

KIC 004150804

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})
004150804-01	OBS	3678.01	160.884168	277.506224	7609.1	10.946	288.9	361.9	1.04	5650	9.20	3.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004150804-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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 004150804-01

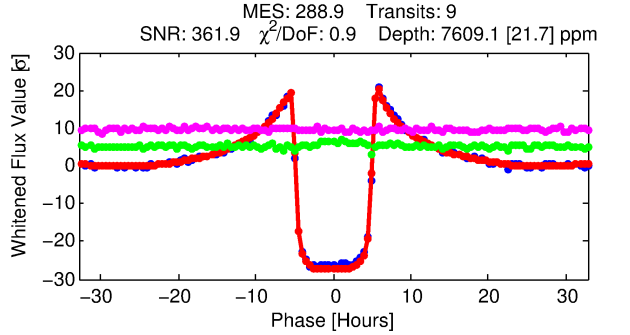
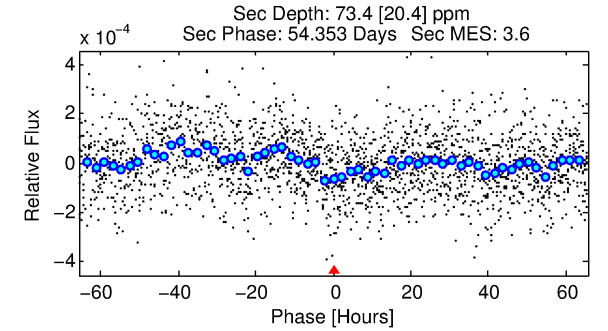
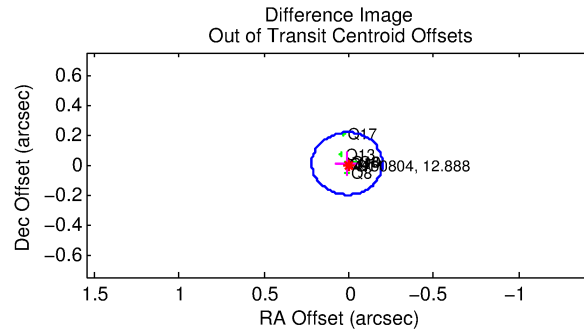
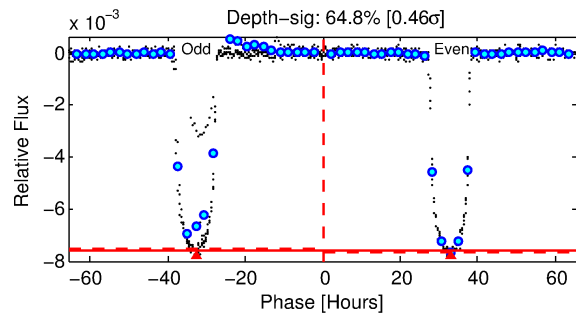
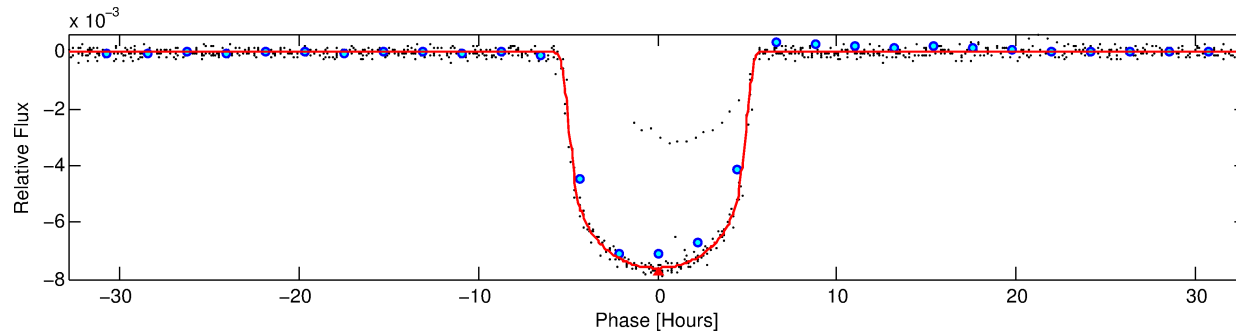
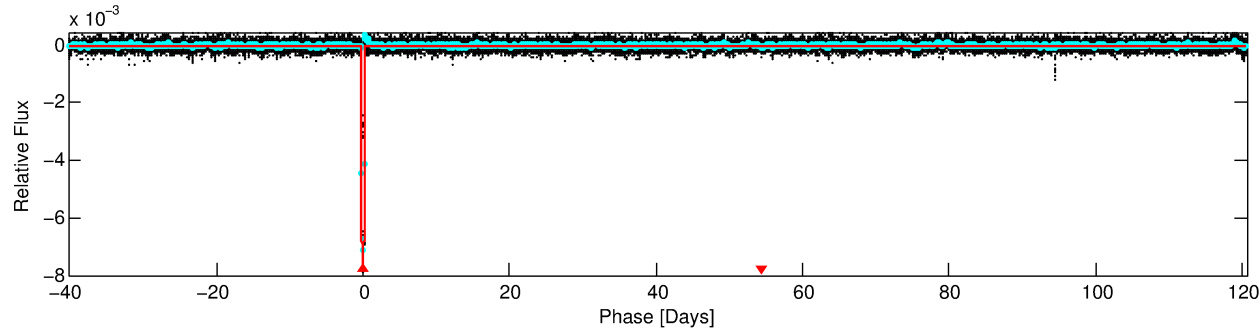
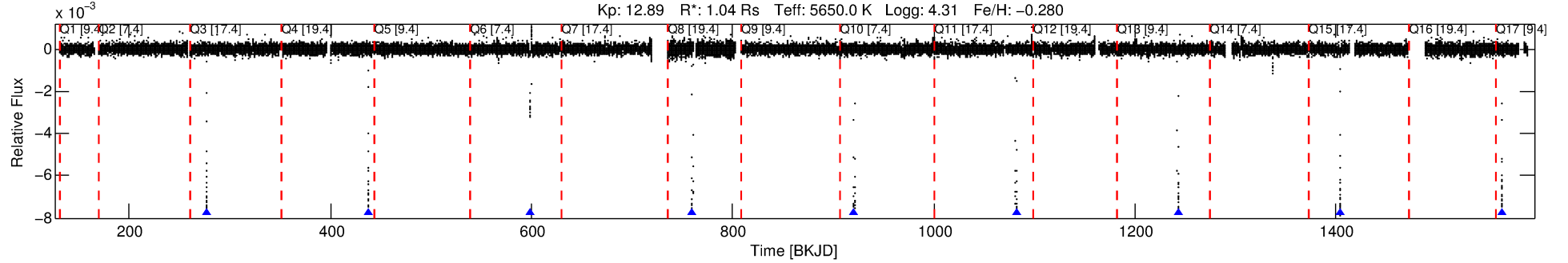
No Significant Match Found

DV One-Page Summary

KIC: 4150804 Candidate: 1 of 1 Period: 160.884 d

KOI: K03678.01 Corr: 0.992

Kp: 12.89 R*: 1.04 Rs Teff: 5650.0 K Logg: 4.31 Fe/H: -0.280



DV Fit Results:

Period = 160.88417 [0.00007] d
Epoch = 277.5062 [0.0004] BKJD
Rp/R* = 0.0808 [0.0003]
a/R* = 112.39 [1.38]
b = 0.41 [0.03]
Seff = 3.40 [1.47]
Teq = 346 [37] K
Rp = 9.20 [3.08] Re
a = 0.5414 [0.1526] AU
Ag = 139.74 [69.34] [2.00σ]
Teff = 1840 [141] K [10.21σ]

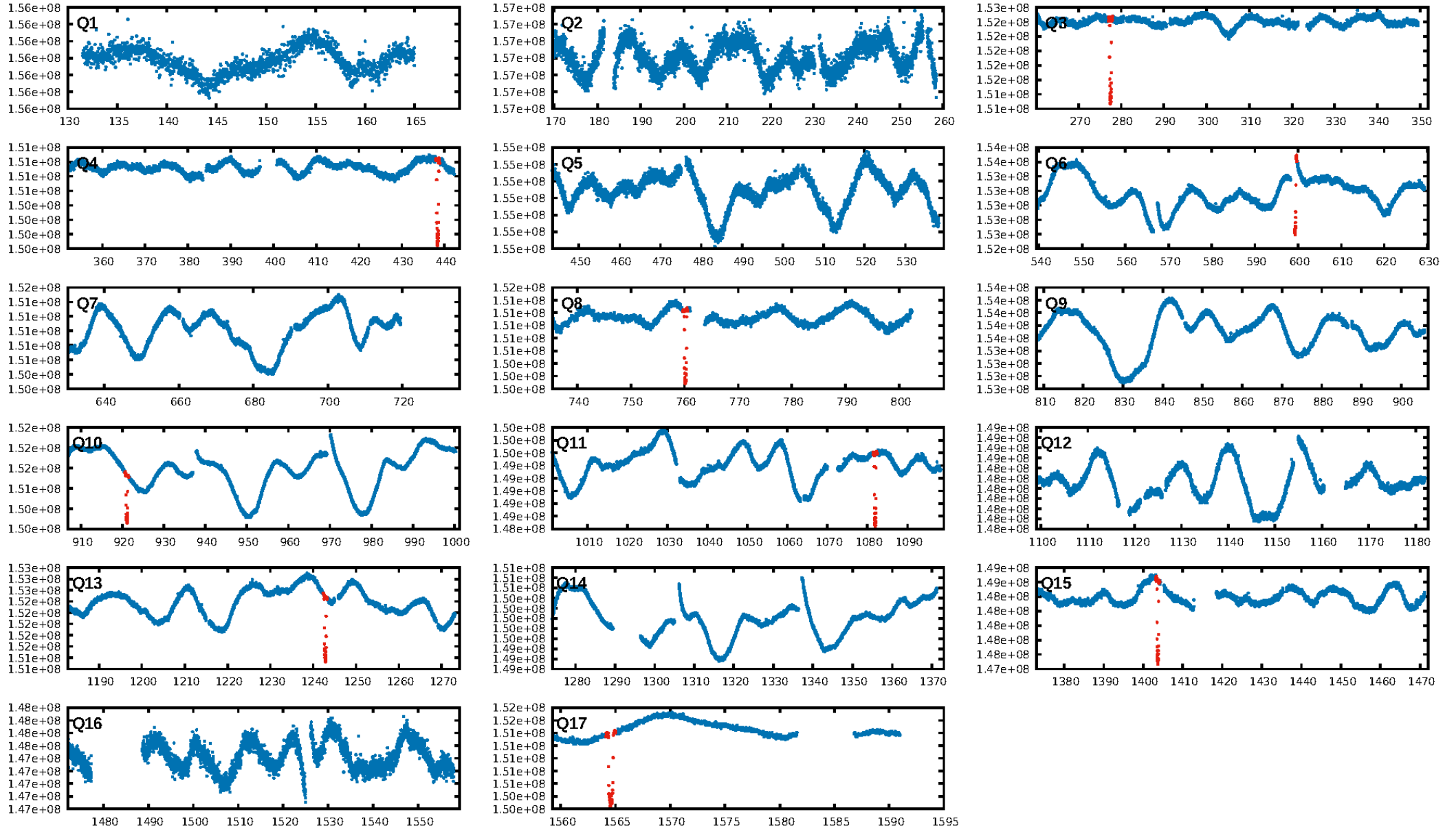
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 57.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 3.623
Centroid-sig: 0.1%
Centroid-so: 0.411 arcsec [26.28σ]
OotOffset-rm: 0.014 arcsec [0.20σ]
OotOffset-st: 1/2/2/2 [7]
KicOffset-rm: 0.429 arcsec [6.13σ]
KicOffset-st: 1/2/2/2 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [7/7]

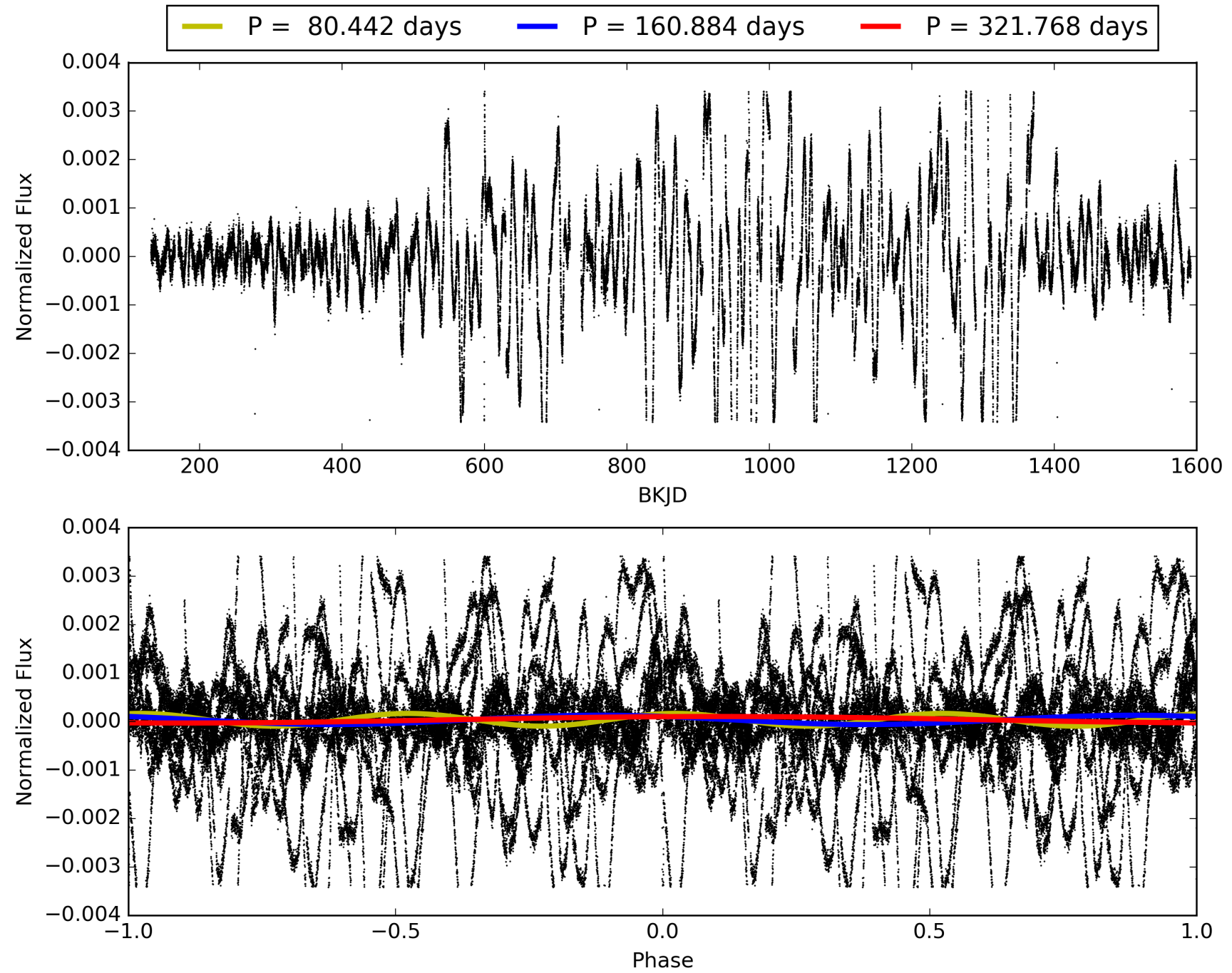
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:43:53 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 004150804-01, PDC Light Curves

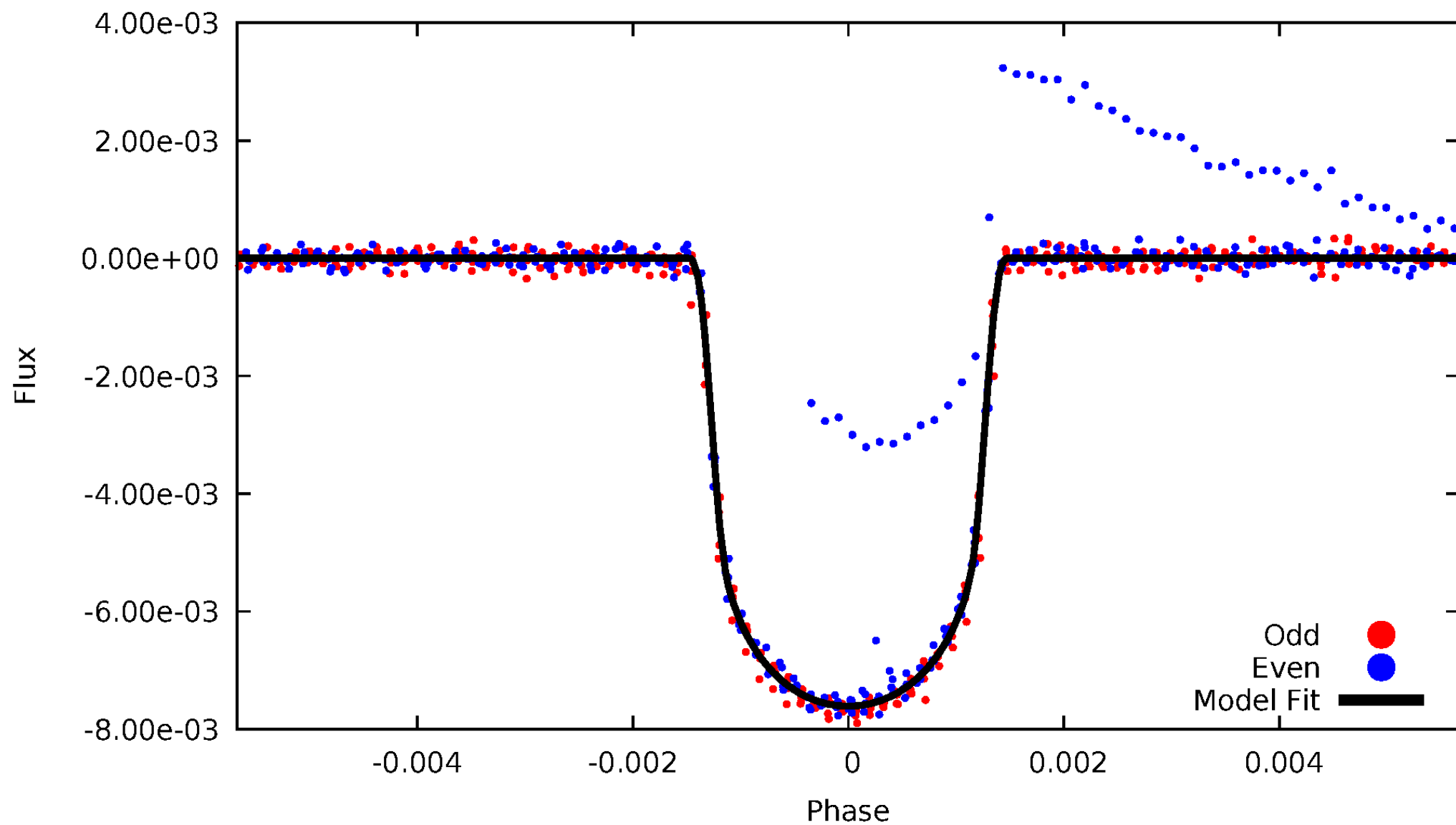


TCE 004150804-01



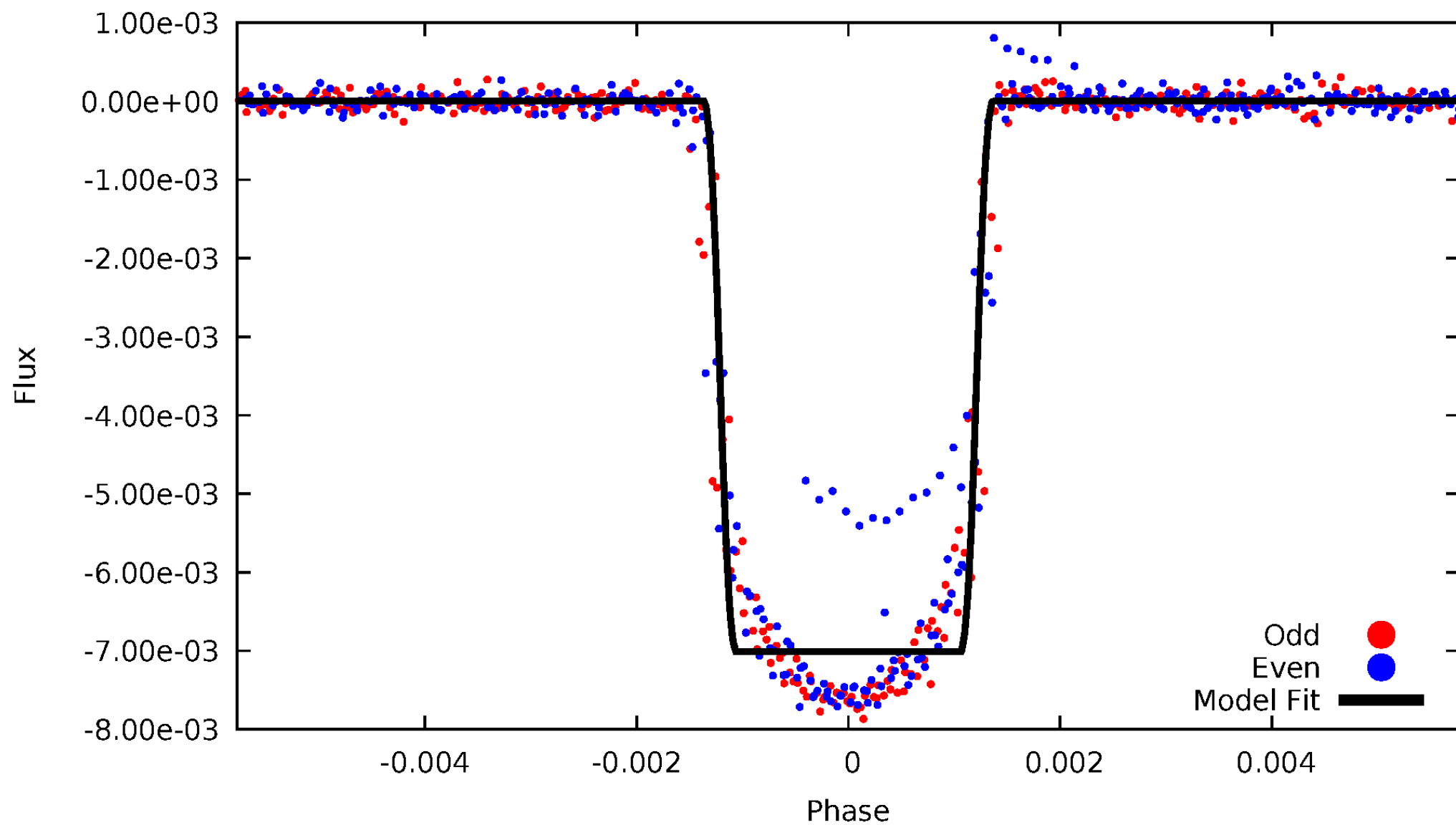
DV Odd/Even

TCE 004150804-01

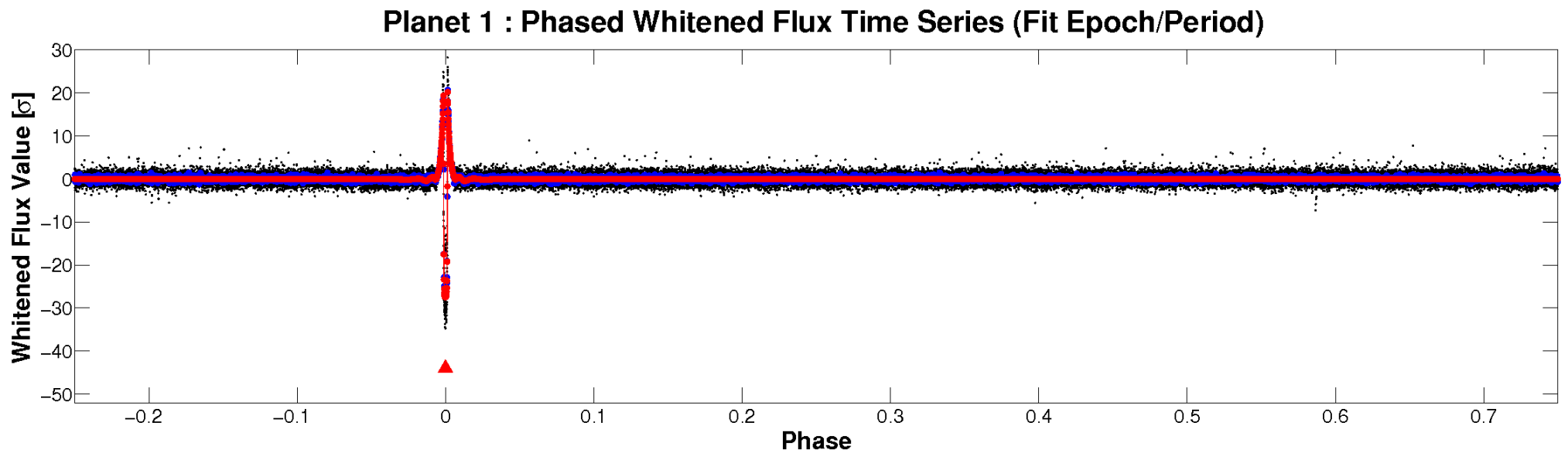
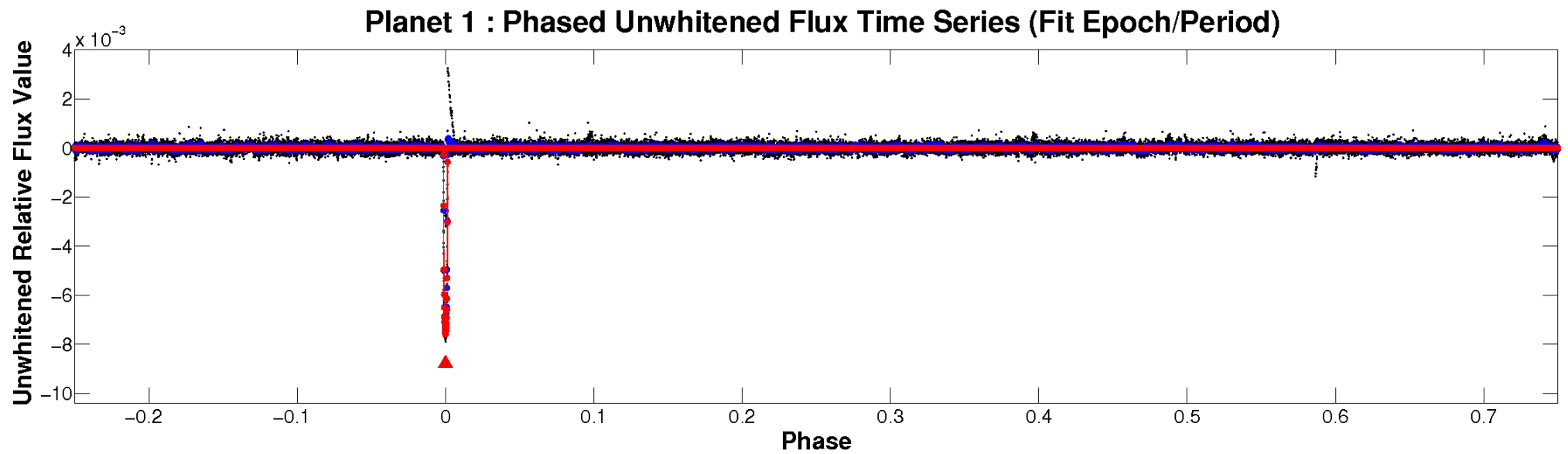


ALT Odd/Even

TCE 004150804-01

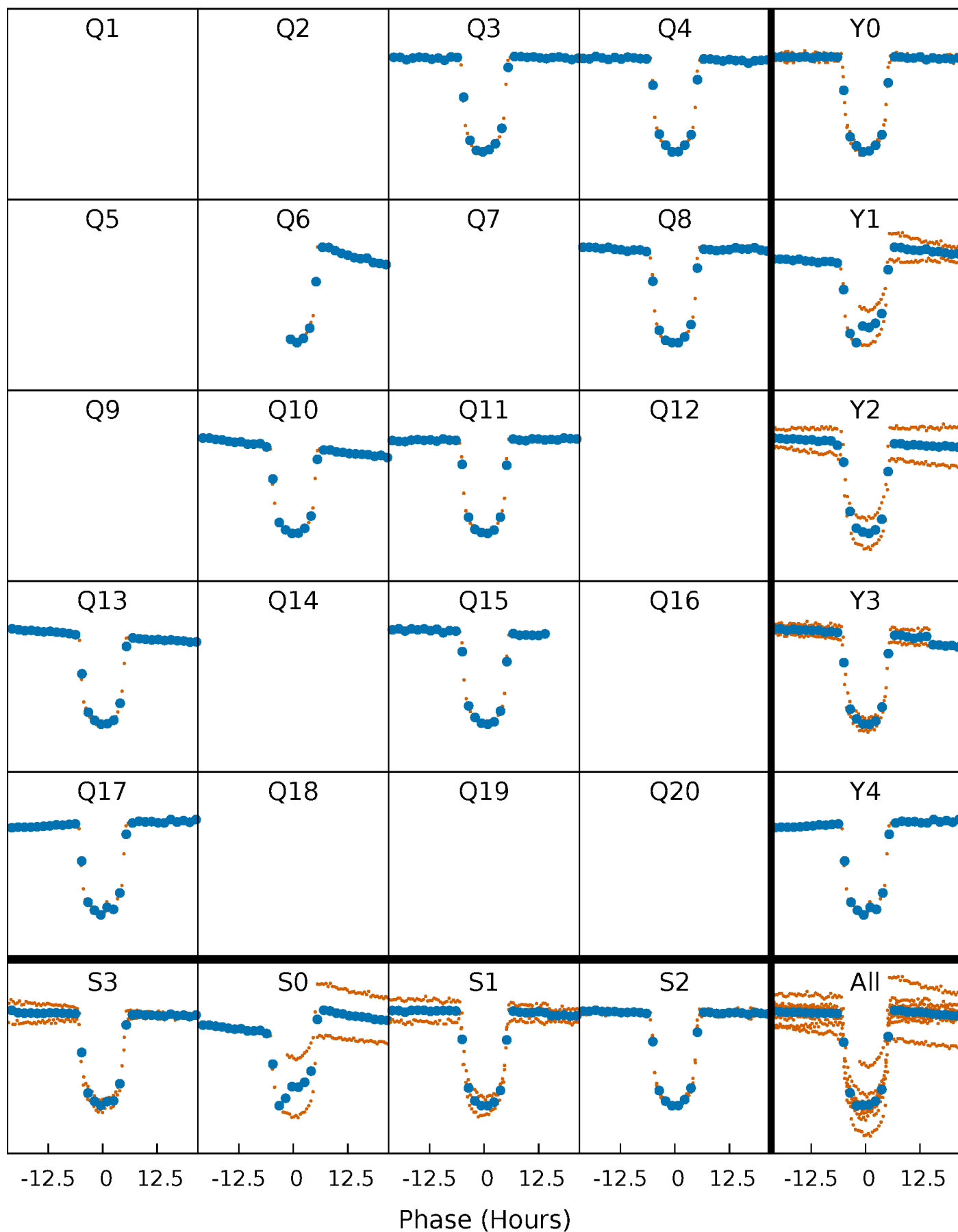


Non-Whitened Vs. Whitened Light Curve



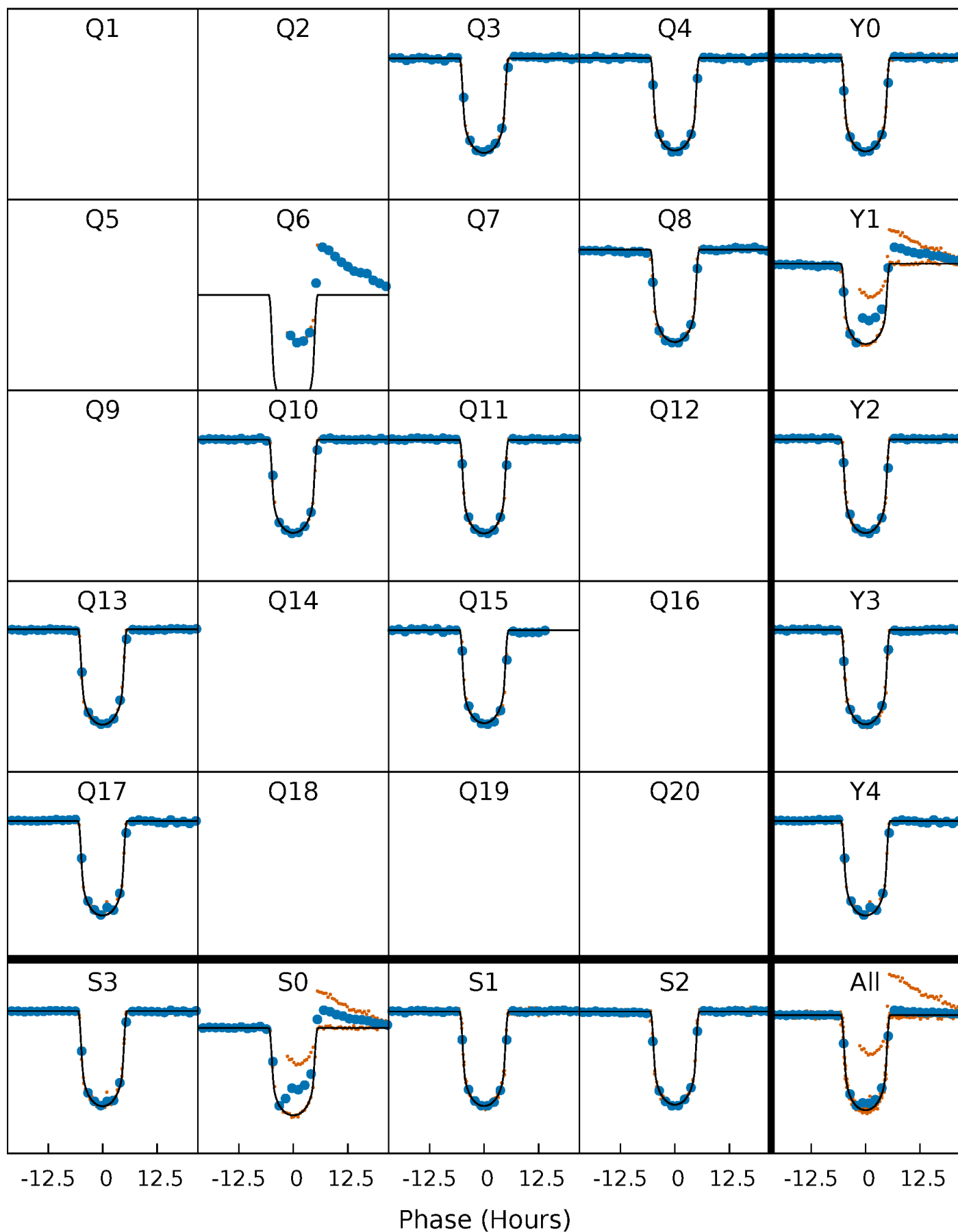
PDC Quarter-Phased Transit Curves

TCE 004150804-01 P=160.884168 Days $T_0=277.506224$ (BKJD)



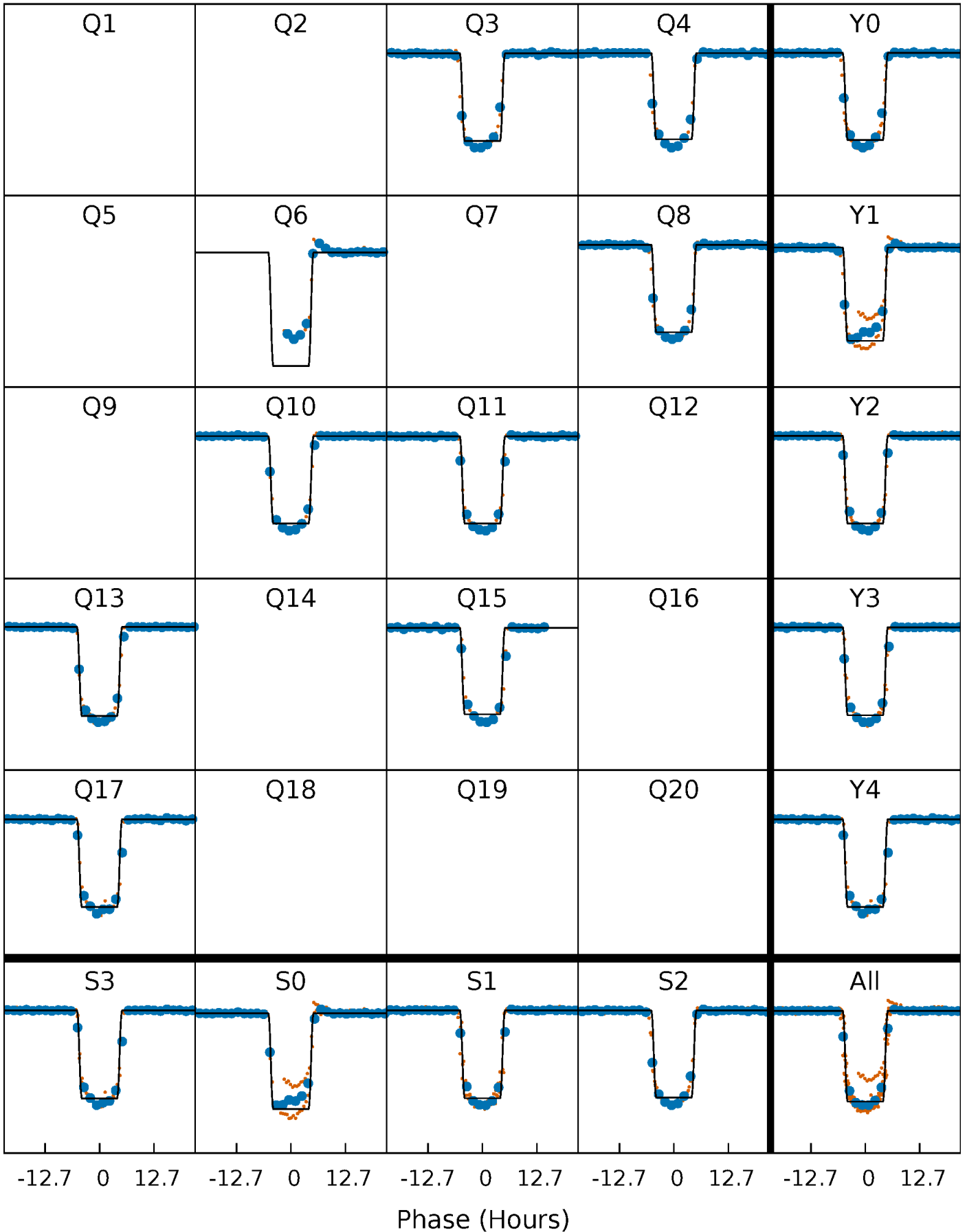
DV Quarter-Phased Transit Curves

TCE 004150804-01 P=160.884168 Days $T_0=277.506224$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

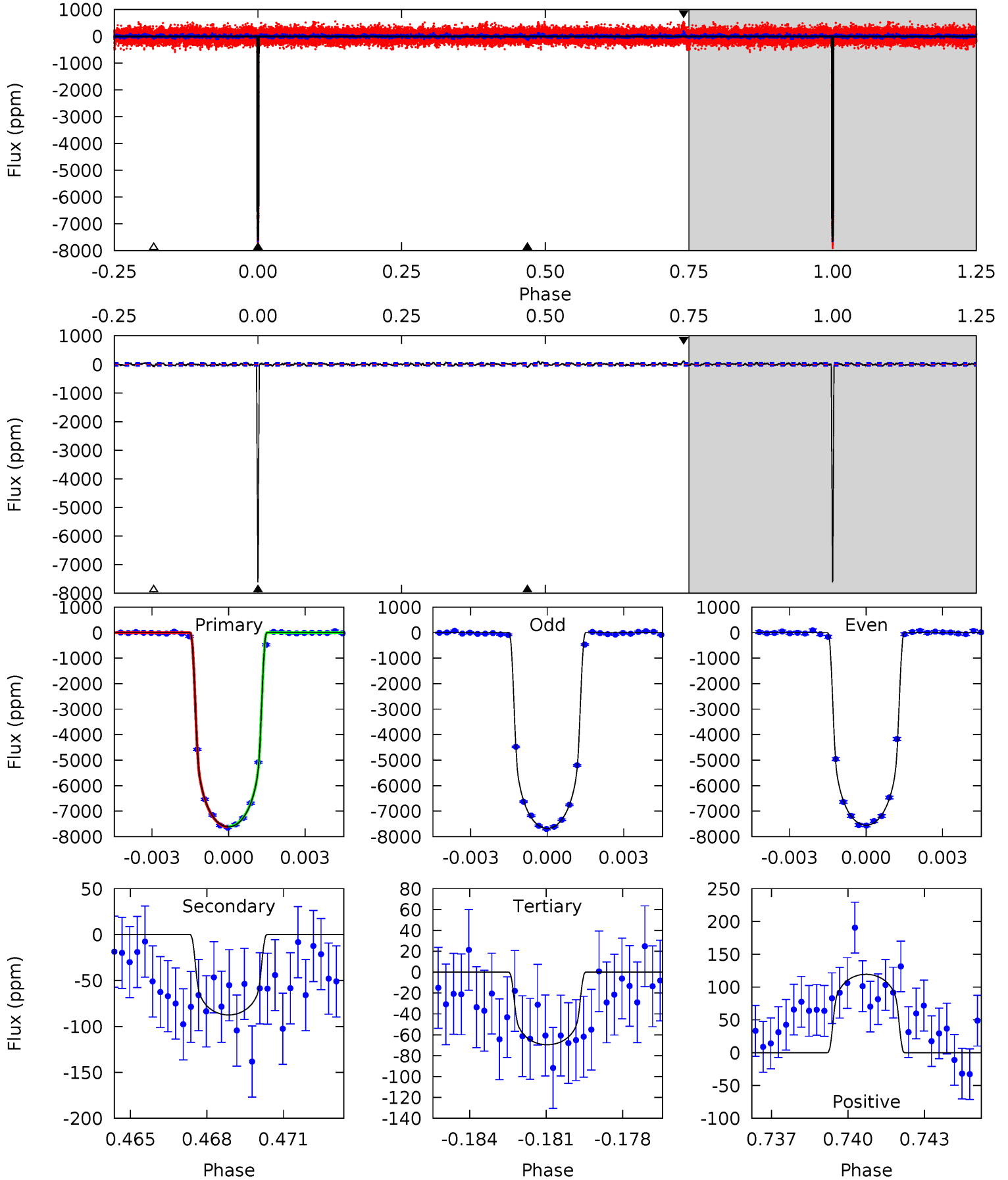
TCE 004150804-01 P=160.880229 Days $T_0=277.523602$ (BKJD)



DV Model-Shift Uniqueness Test

004150804-01, P = 160.884168 Days, E = 116.622056 Days

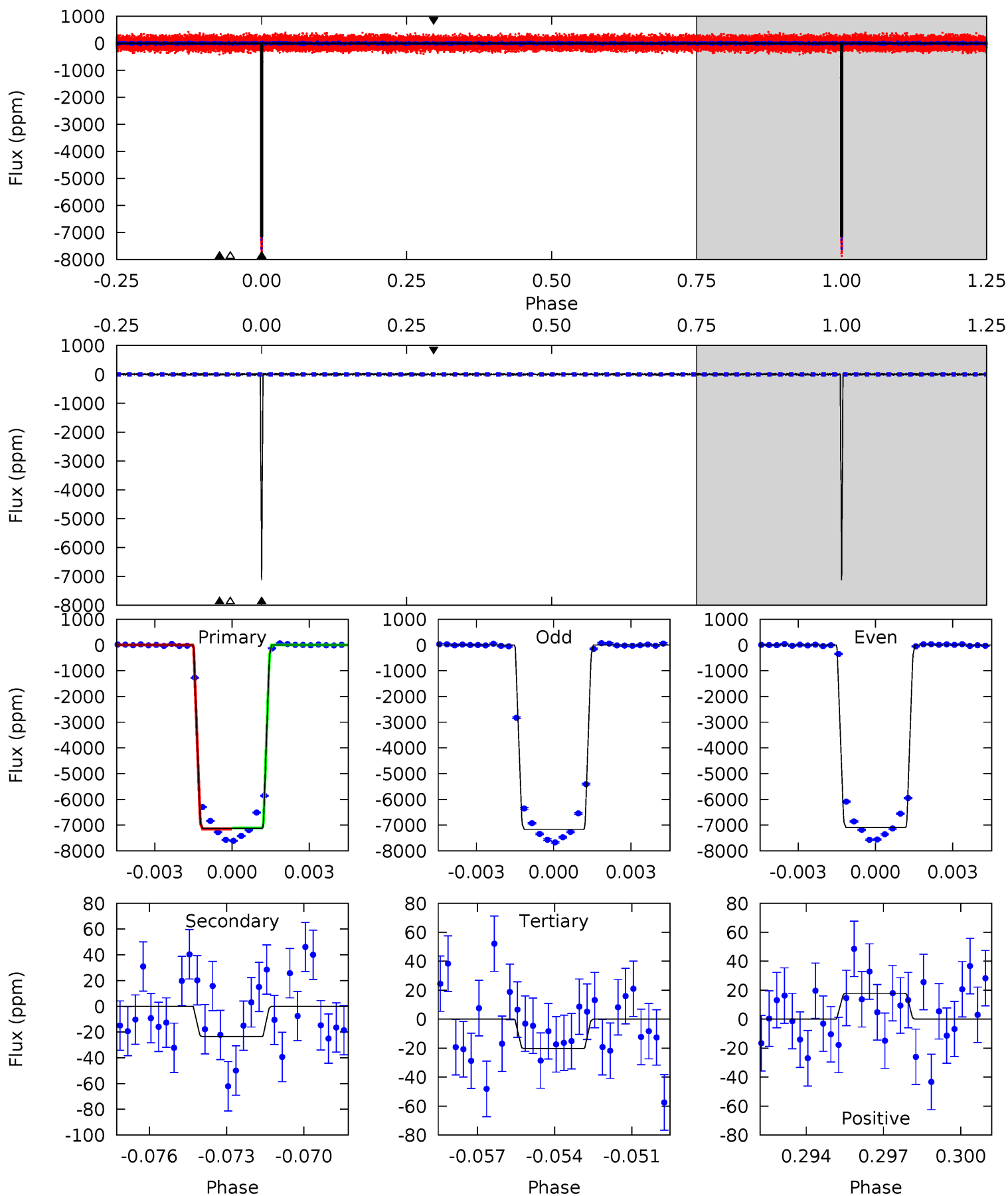
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
802.7	9.22	7.33	12.6	5.26	2.98	2.53	795.3	790.1	1.89	-3.37	6.68	0.93	0.02	1.14



Alt Model-Shift Uniqueness Test

004150804-01, P = 160.880229 Days, E = 116.643373 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
850.8	2.80	2.42	2.12	5.27	3.00	0.54	848.4	848.7	0.38	0.68	4.54	0.97	0.00	2.58



Stellar Parameters For KIC 004150804

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5650^{+186}_{-186}	$4.313^{+0.225}_{-0.225}$	$-0.280^{+0.300}_{-0.250}$	$1.044^{+0.349}_{-0.232}$	$0.818^{+0.127}_{-0.058}$	$1.012^{+1.230}_{-0.556}$
	+3%/-3%	+5%/-5%	+107%/-89%	+33%/-22%	+16%/-7%	+122%/-55%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004150804-01 / KOI 3678.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-87 ± 9	$9.19^{+1.91}_{-1.17}$	482^{+45}_{-35}	2700^{+58}_{-60}	166^{+62}_{-49}
Alt.	-23 ± 8	$9.58^{+1.94}_{-1.30}$	485^{+45}_{-38}	2288^{+84}_{-116}	40^{+23}_{-17}

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

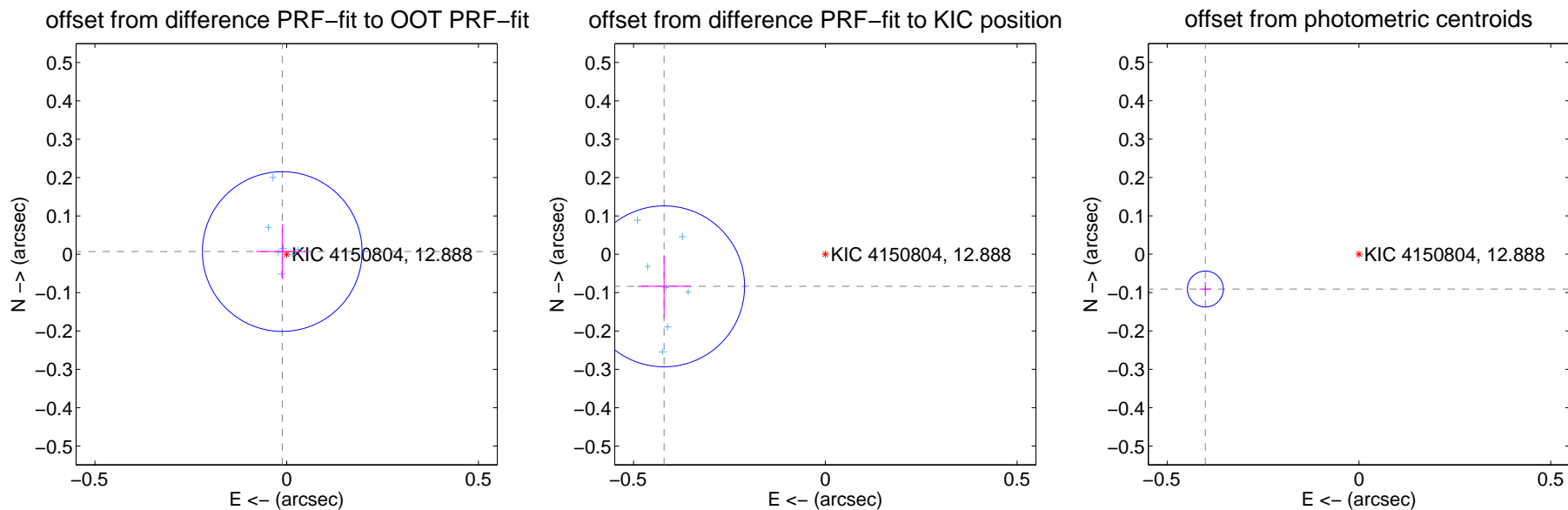
DV Centroid Data

Supplemental centroid analysis for 004150804-01. Kepler magnitude: 12.89. Transit SNR 361.92

There are 7 quarters with good PRF difference image offsets

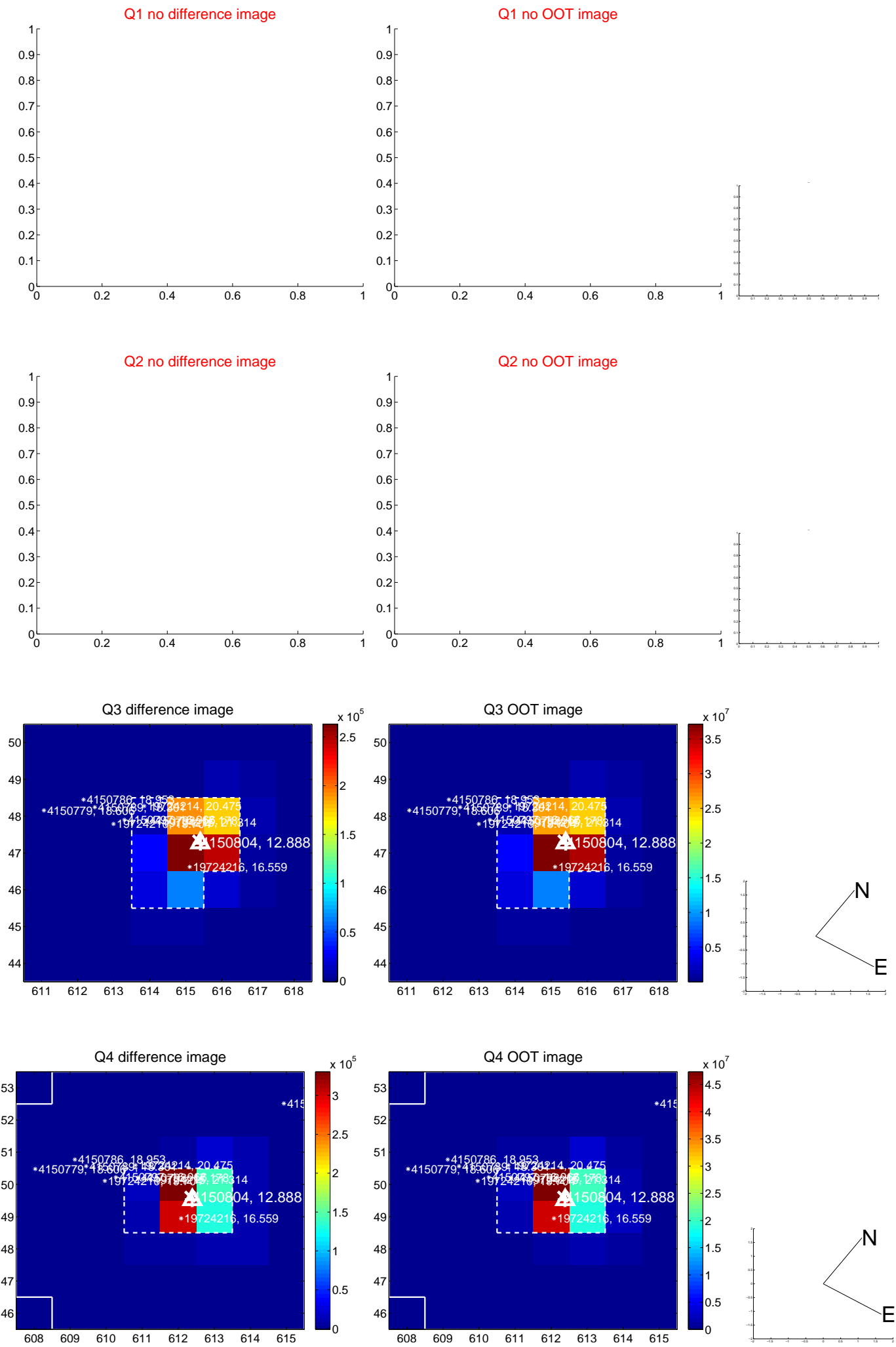
The direct PRF centroid is offset from the target star catalog position by about 0.47 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.014 ± 0.069	0.20	0.012 ± 0.068	0.007 ± 0.071
PRF-fit source offset from KIC position	0.429 ± 0.070	6.13	0.421 ± 0.069	-0.084 ± 0.082
photometric centroid source offset	0.41 ± 0.02	26.28	0.40 ± 0.02	-0.09 ± 0.02

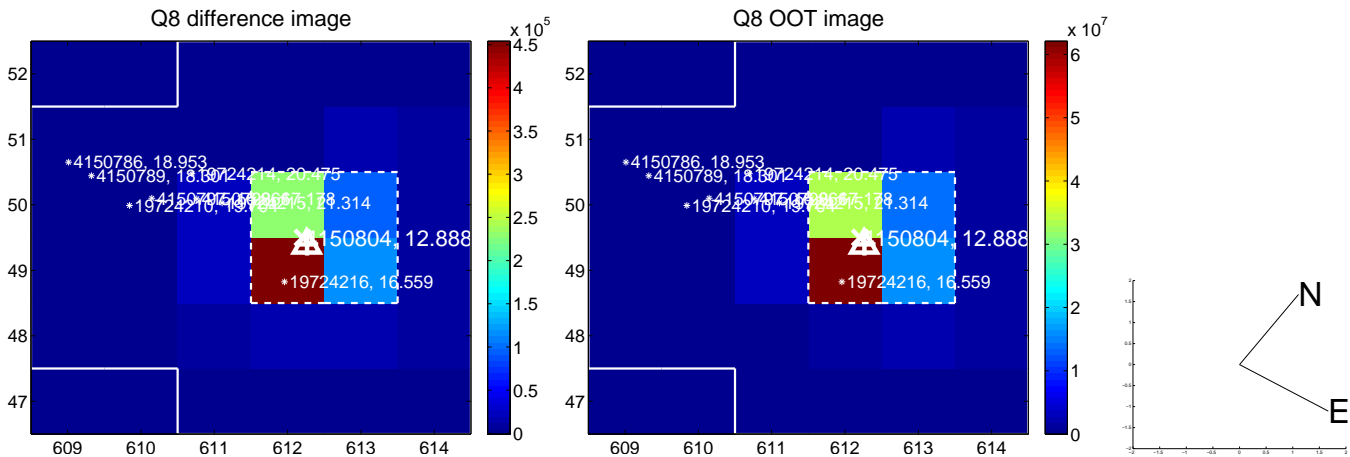
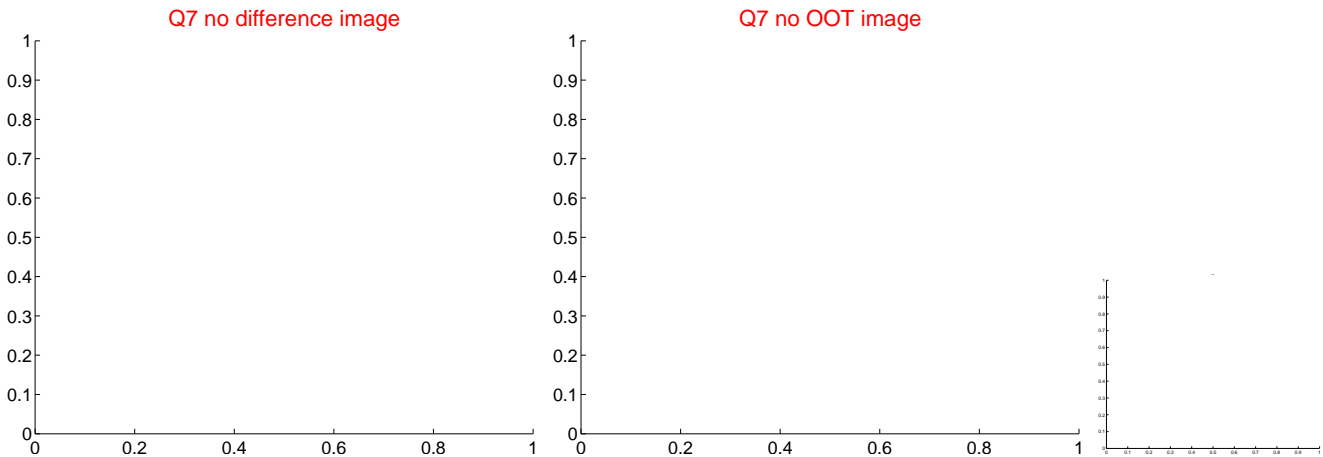
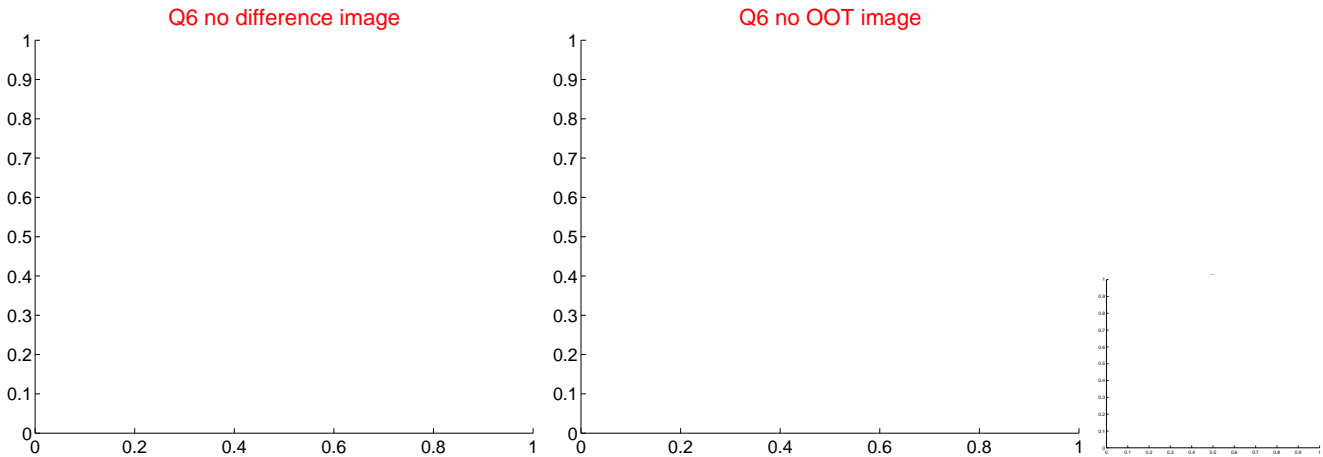
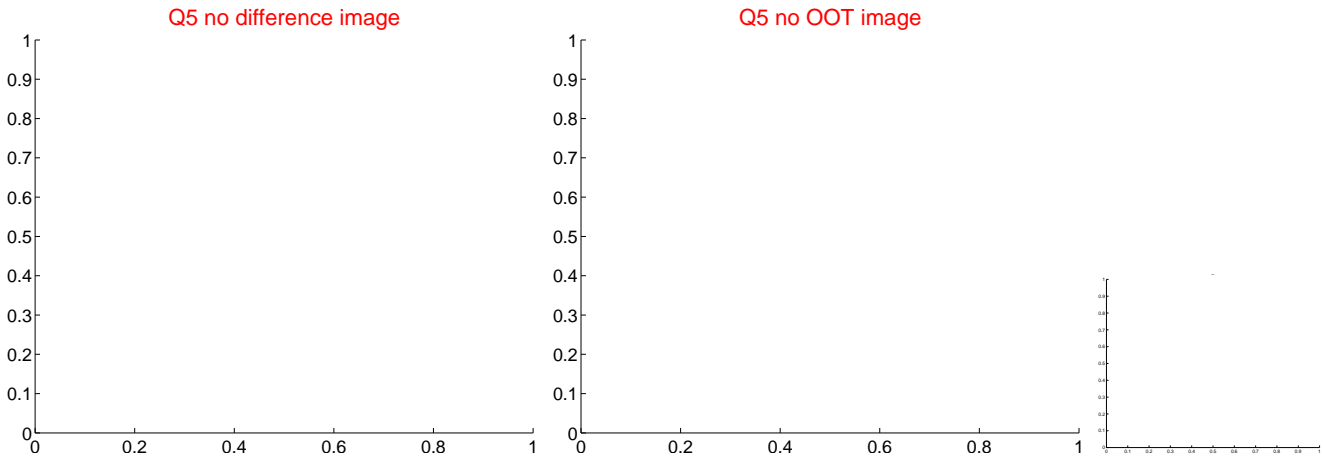


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

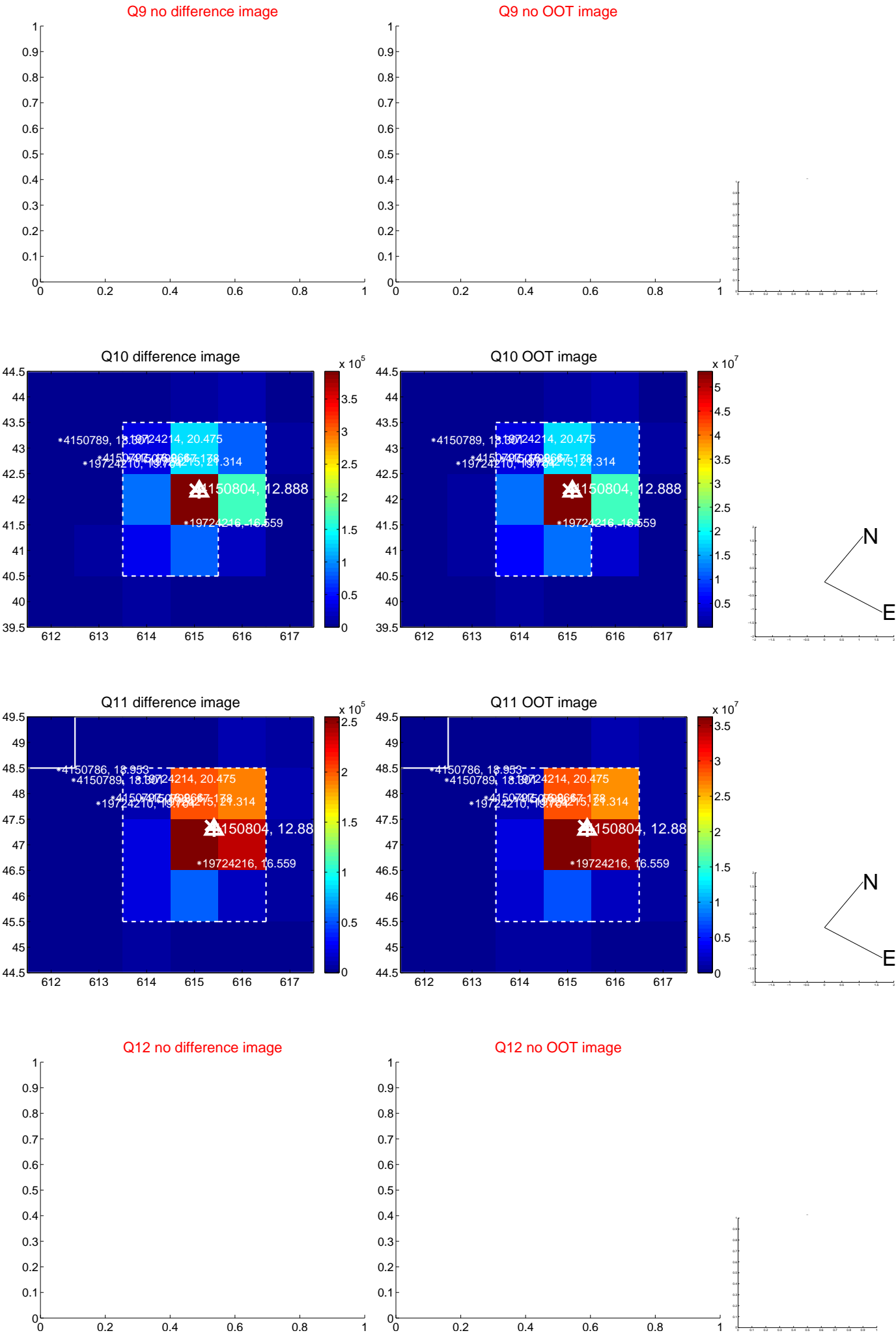
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



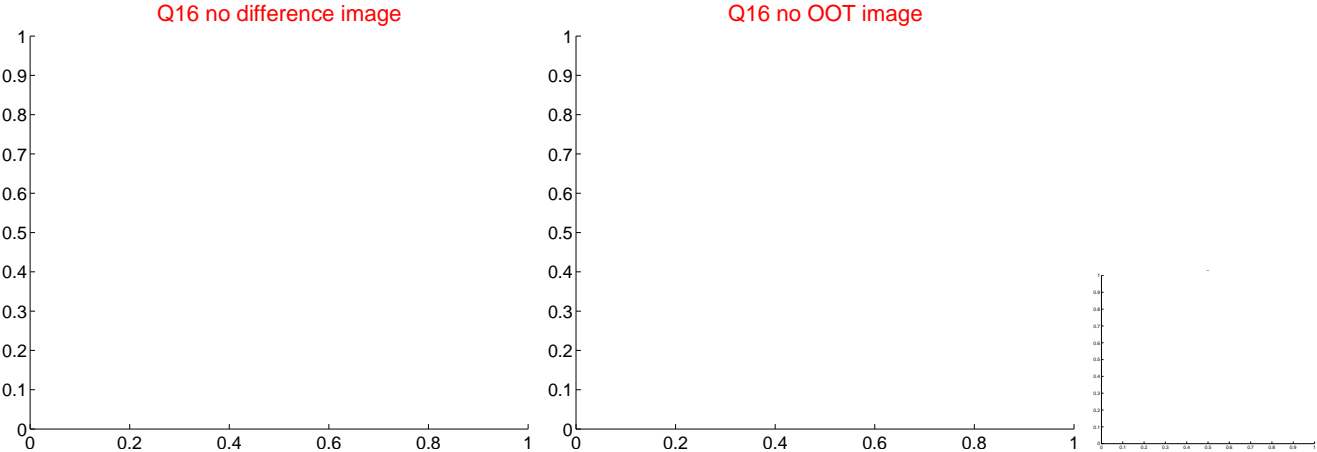
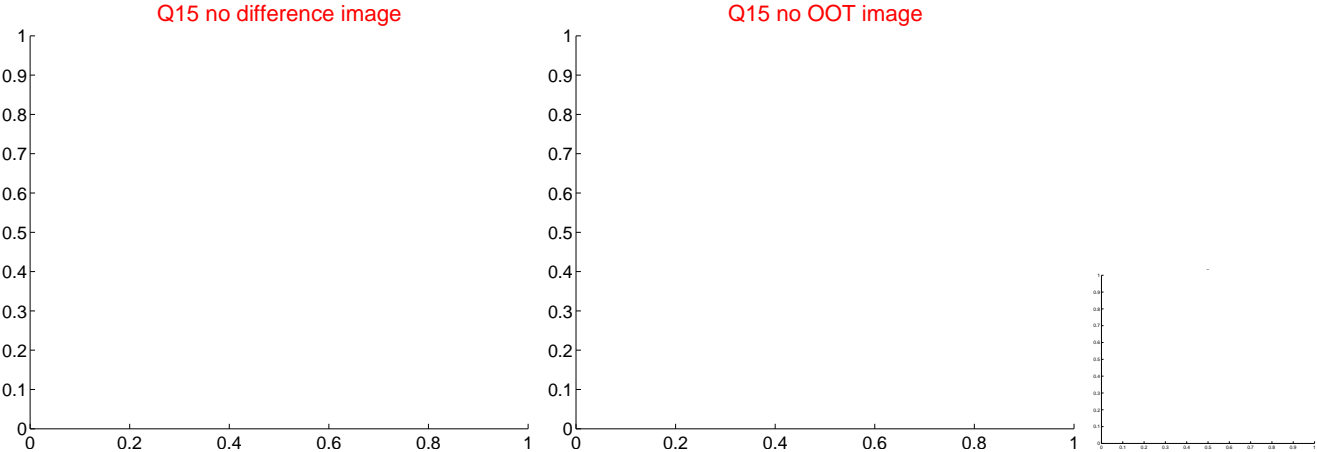
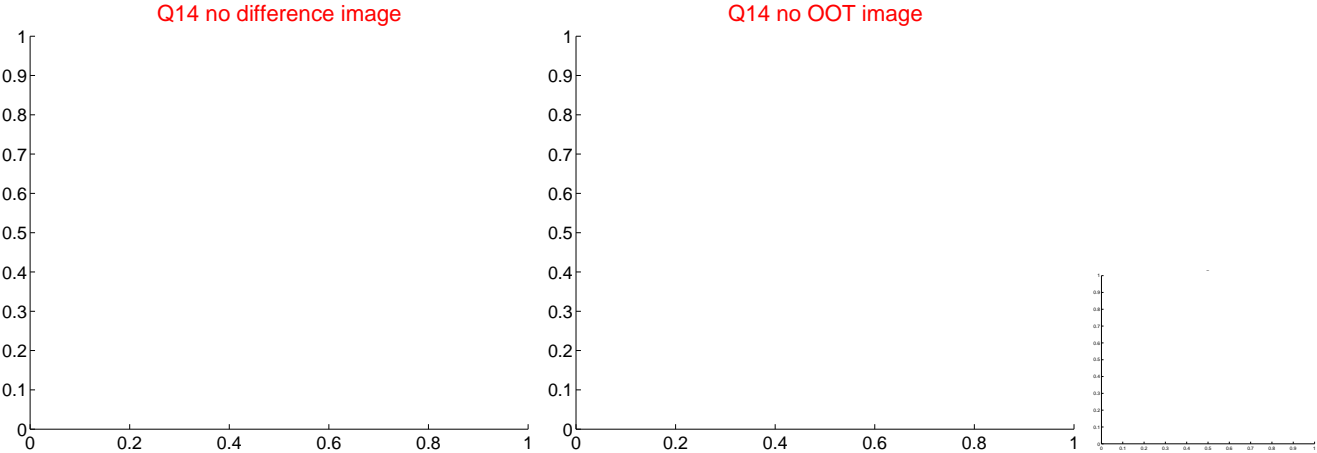
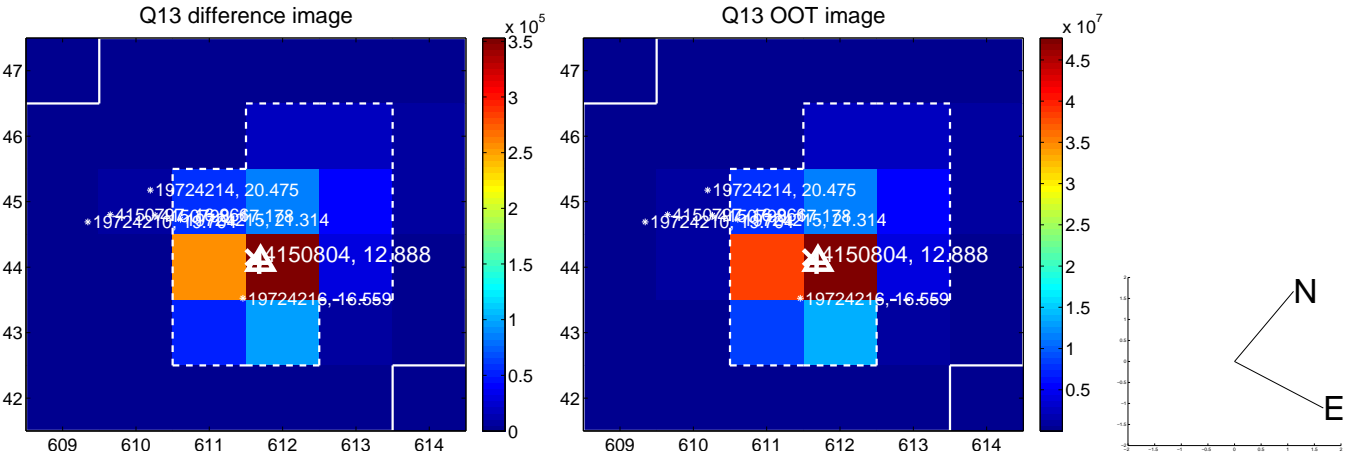
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



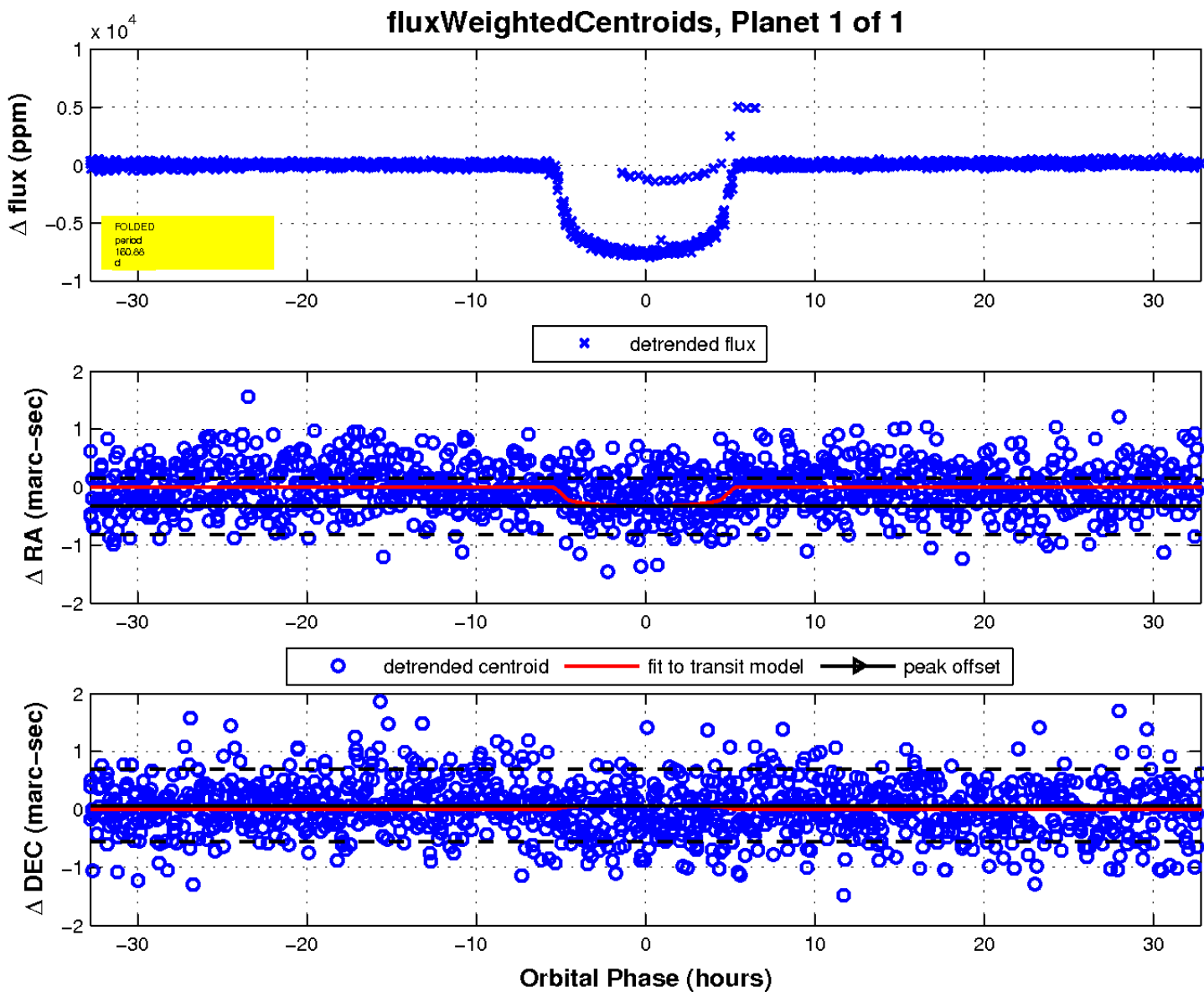
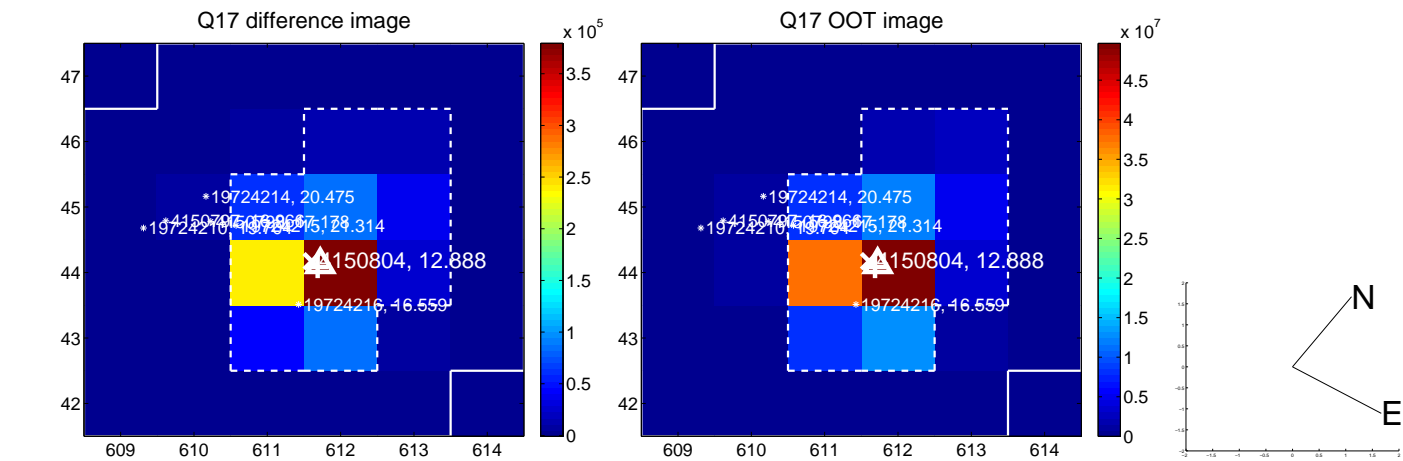
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UKIRT Image

