Curves

TCE 010384798-01 P= 38.505336 Days $T_0=158.303223$ (BKJD)



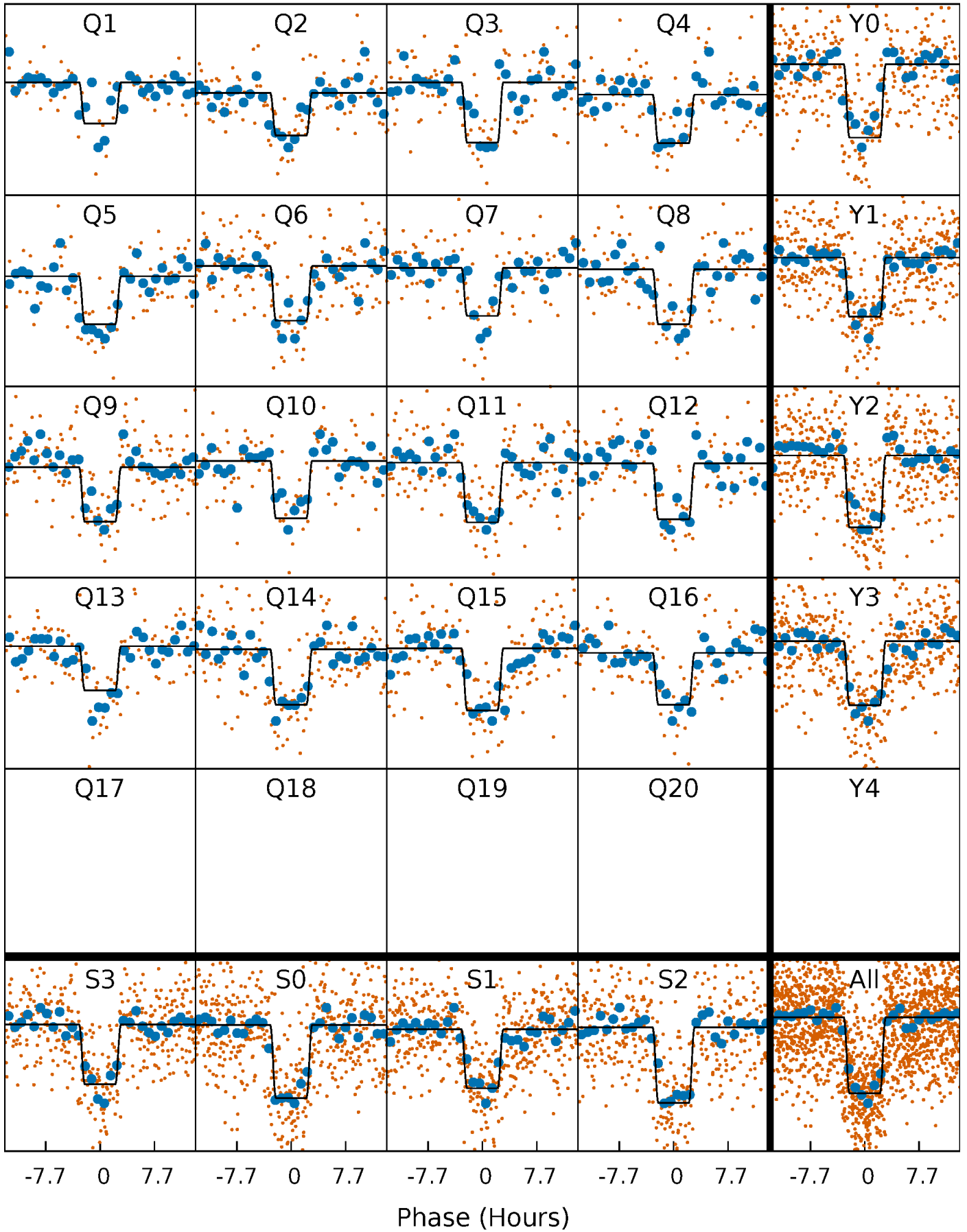
DV Quarter-Phased Transit Curves

TCE 010384798-01 P= 38.505336 Days $T_0=158.303223$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

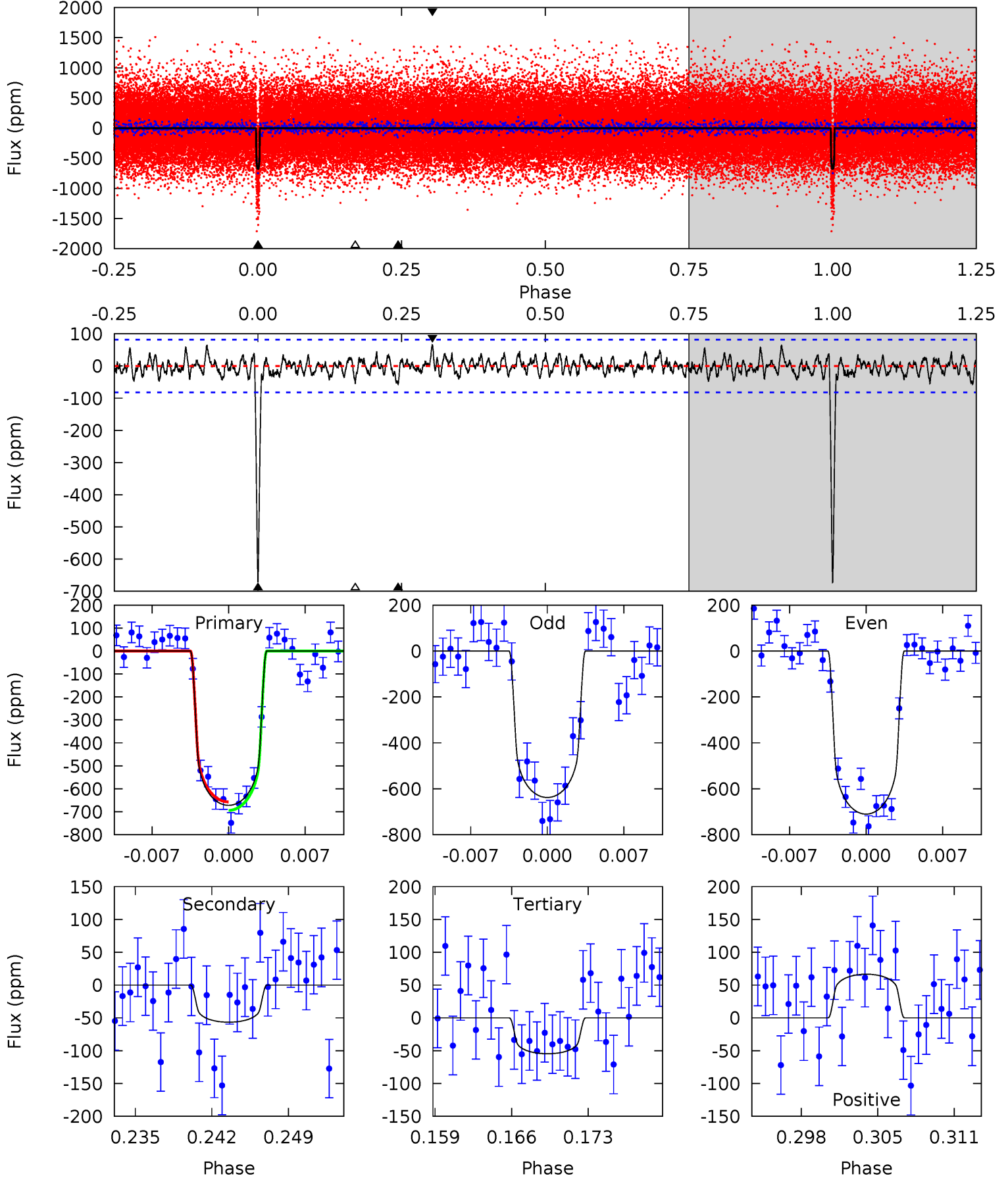
TCE 010384798-01 P= 38.504081 Days $T_0=158.326366$ (BKJD)



DV Model-Shift Uniqueness Test

010384798-01, $P = 38.505336$ Days, $E = 119.797887$ Days

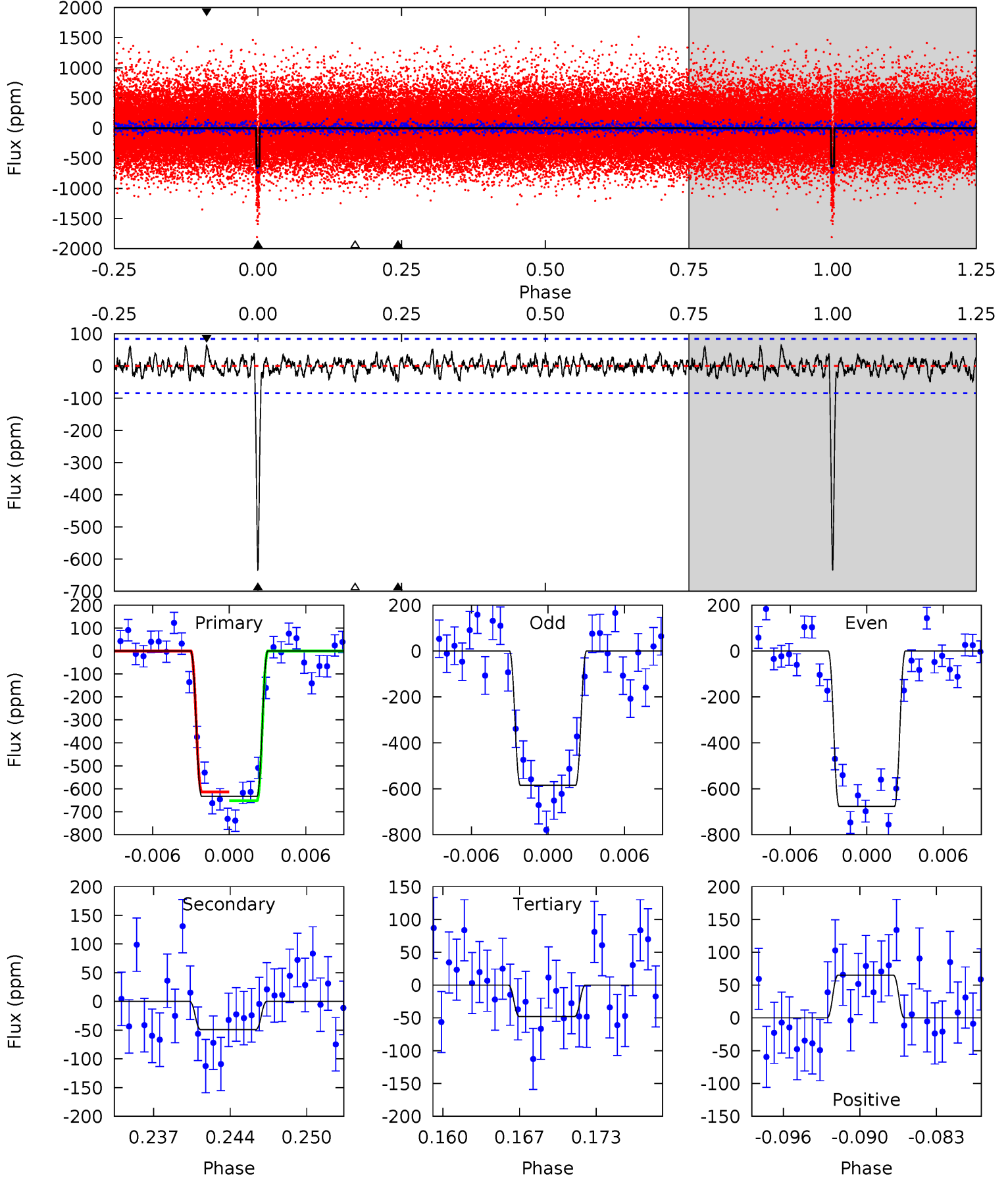
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.8	3.52	3.40	4.14	5.10	2.70	1.18	38.4	37.7	0.12	-0.62	2.25	1.05	0.09	1.15



Alt Model-Shift Uniqueness Test

010384798-01, $P = 38.504081$ Days, $E = 119.822285$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.3	2.96	2.90	3.94	5.11	2.73	1.08	35.4	34.4	0.06	-0.98	2.79	1.04	0.09	1.16



Stellar Parameters For KIC 010384798

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5974^{+161}_{-161}	$4.504^{+0.062}_{-0.188}$	$-0.420^{+0.300}_{-0.300}$	$0.881^{+0.243}_{-0.087}$	$0.904^{+0.110}_{-0.100}$	$1.859^{+0.589}_{-0.923}$
	+3%/-3%	+1%/-4%	+71%/-71%	+28%/-10%	+12%/-11%	+32%/-50%
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 010384798-01 / KOI 1997.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-57 ± 16	$2.50^{+0.59}_{-0.50}$	755^{+53}_{-30}	3680^{+301}_{-269}	224^{+145}_{-92}
Alt.	-49 ± 17	$2.56^{+0.62}_{-0.53}$	757^{+51}_{-35}	3564^{+305}_{-285}	185^{+121}_{-82}

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

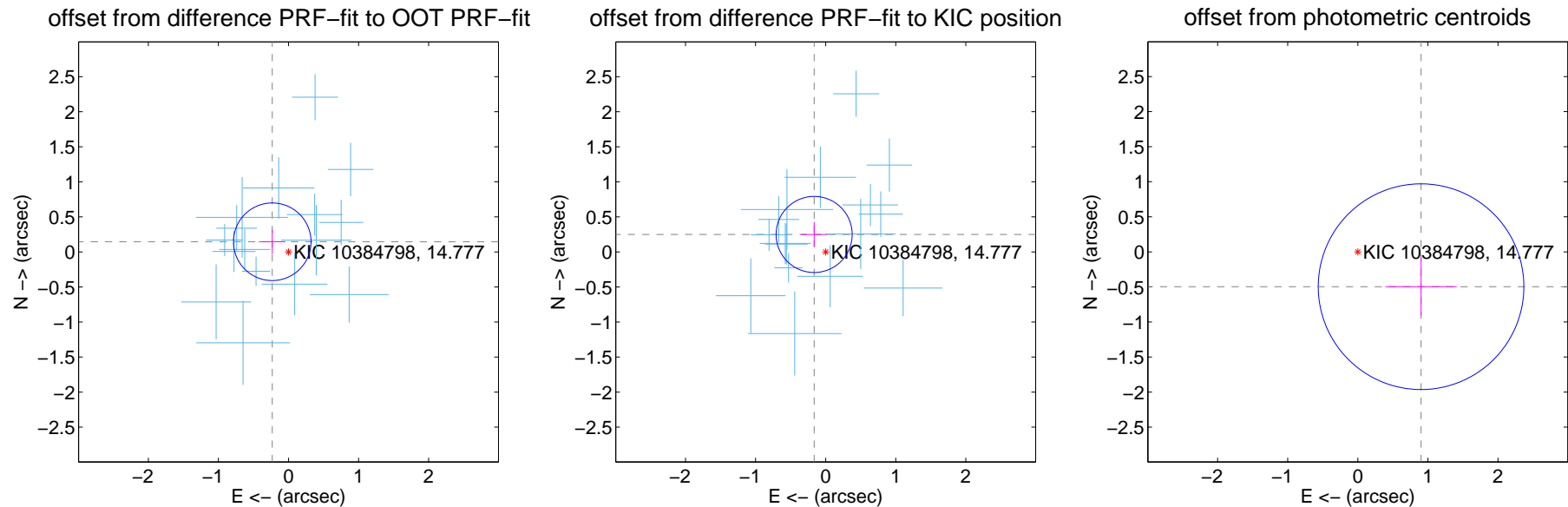
DV Centroid Data

Supplemental centroid analysis for 010384798-01. Kepler magnitude: 14.78. Transit SNR 30.68

There are 16 quarters with good PRF difference image offsets

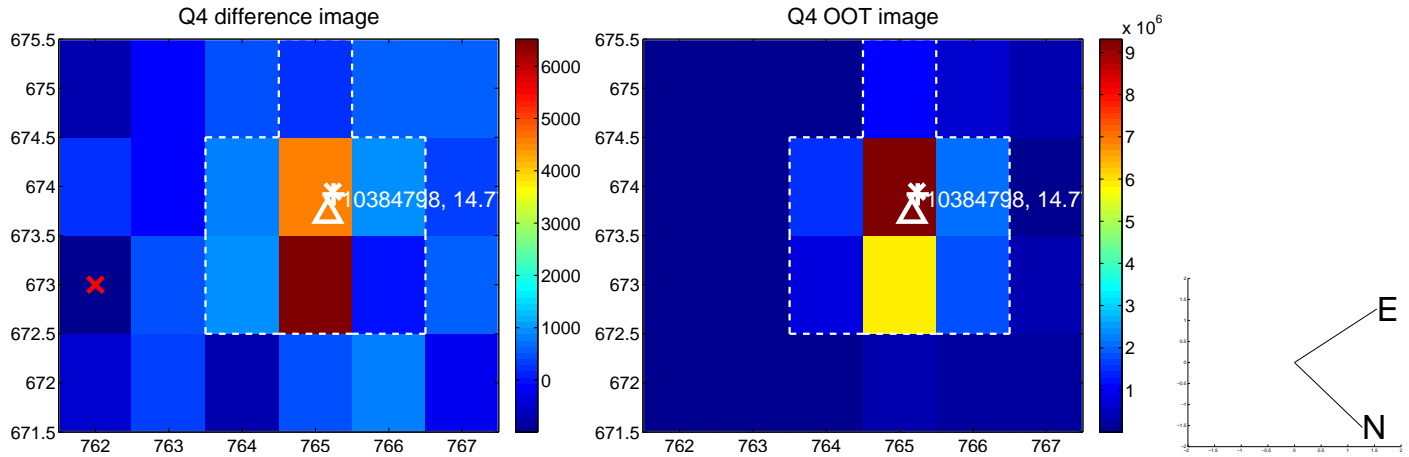
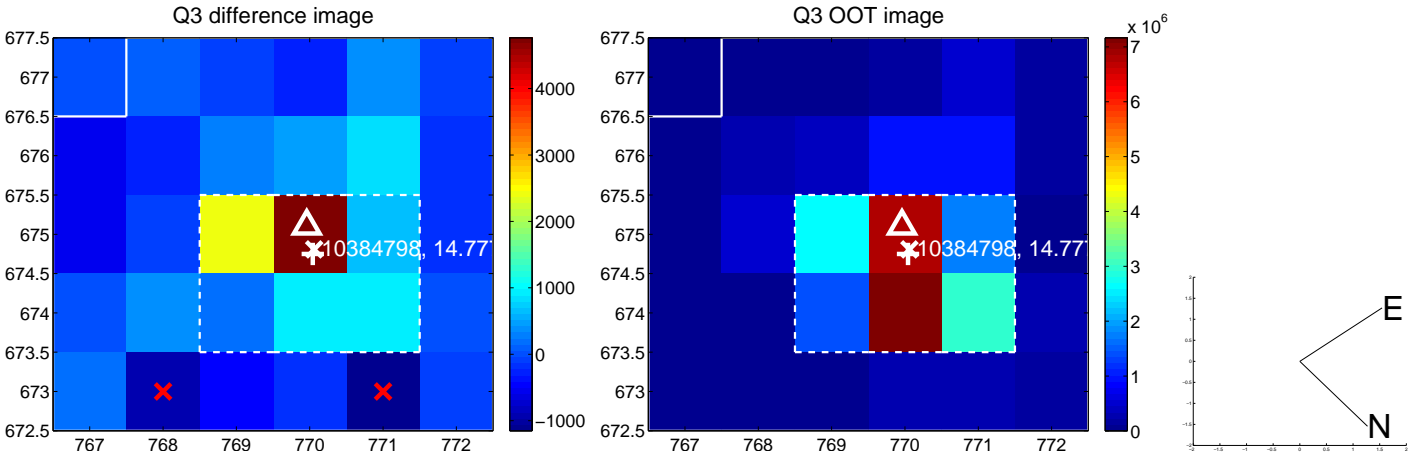
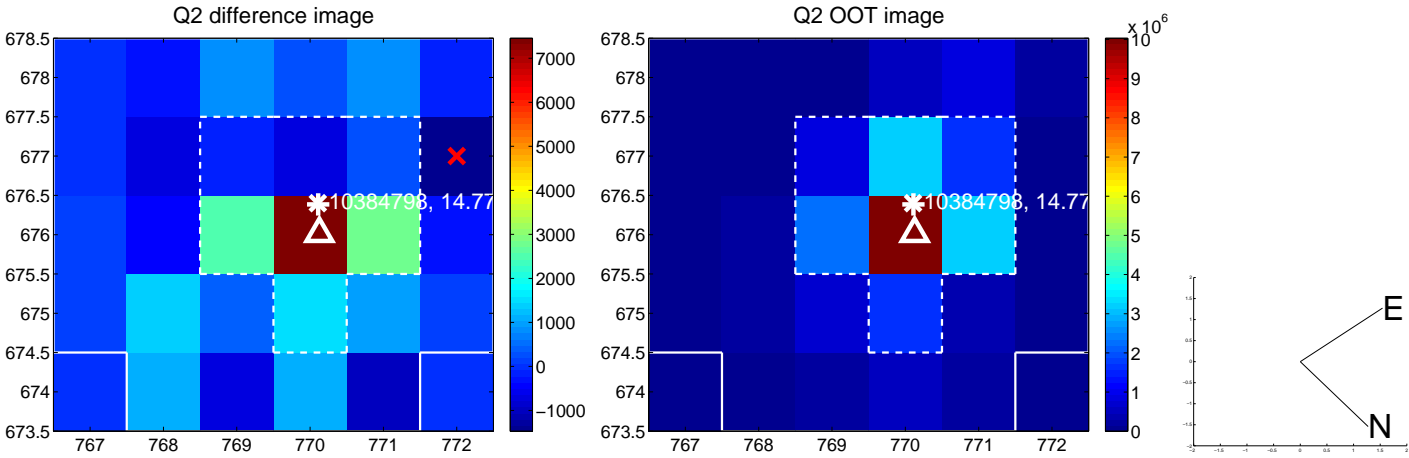
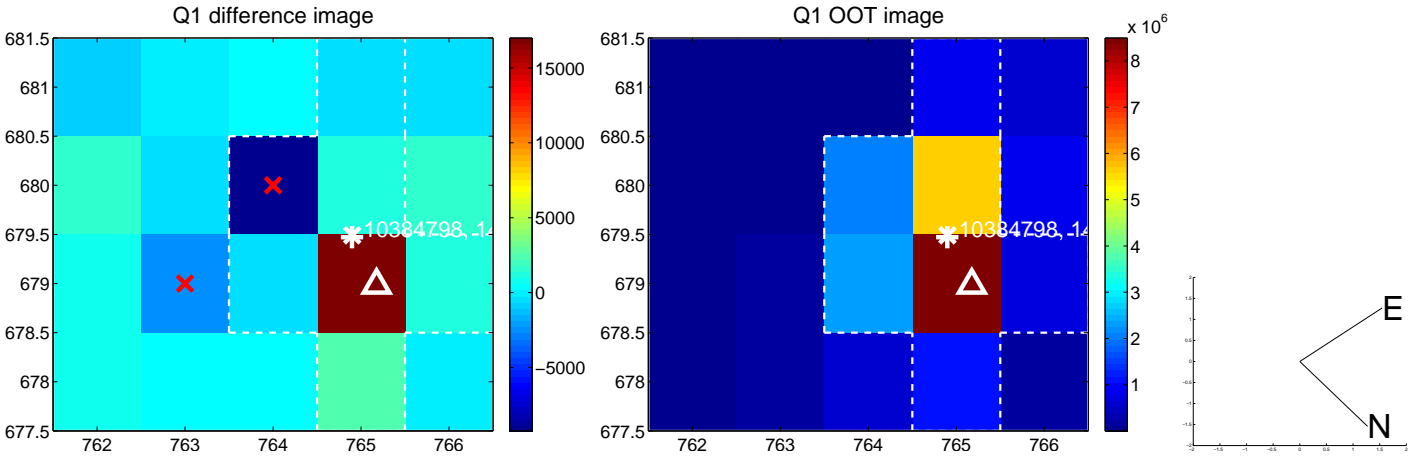
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.274 ± 0.185	1.48	0.232 ± 0.189	0.145 ± 0.172
PRF-fit source offset from KIC position	0.298 ± 0.181	1.65	0.164 ± 0.190	0.249 ± 0.177
photometric centroid source offset	1.03 ± 0.49	2.11	-0.90 ± 0.51	-0.50 ± 0.42

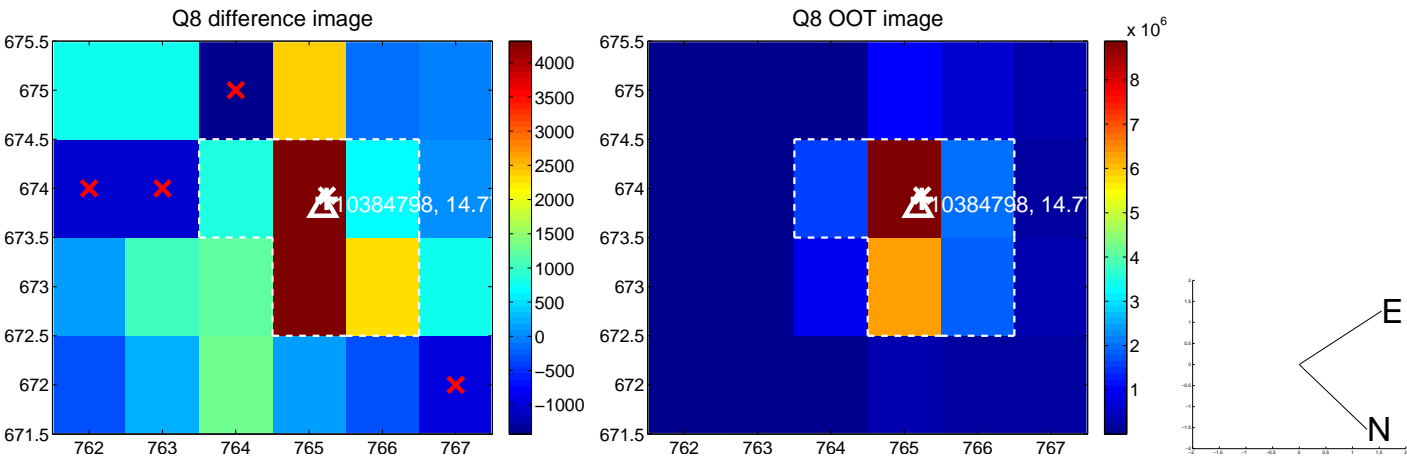
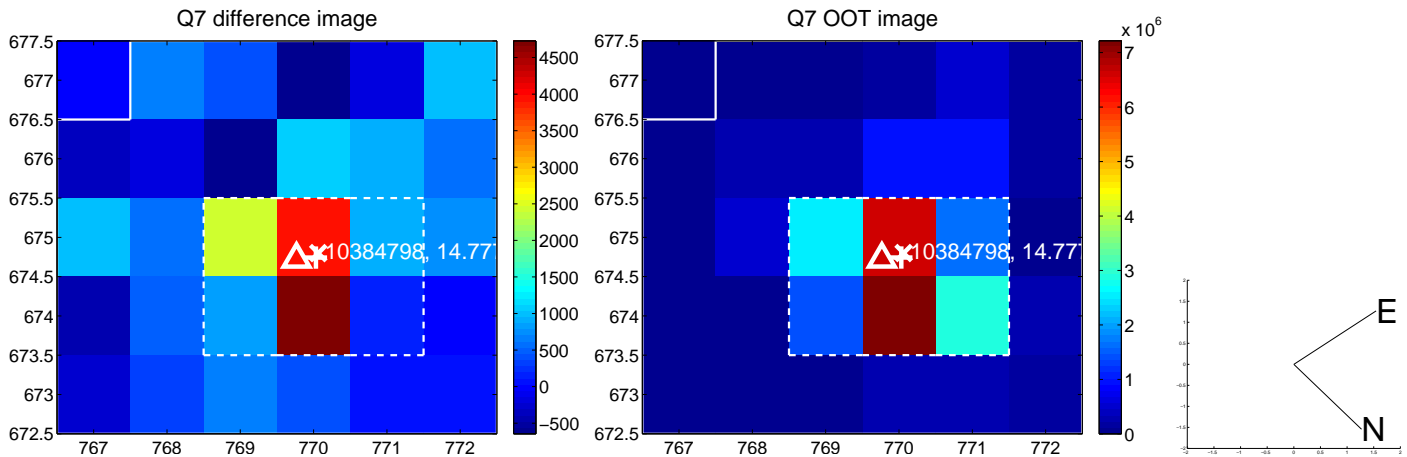
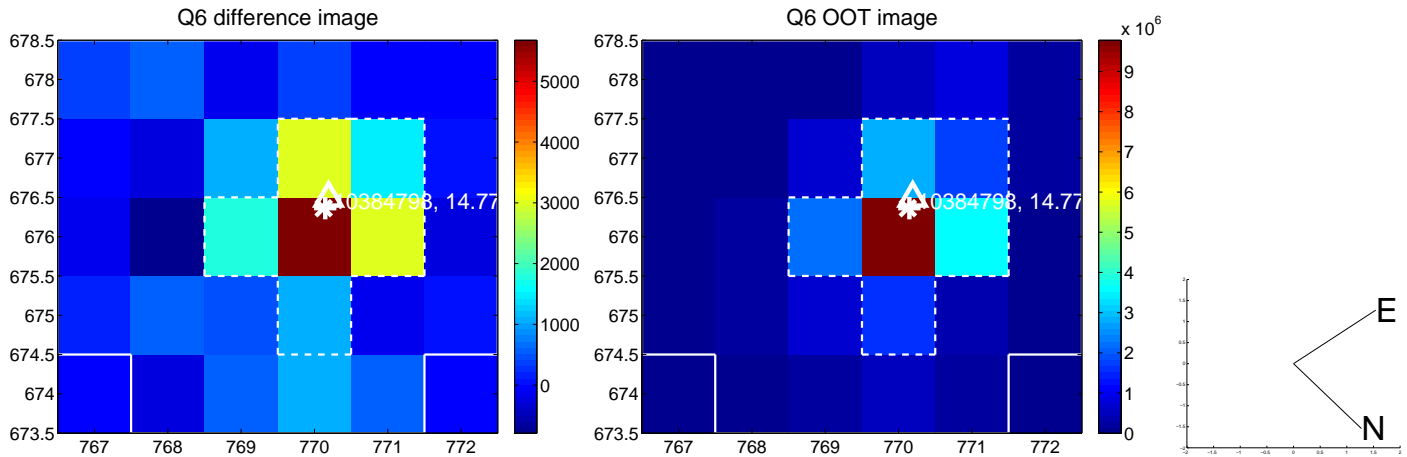
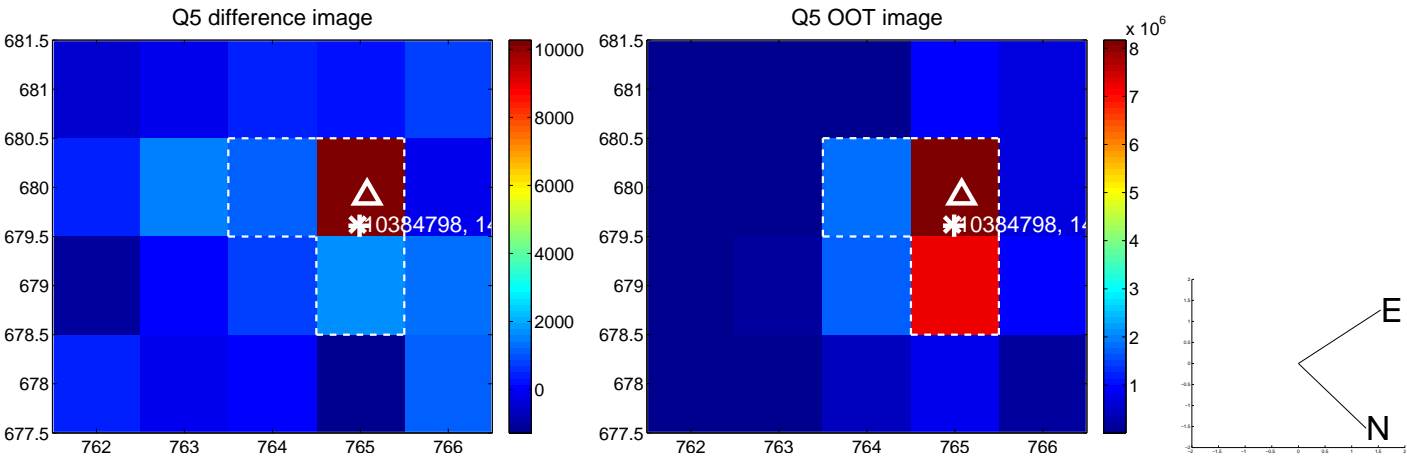


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

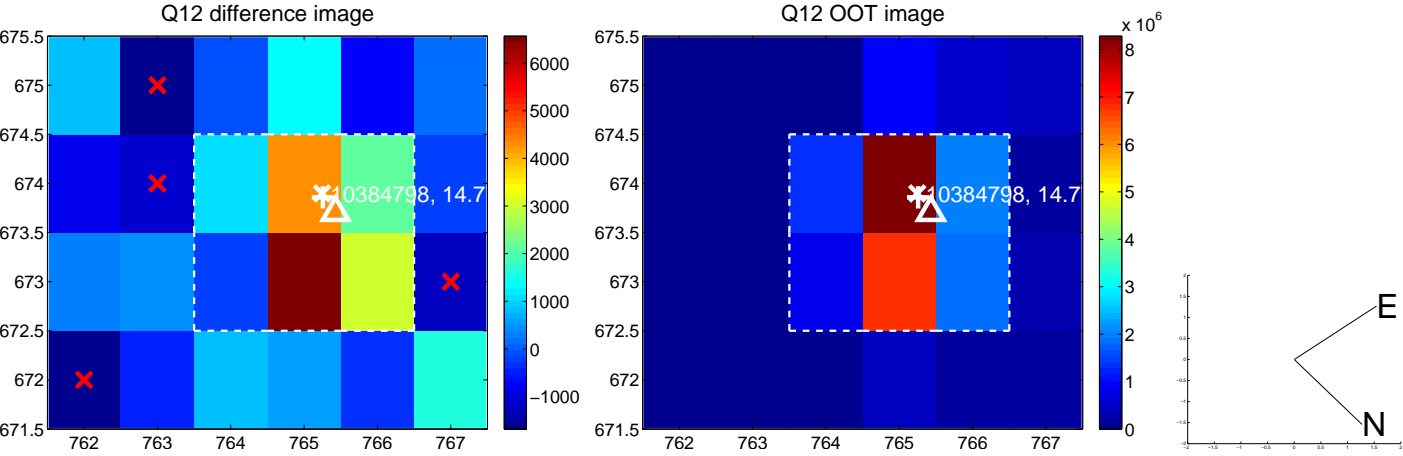
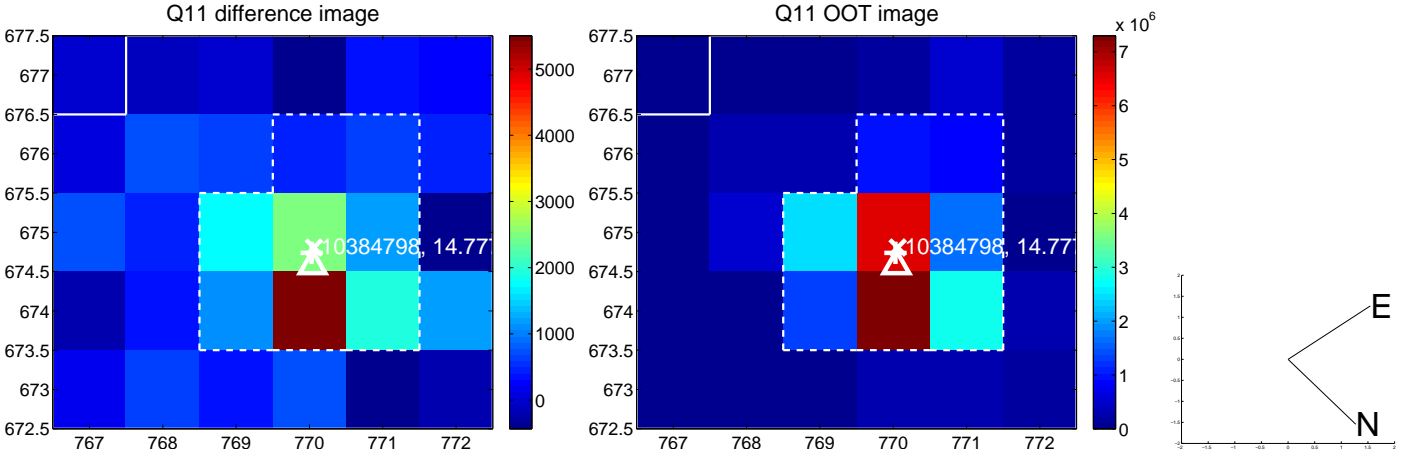
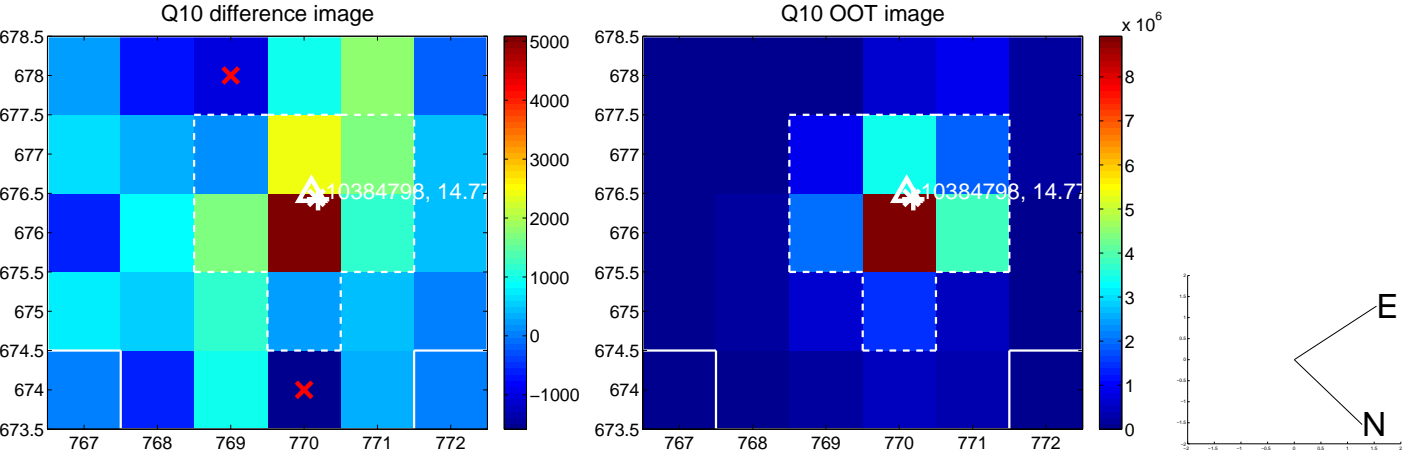
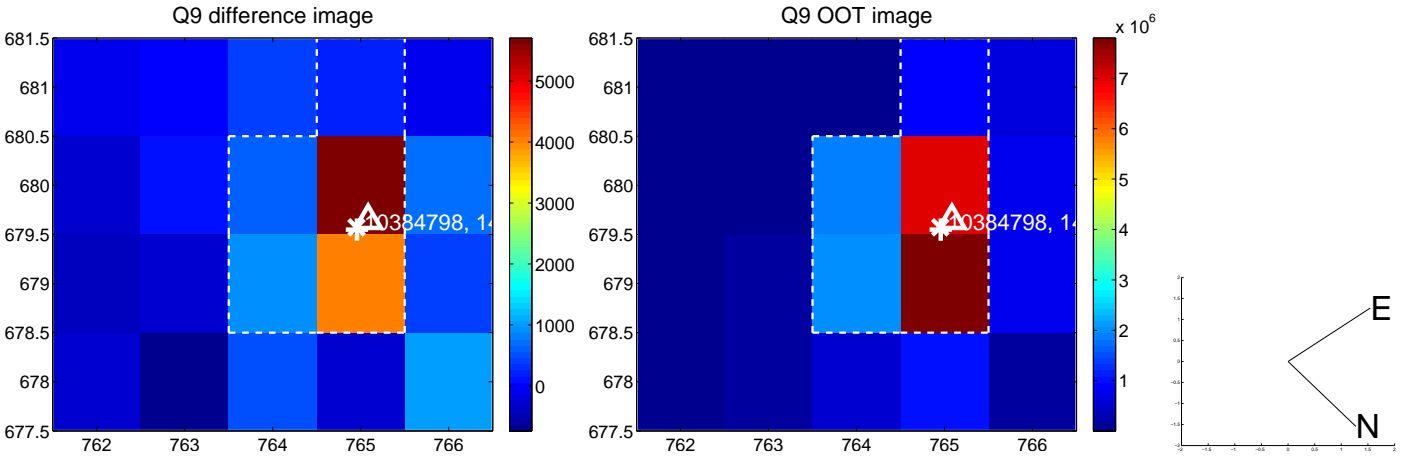
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



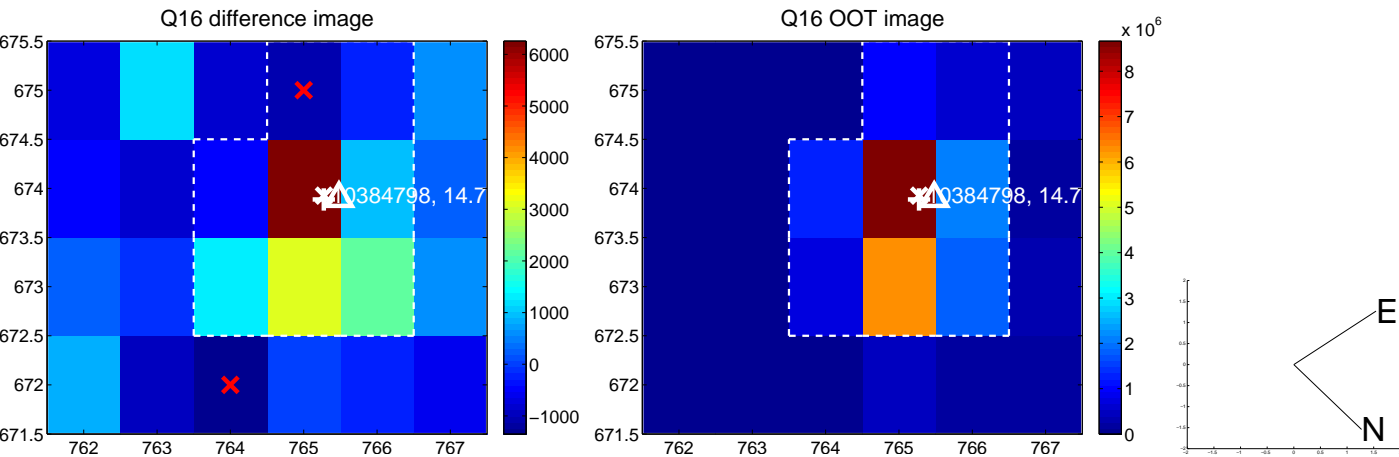
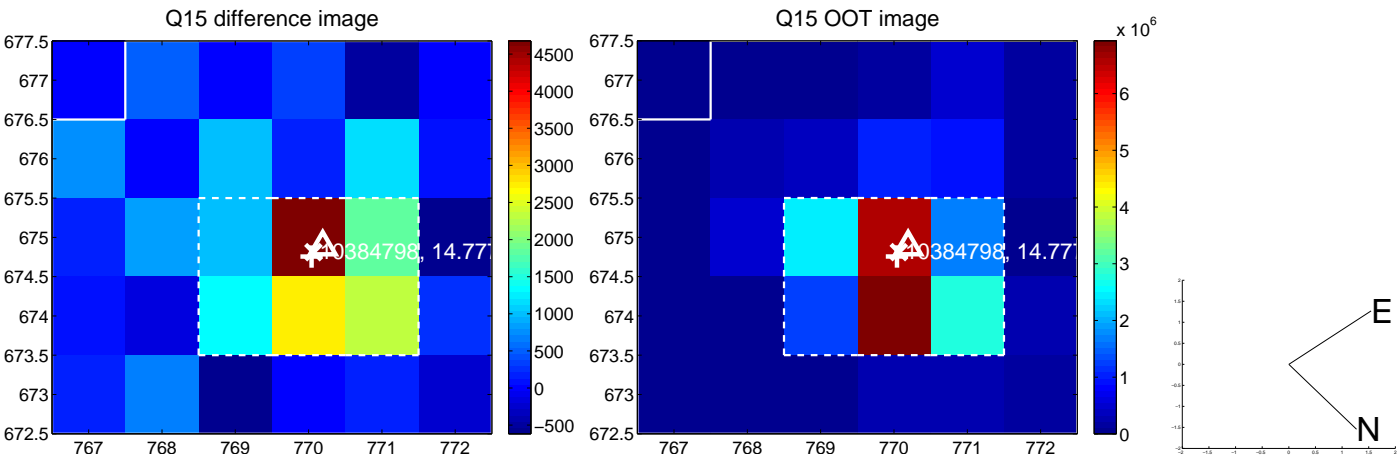
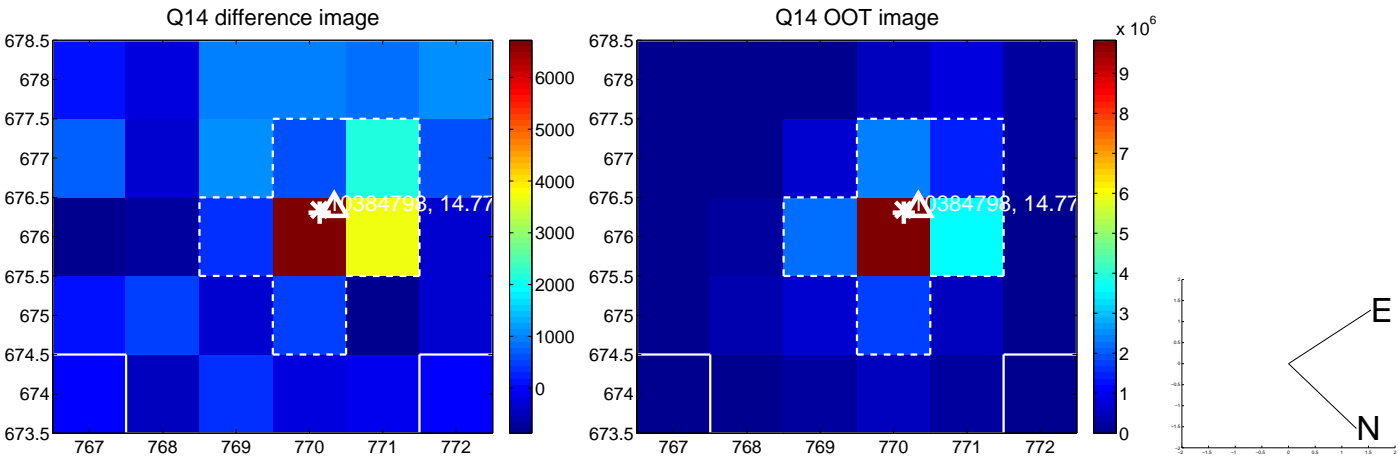
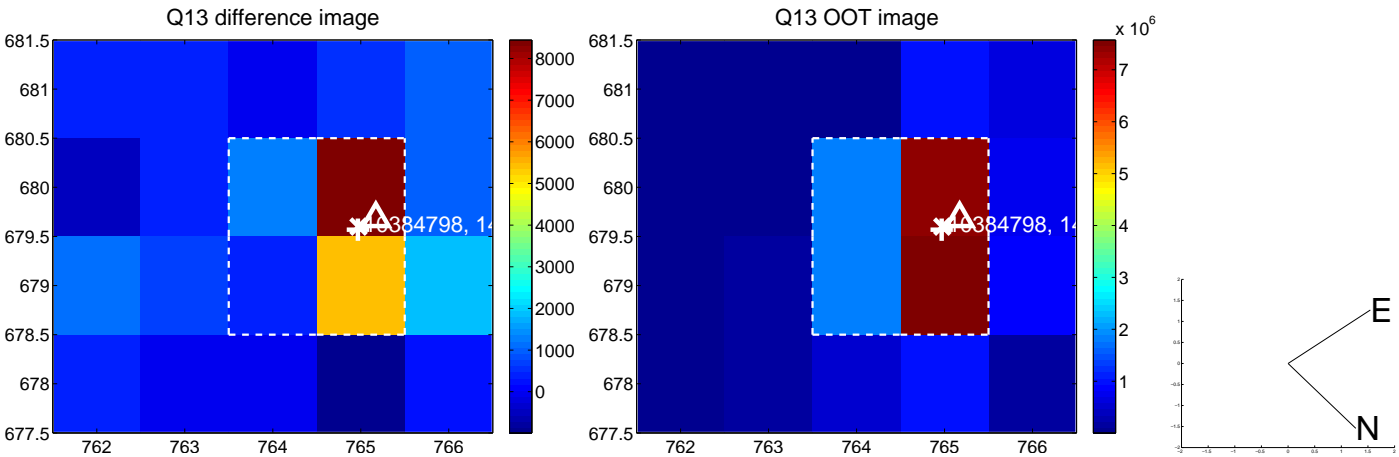
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



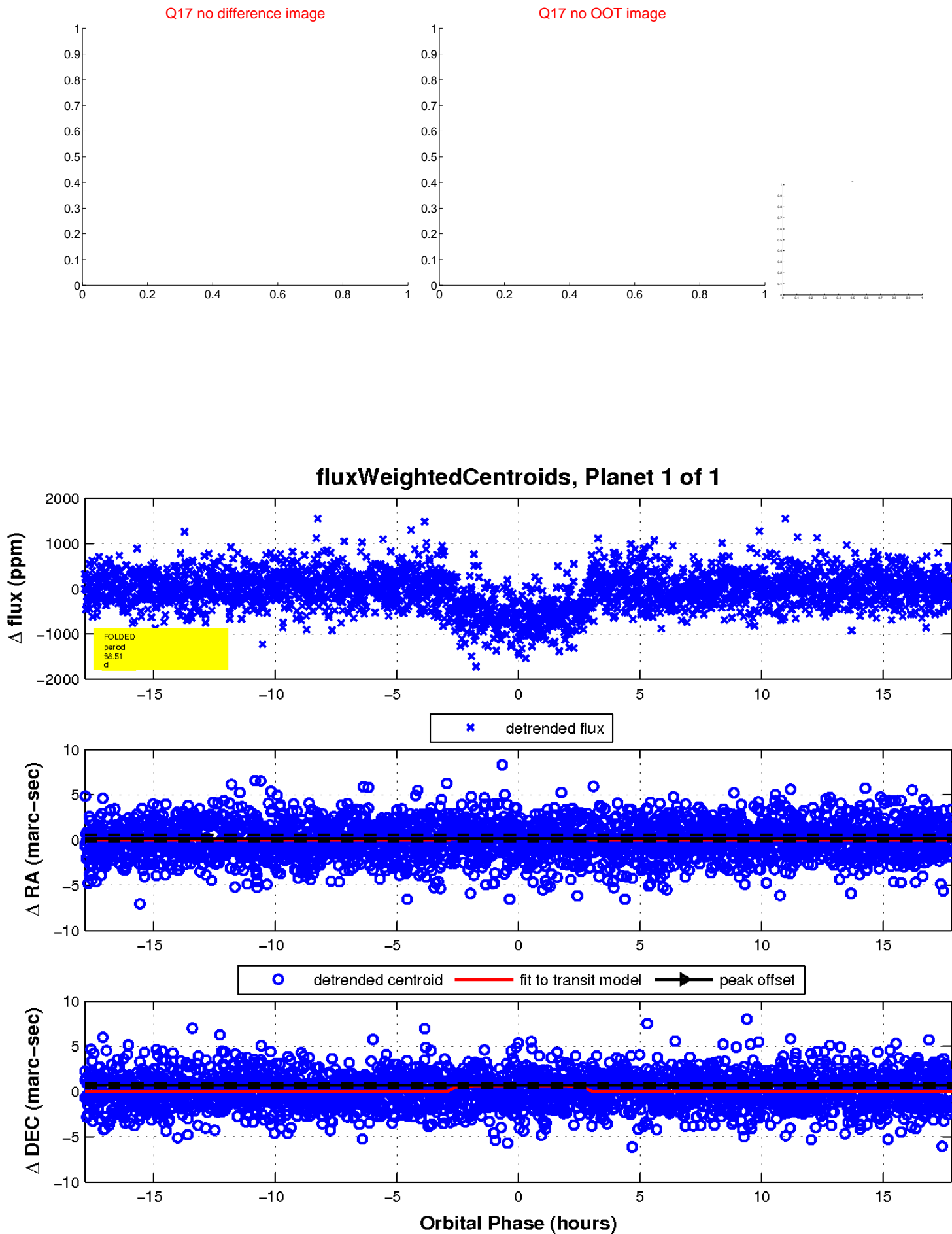
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

