

KIC 003657176

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})
003657176-01	OBS	2903.01	17.416581	141.105053	336.4	2.632	12.1	13.1	1.02	5946	2.21	64.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003657176-01	OBS	FP	0.00	0	0	1	0	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.

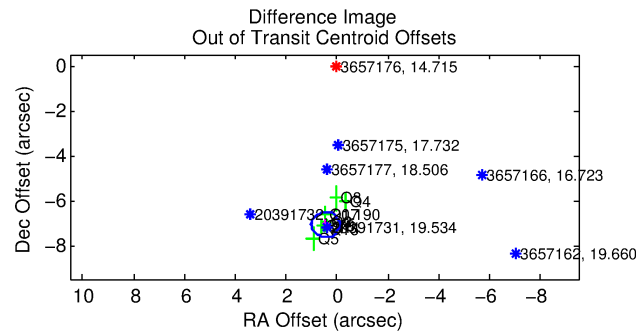
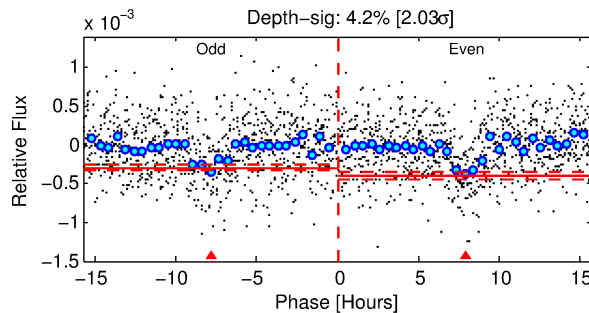
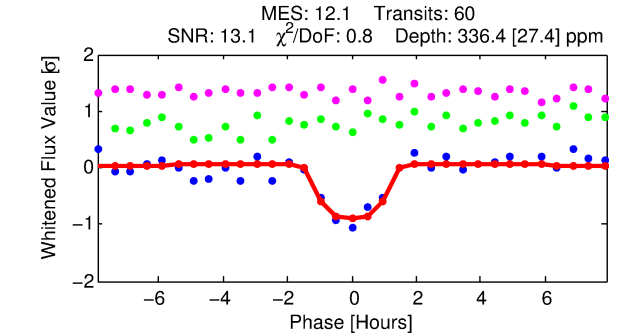
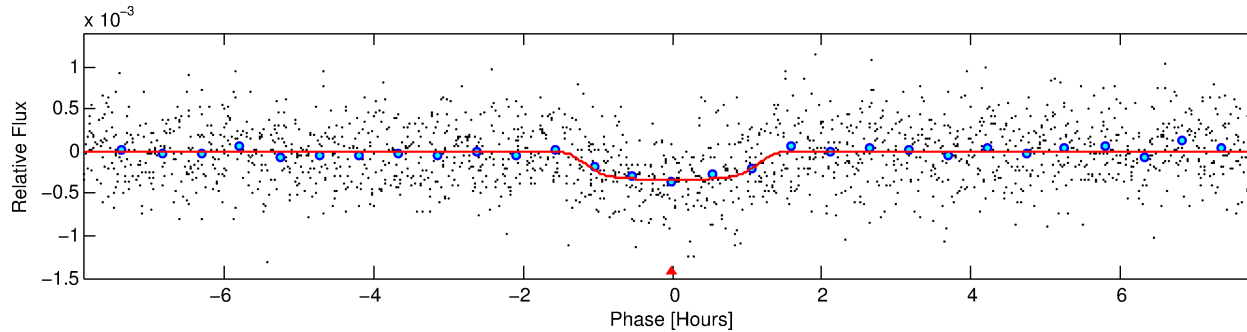
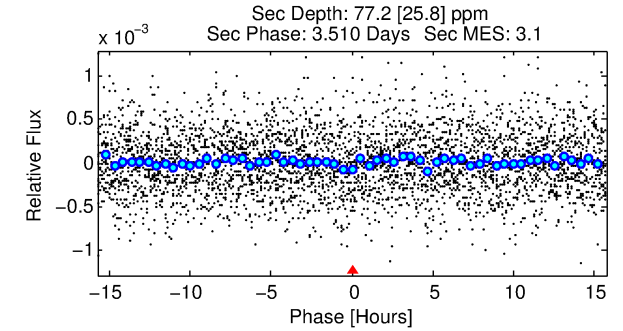
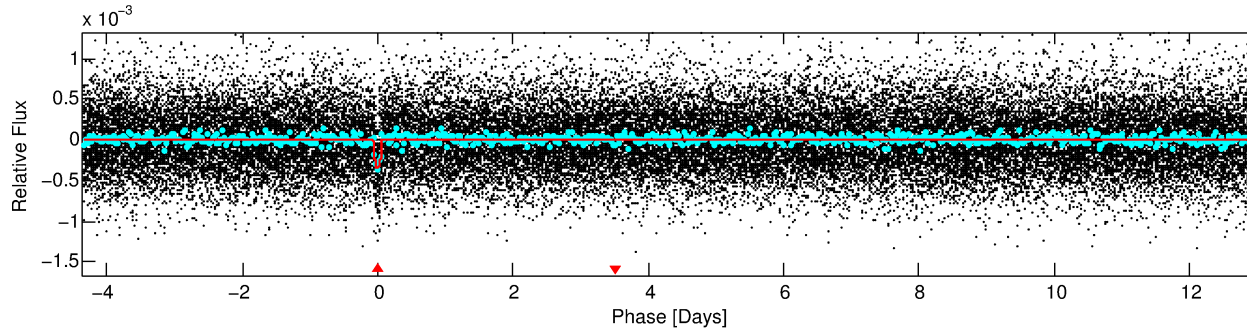
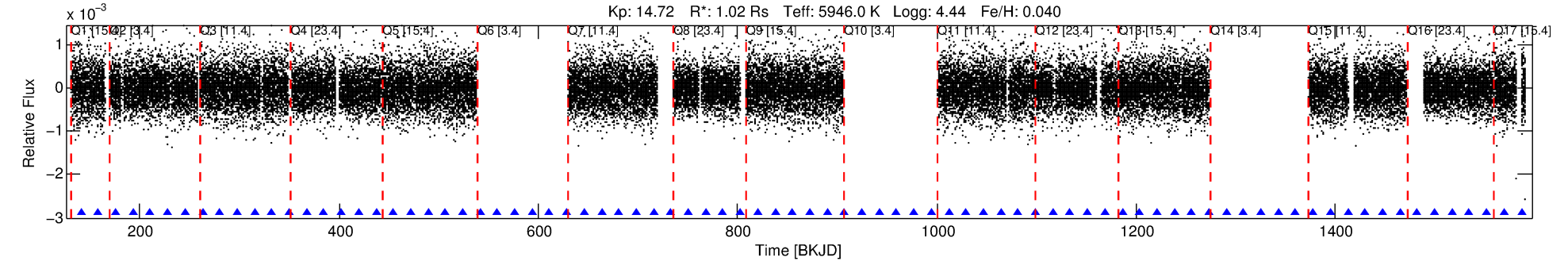
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003657176-01

No Significant Match Found

DV One-Page Summary

KIC: 3657176 Candidate: 1 of 1 Period: 17.417 d
KOI: K02903.01 Corr: 0.968



DV Fit Results:

Period = 17.41658 [0.00009] d
Epoch = 141.1051 [0.0042] BKJD
Rp/R* = 0.0200 [0.0069]
a/R* = 24.10 [40.24]
b = 0.90 [0.35]
Seff = 64.87 [26.75]
Teq = 724 [75] K
Rp = 2.22 [1.05] Re
a = 0.1336 [0.0358] AU
Ag = 154.55 [133.24] [1.15σ]
Teffp = 3945 [773] K [4.15σ]

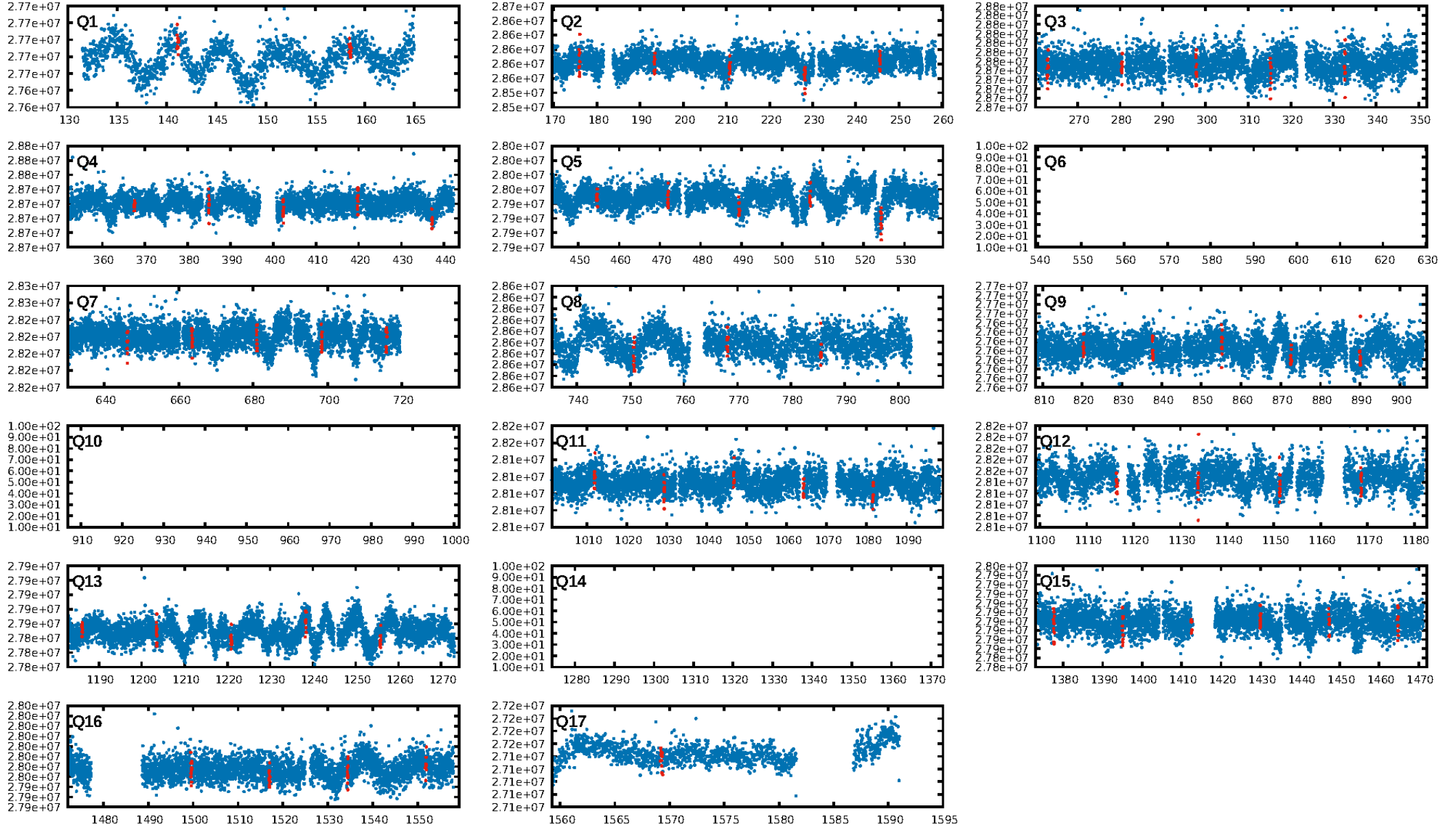
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 63.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.13e-33
RollingBand-fgt: 1.00 [57/57]
GhostDiagnostic-chr: -0.1662
Centroid-sig: 0.0%
Centroid-so: 16.129 arcsec [15.33σ]
OotOffset-rm: 7.095 arcsec [37.76σ]
KicOffset-rm: 7.224 arcsec [40.79σ]
OotOffset-st: 1/4/2/4 [11]
KicOffset-st: 1/4/2/4 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [14/14]

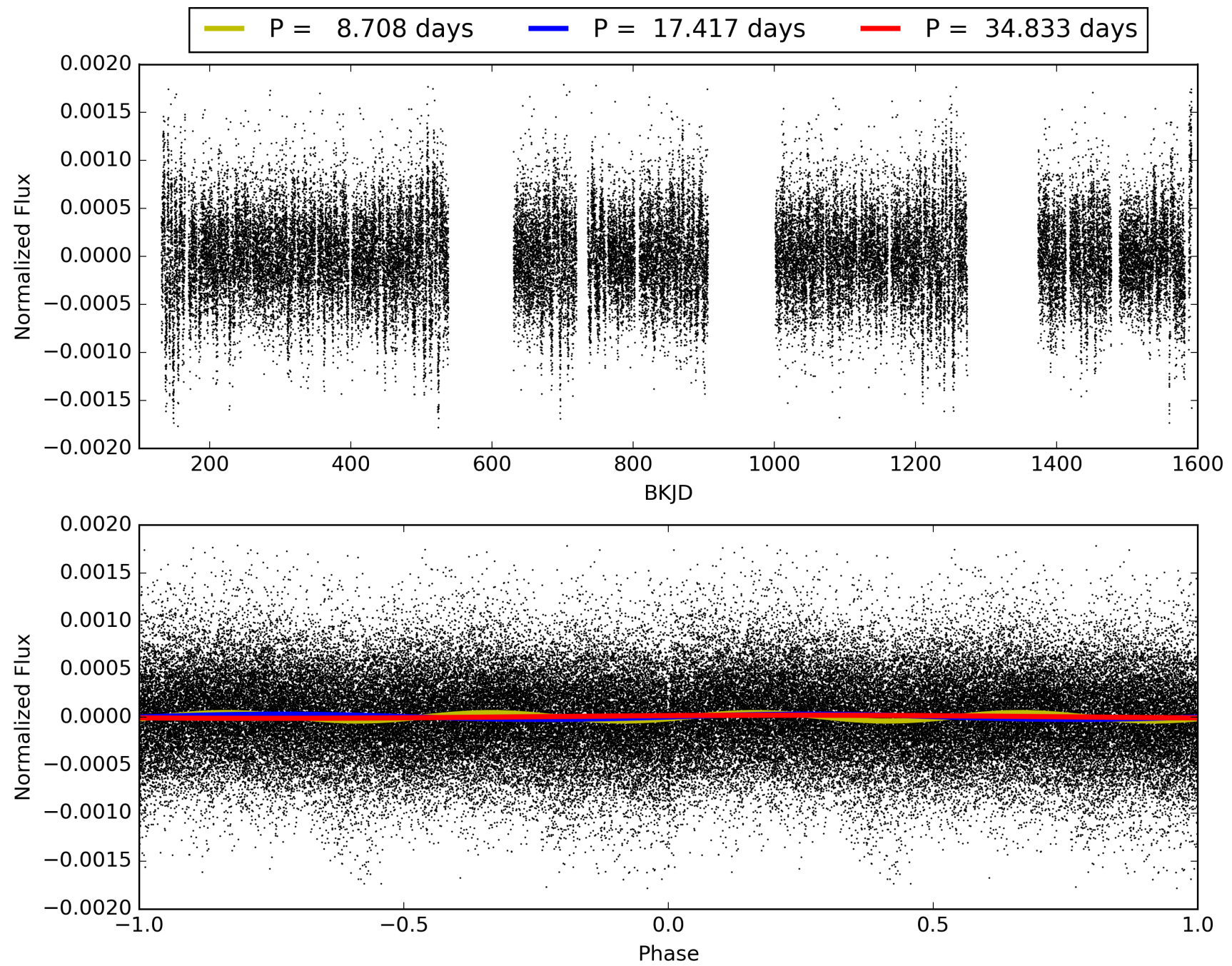
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 11:46:01 Z

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

TCE 003657176-01, PDC Light Curves

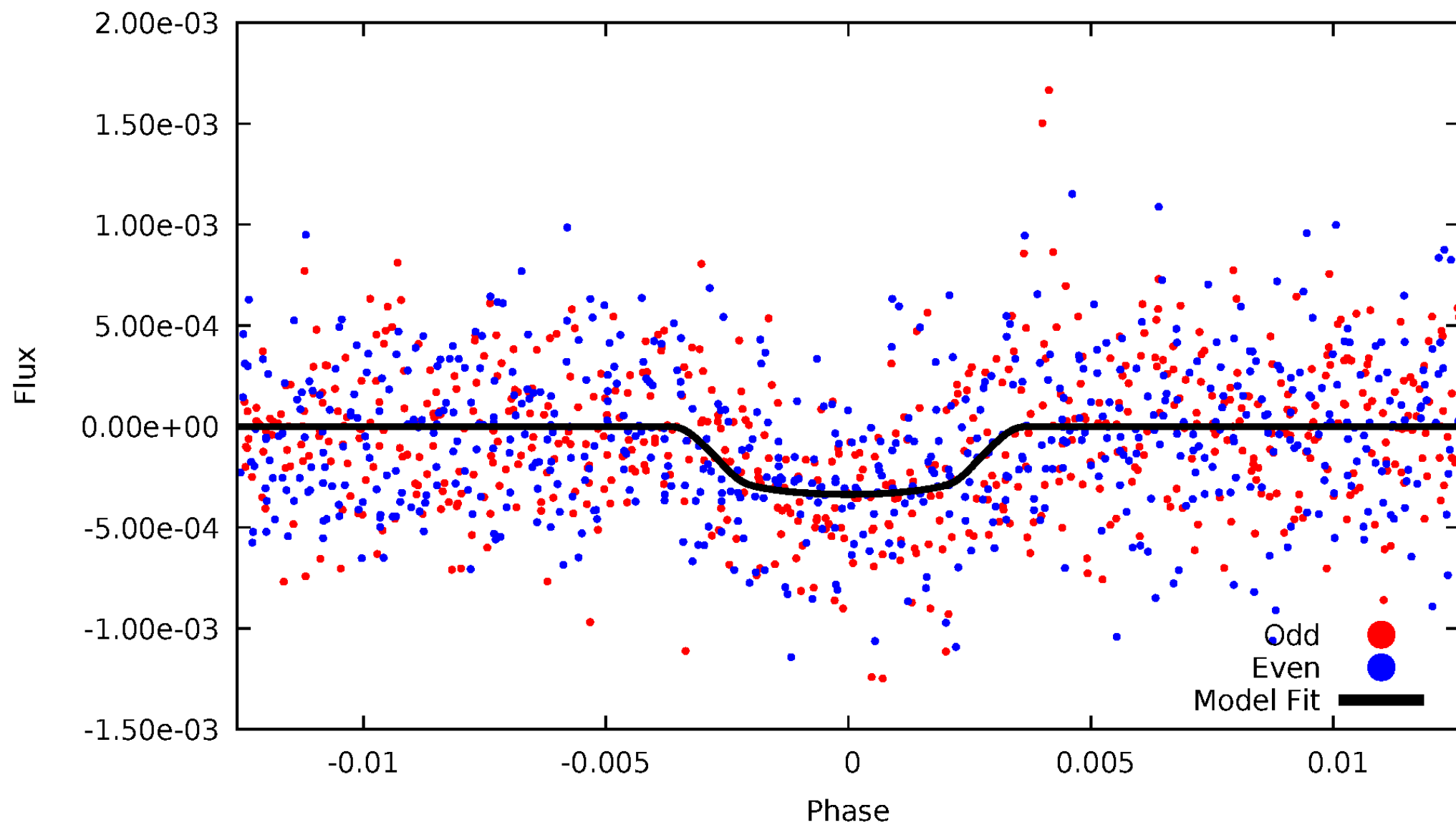


TCE 003657176-01



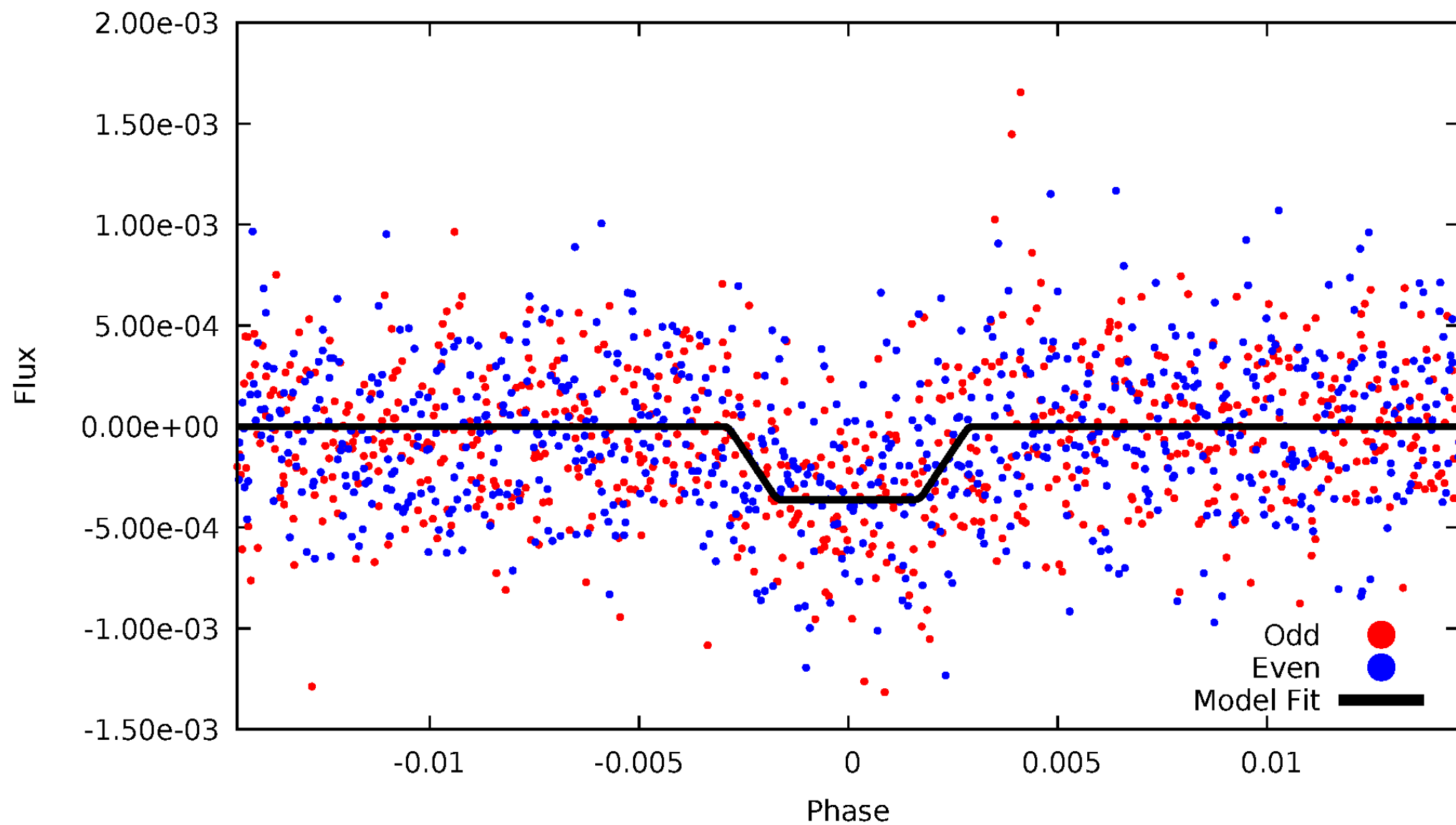
DV Odd/Even

TCE 003657176-01



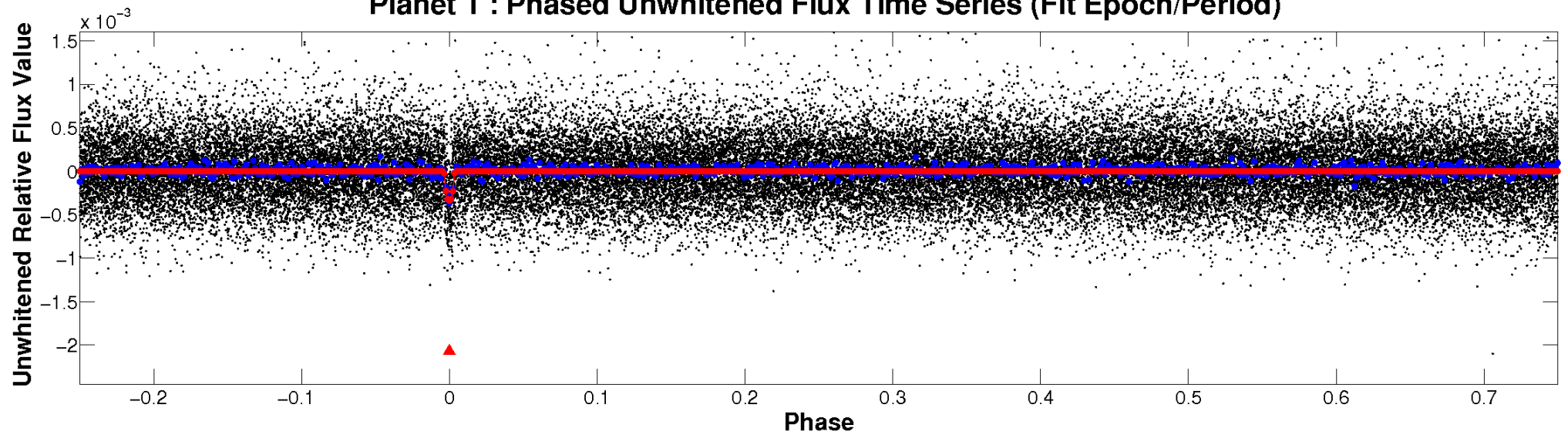
ALT Odd/Even

TCE 003657176-01

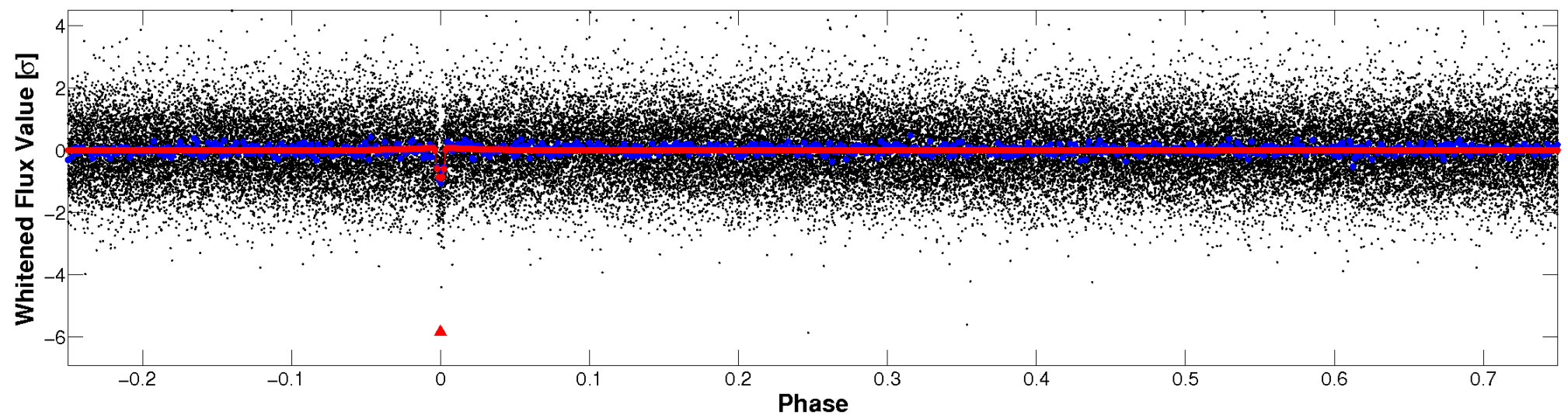


Non-Whitened Vs. Whitened Light Curve

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

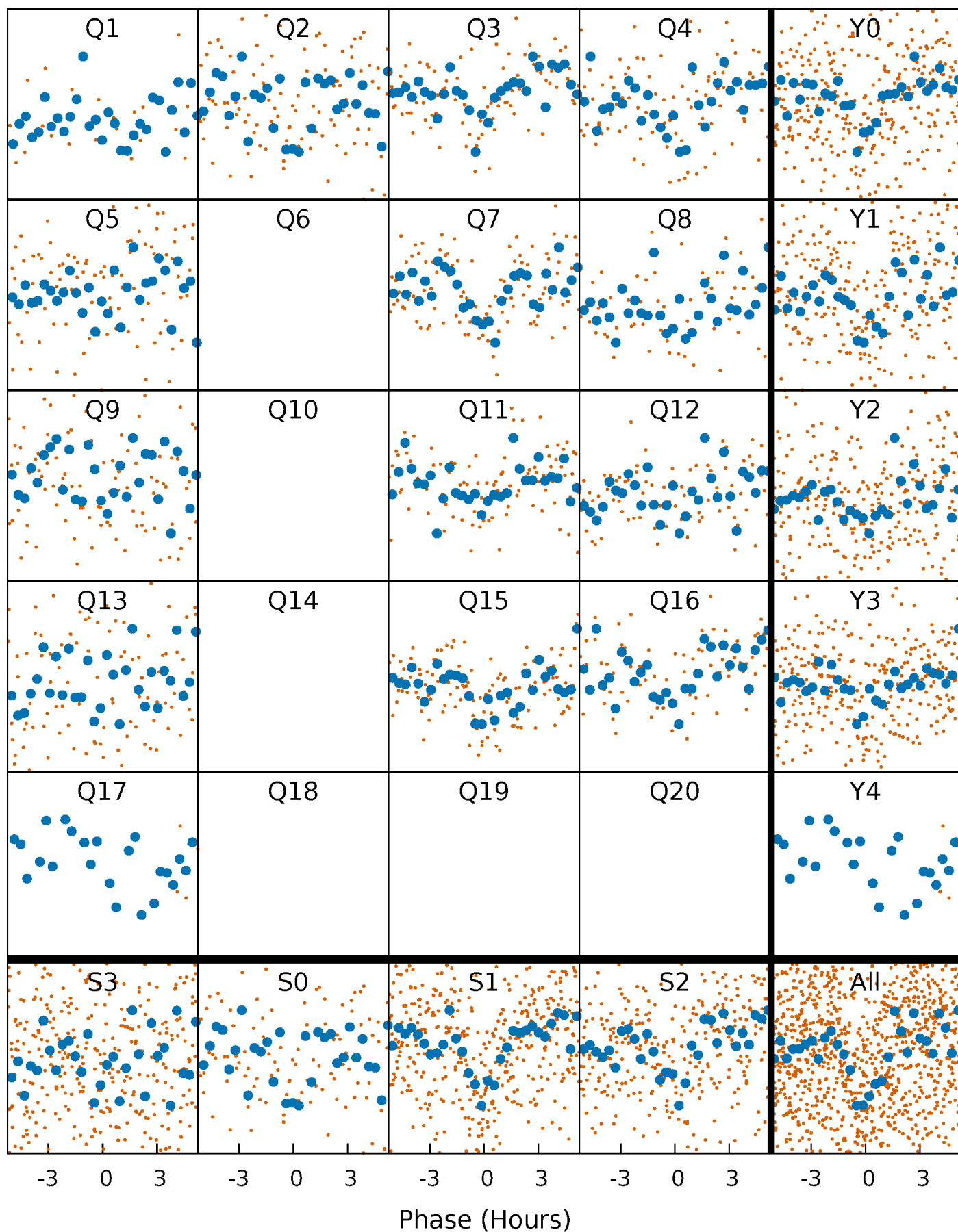


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



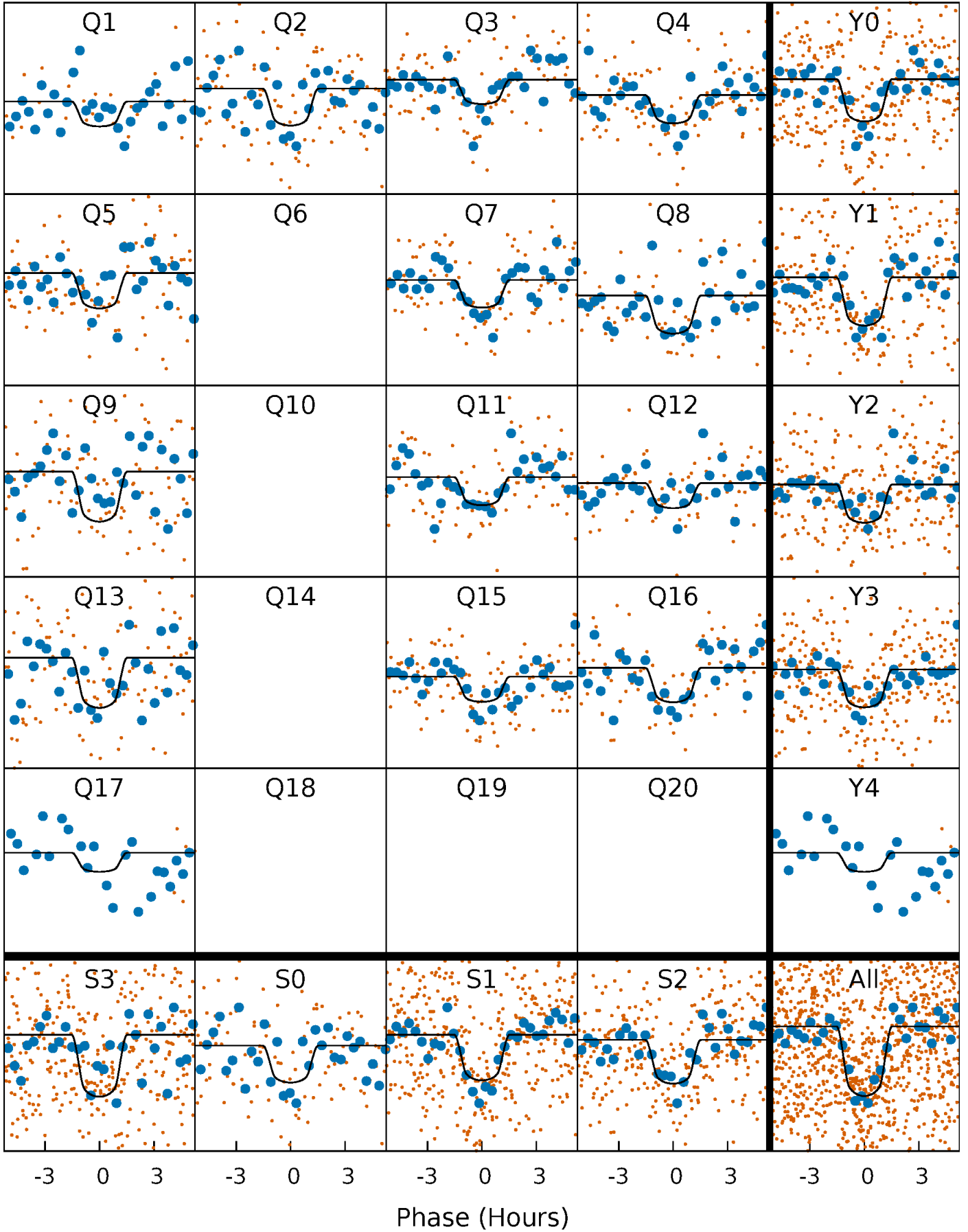
PDC Quarter-Phased Transit Curves

TCE 003657176-01 P= 17.416581 Days $T_0=141.105053$ (BKJD)



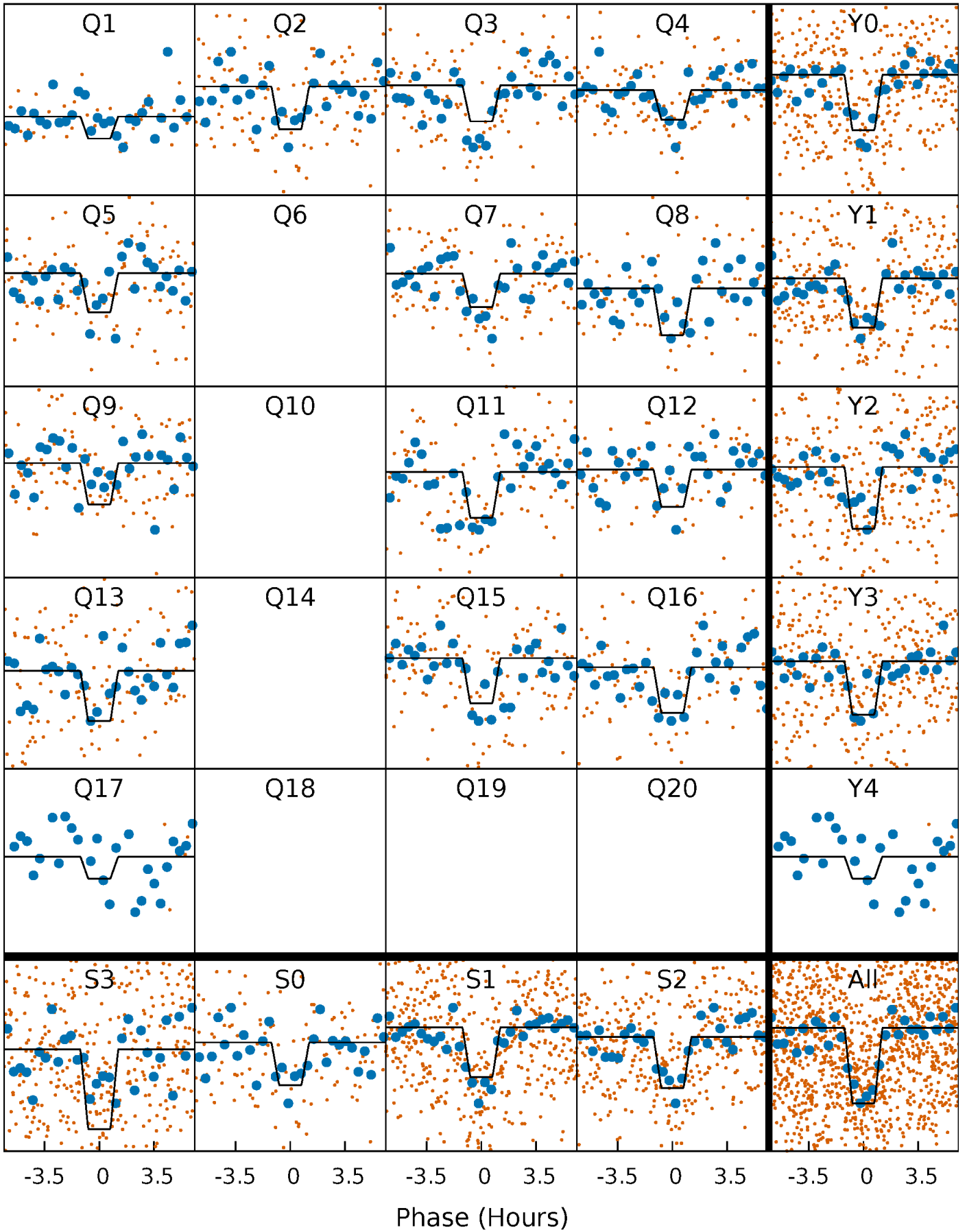
DV Quarter-Phased Transit Curves

TCE 003657176-01 P= 17.416581 Days $T_0=141.105053$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

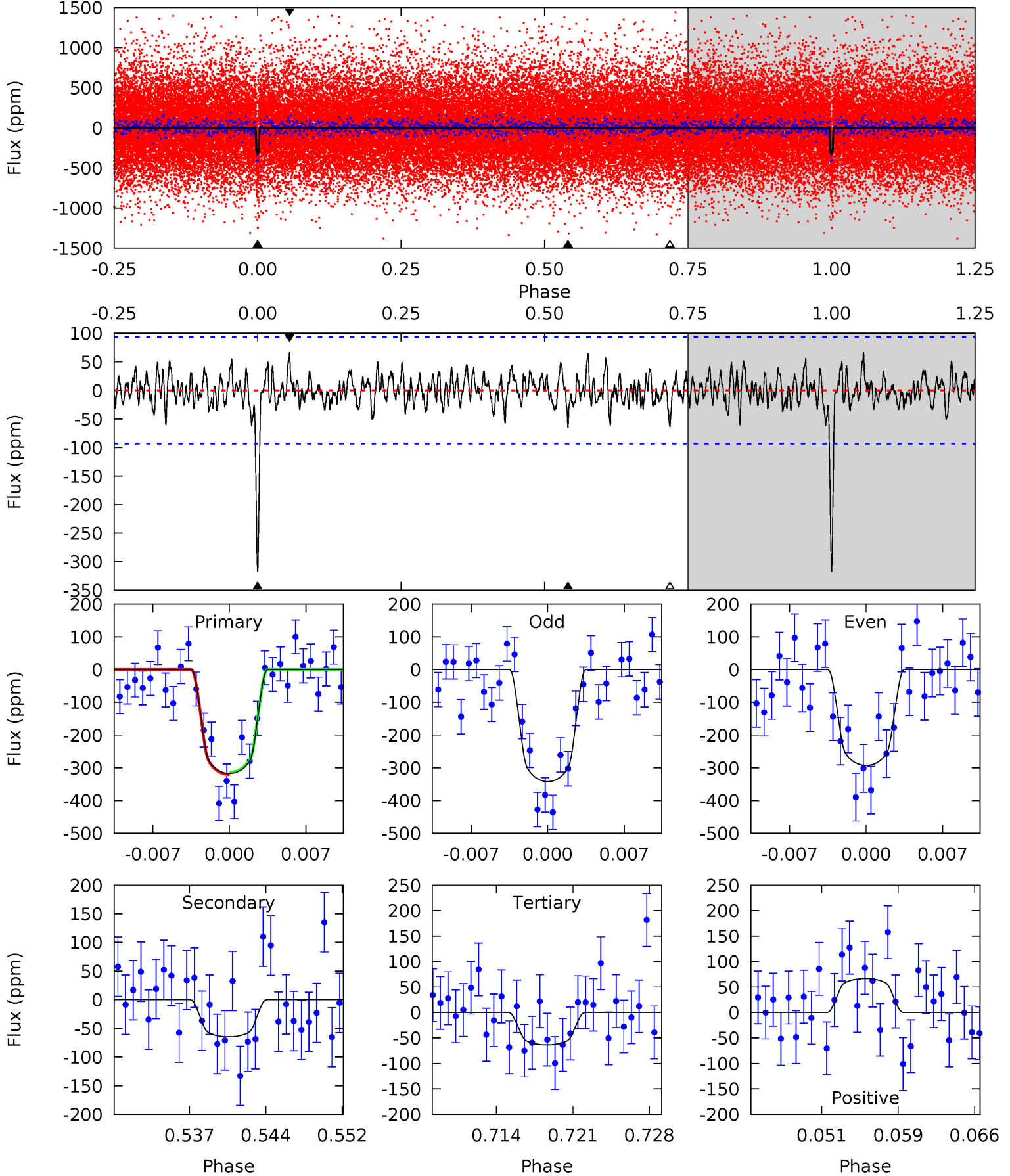
TCE 003657176-01 P= 17.416681 Days $T_0=141.101088$ (BKJD)



DV Model-Shift Uniqueness Test

003657176-01, P = 17.416581 Days, E = 123.688472 Days

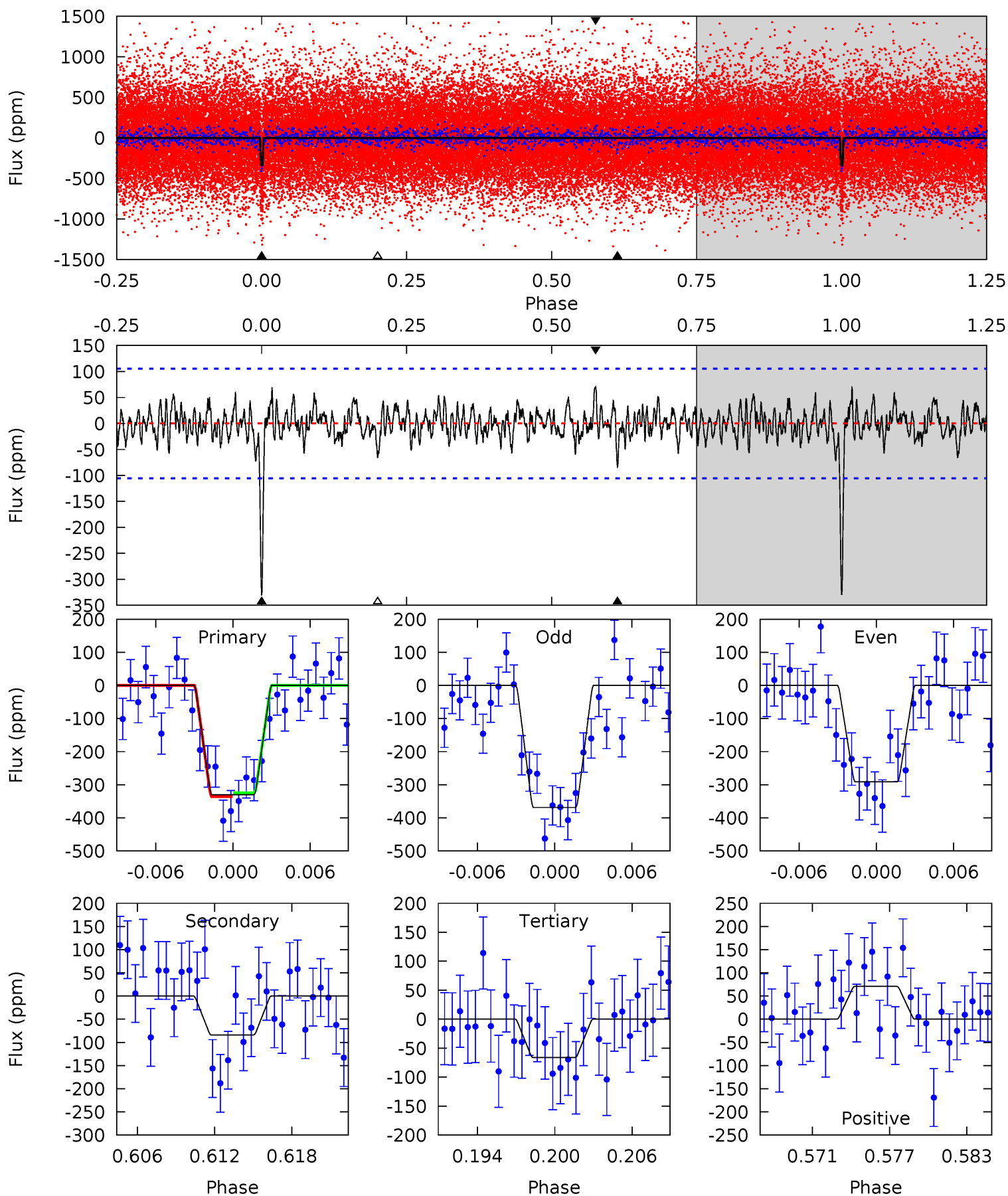
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	3.53	3.46	3.63	5.08	2.68	1.16	13.8	13.7	0.07	-0.10	1.35	1.03	0.17	0.18



Alt Model-Shift Uniqueness Test

003657176-01, P = 17.416681 Days, E = 123.684407 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	4.09	3.21	3.44	5.13	2.75	1.12	12.8	12.6	0.88	0.65	1.89	1.03	0.18	0.27



Stellar Parameters For KIC 003657176

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5946^{+176}_{-211}	$4.444^{+0.070}_{-0.210}$	$0.040^{+0.250}_{-0.300}$	$1.017^{+0.327}_{-0.109}$	$1.046^{+0.140}_{-0.140}$	$1.403^{+0.410}_{-0.757}$
	+3%/-4%	+2%/-5%	+625%/-750%	+32%/-11%	+13%/-13%	+29%/-54%
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 003657176-01 / KOI 2903.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-65 ± 18	$2.29^{+0.89}_{-0.81}$	1031^{+81}_{-58}	4069^{+741}_{-472}	115^{+187}_{-62}
Alt.	-84 ± 21	$2.21^{+0.82}_{-0.89}$	1027^{+77}_{-53}	4350^{+1019}_{-534}	167^{+296}_{-85}

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 $A_{obs} \gg 1.0$

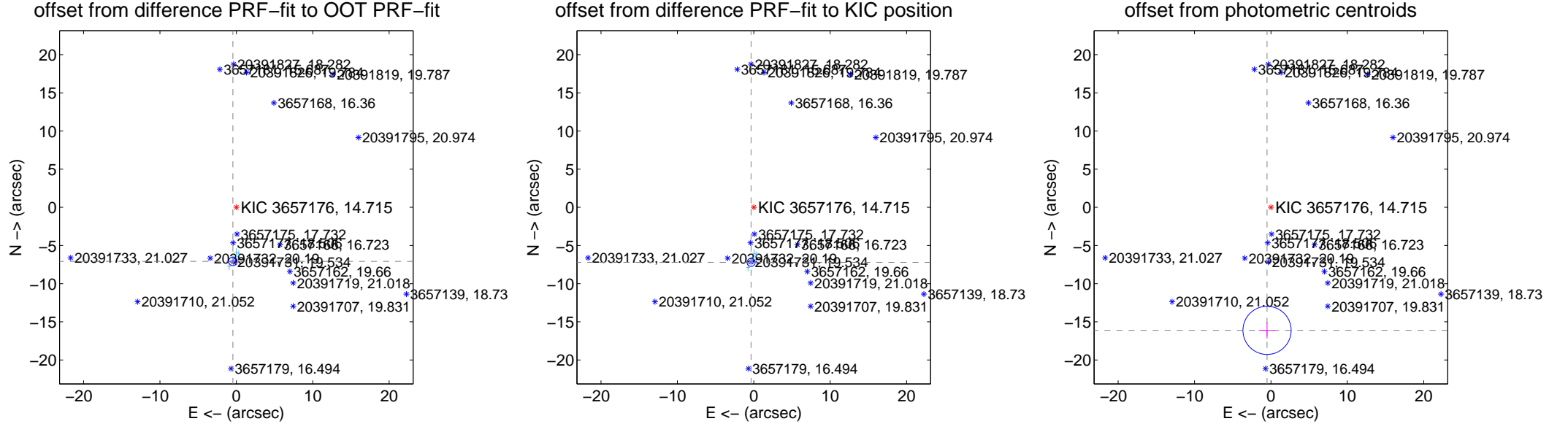
DV Centroid Data

Supplemental centroid analysis for 003657176-01. Kepler magnitude: 14.71. Transit SNR 13.15

There are 11 quarters with good PRF difference image offsets

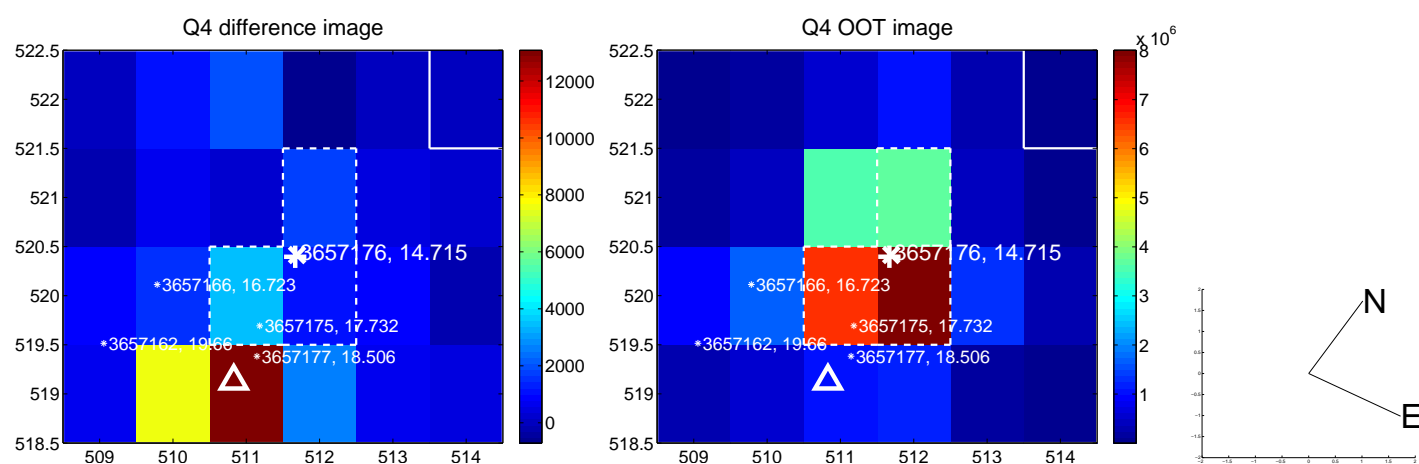
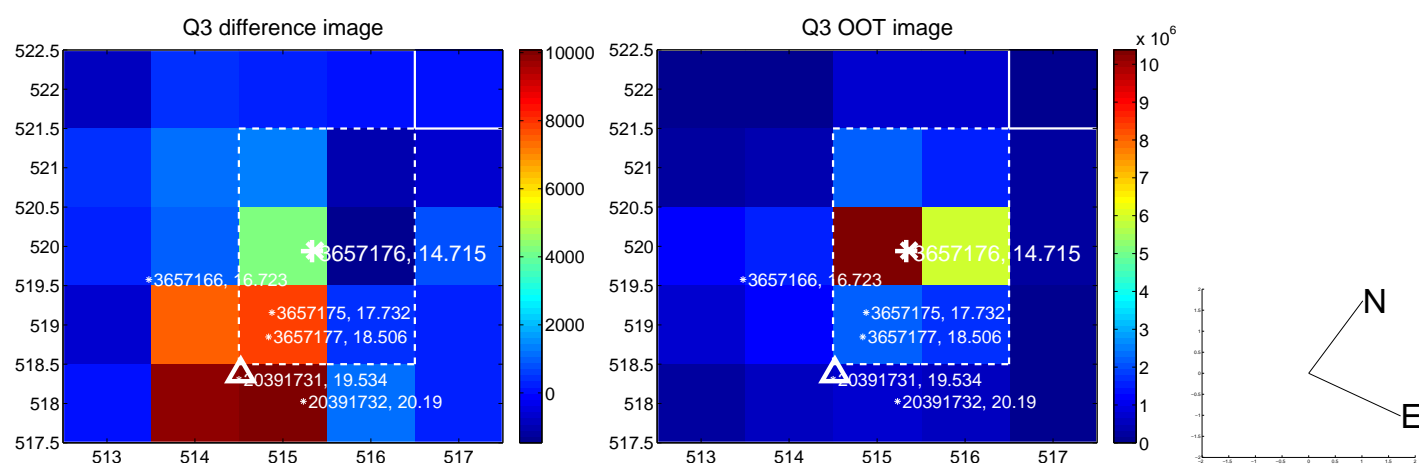
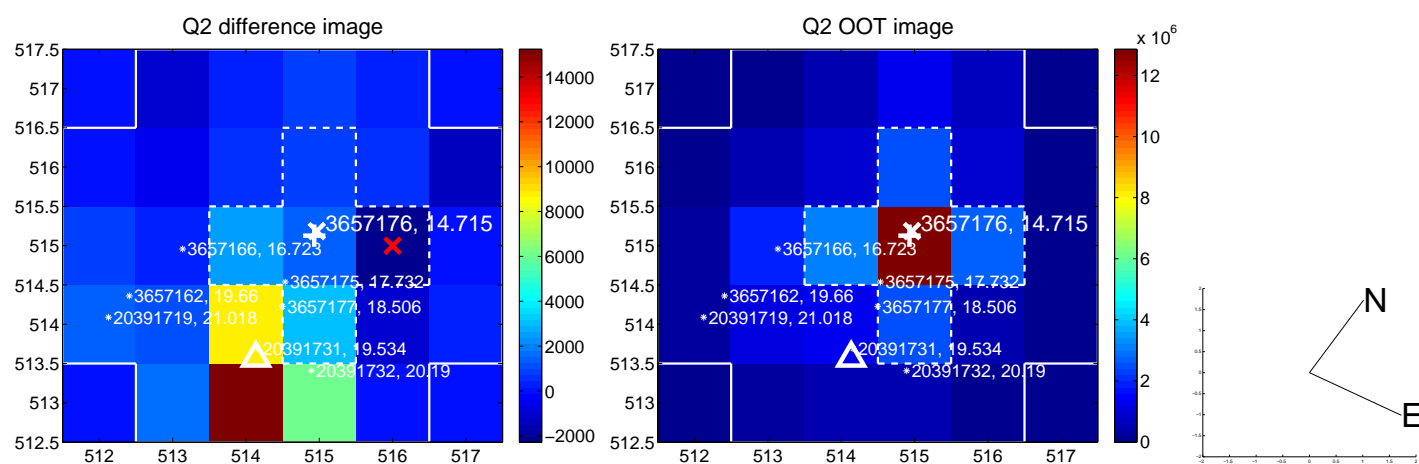
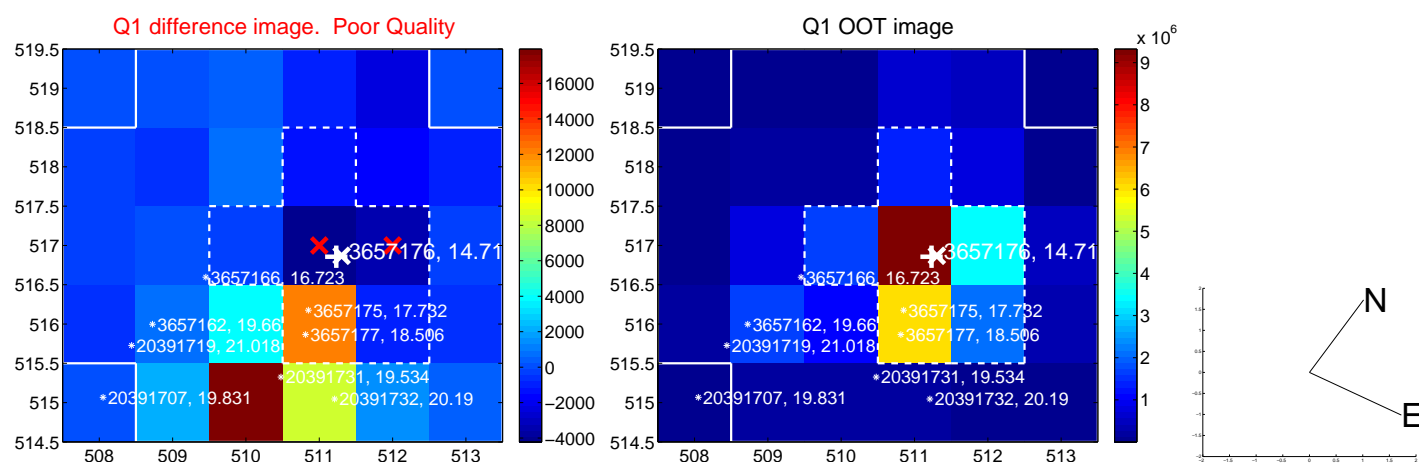
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.095 \pm 0.188	37.76	0.451 \pm 0.118	-7.081 \pm 0.183
PRF-fit source offset from KIC position	7.224 \pm 0.177	40.79	0.351 \pm 0.113	-7.215 \pm 0.173
photometric centroid source offset	16.13 \pm 1.05	15.33	0.51 \pm 1.08	-16.12 \pm 1.05

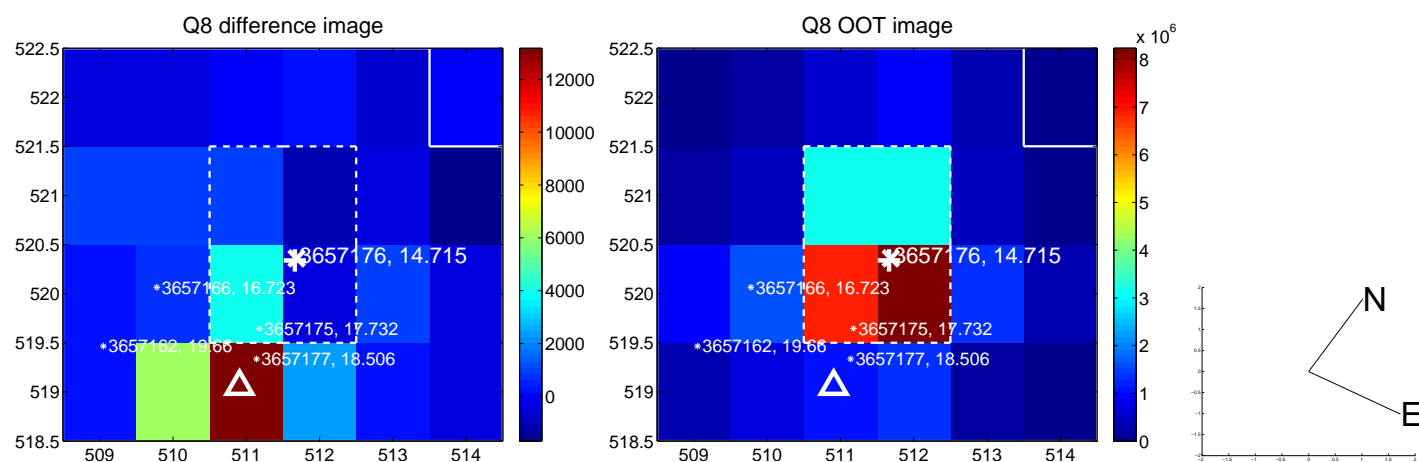
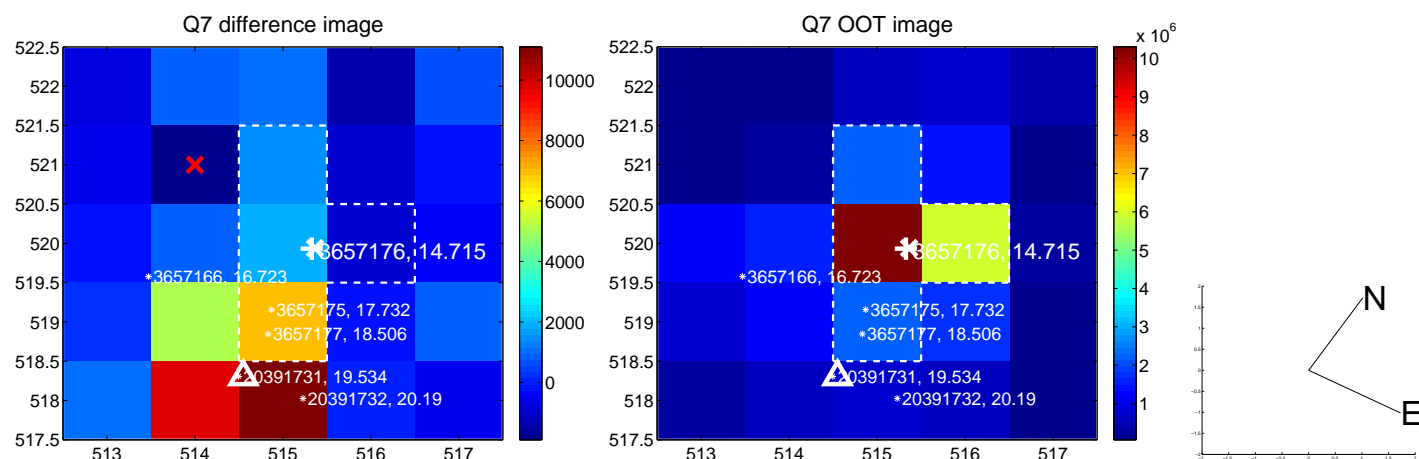
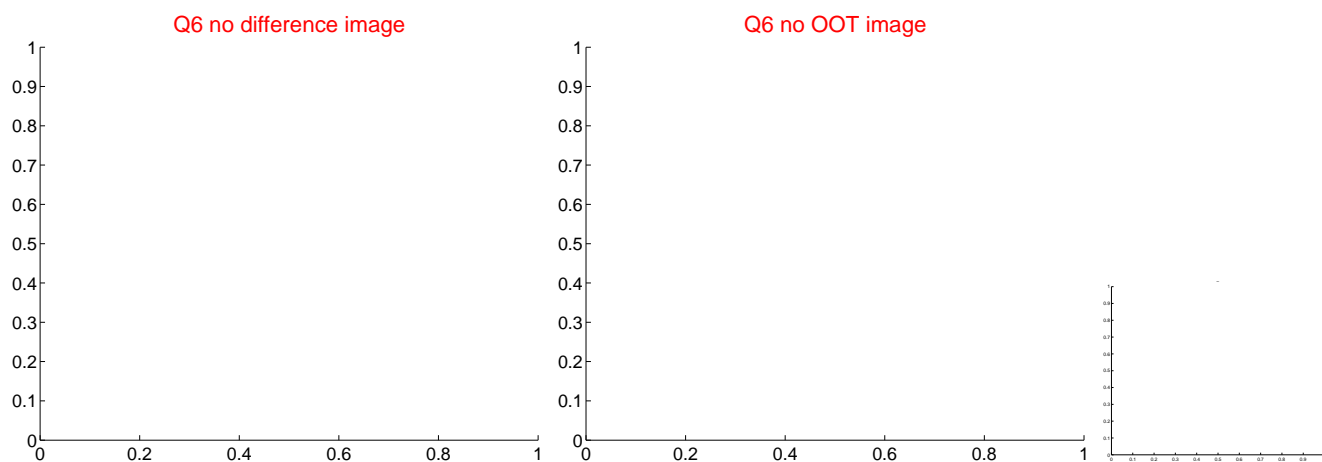
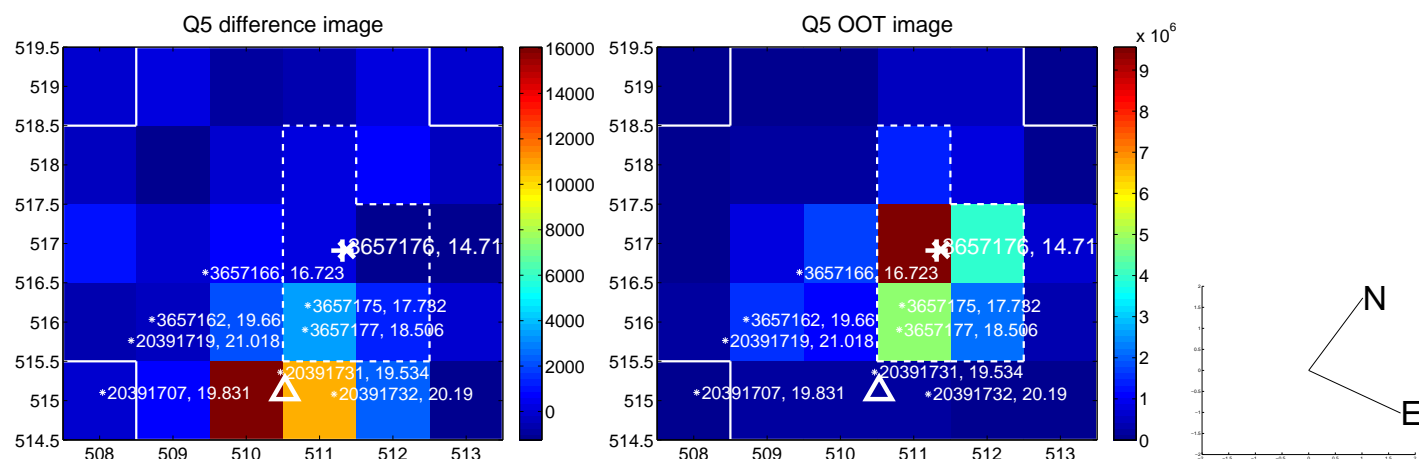


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

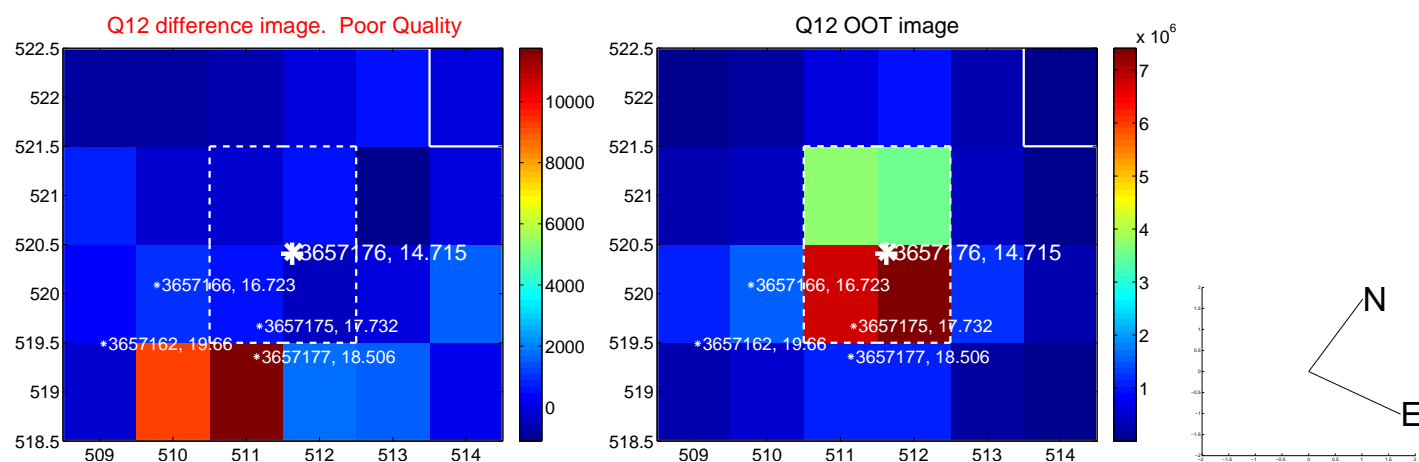
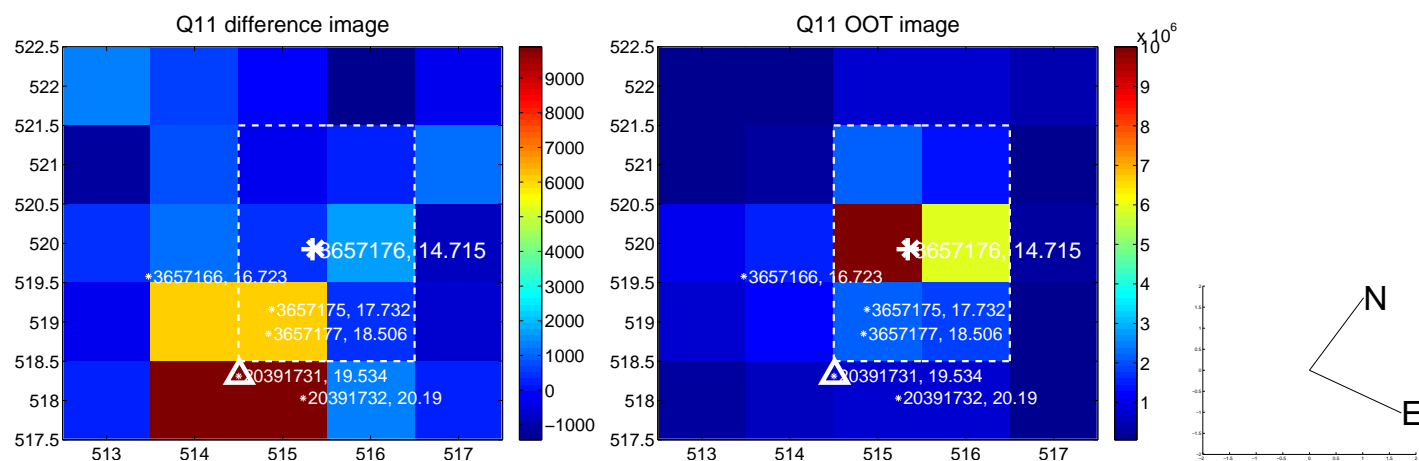
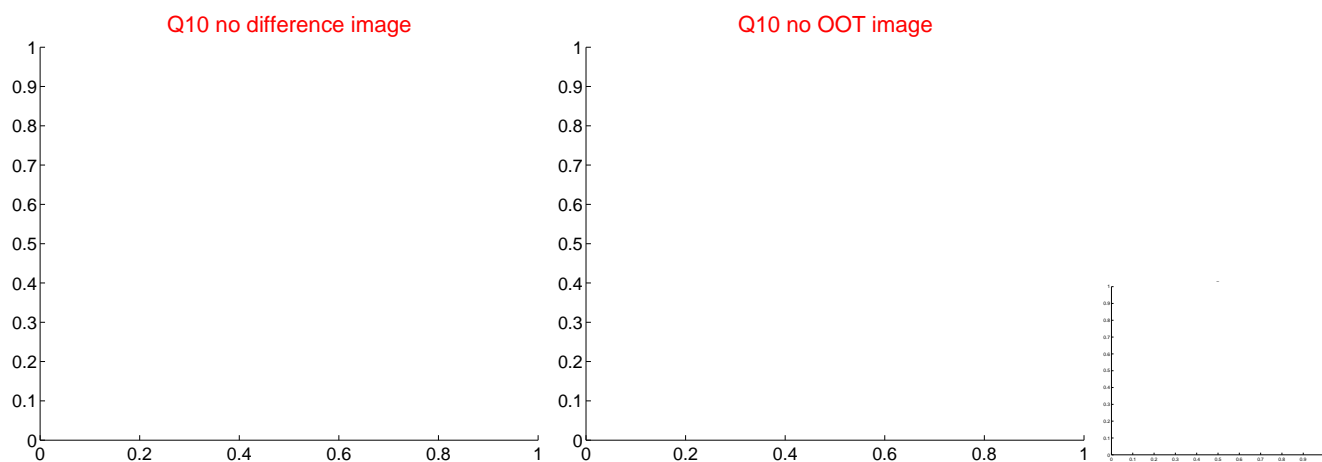
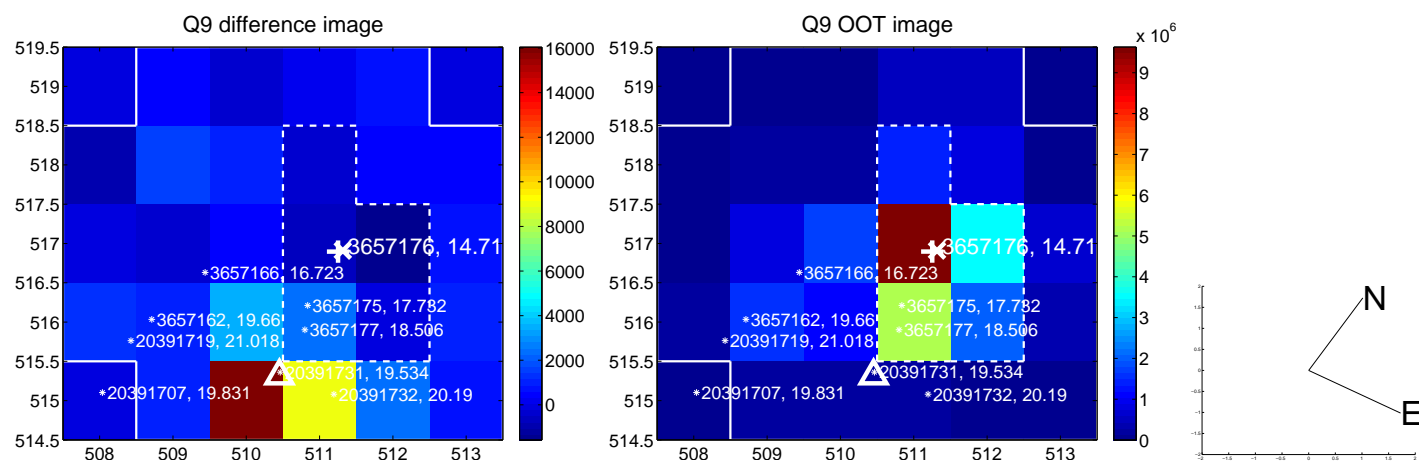
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



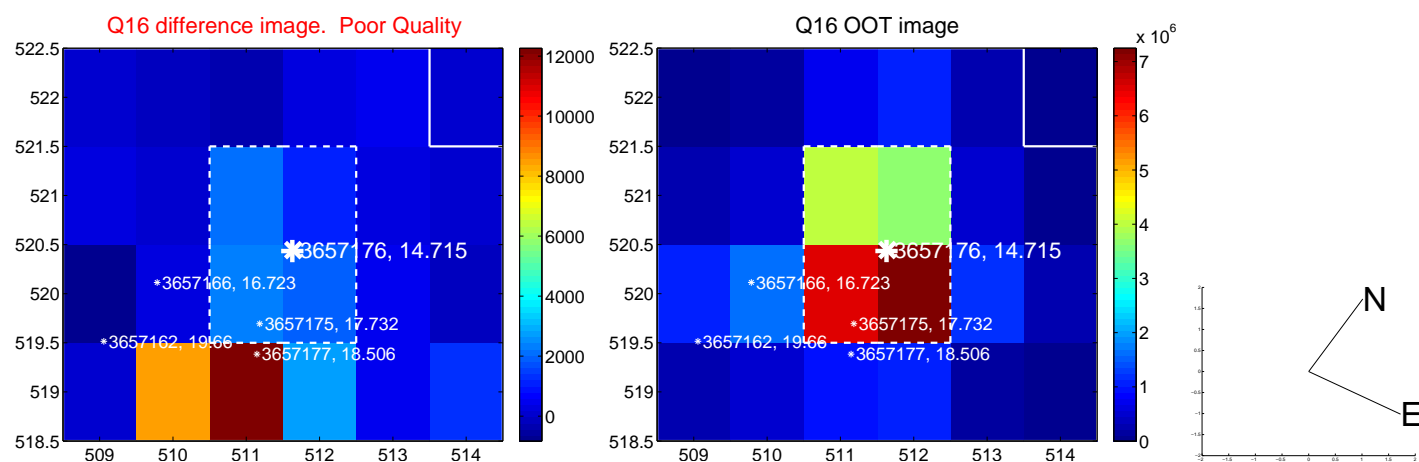
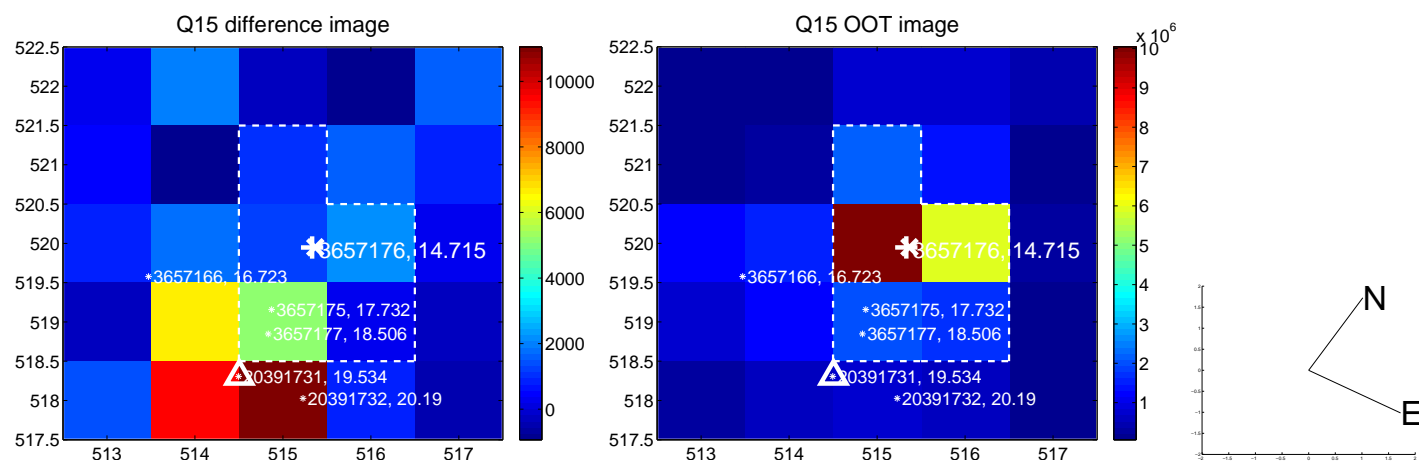
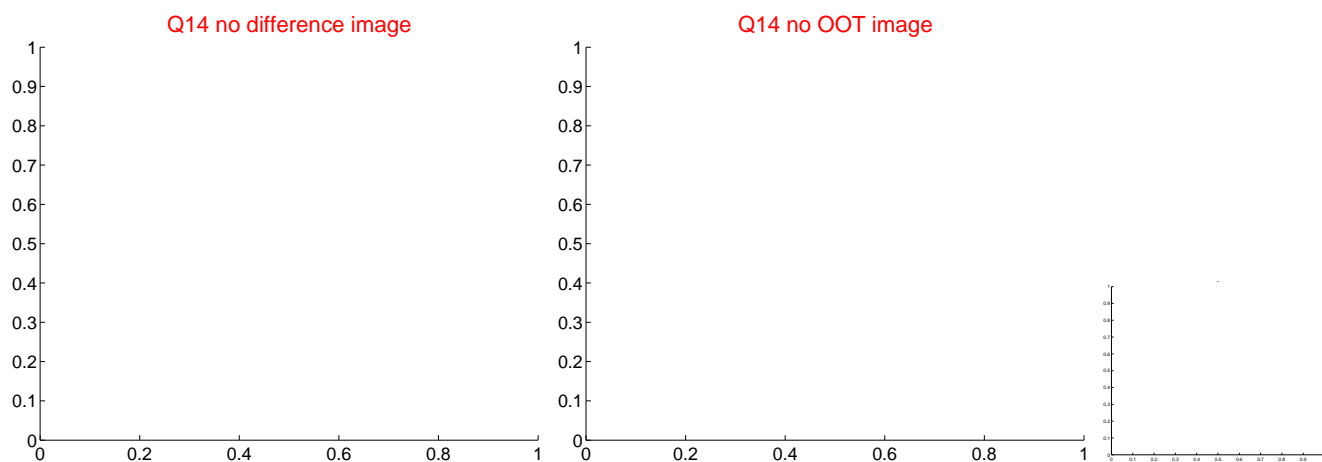
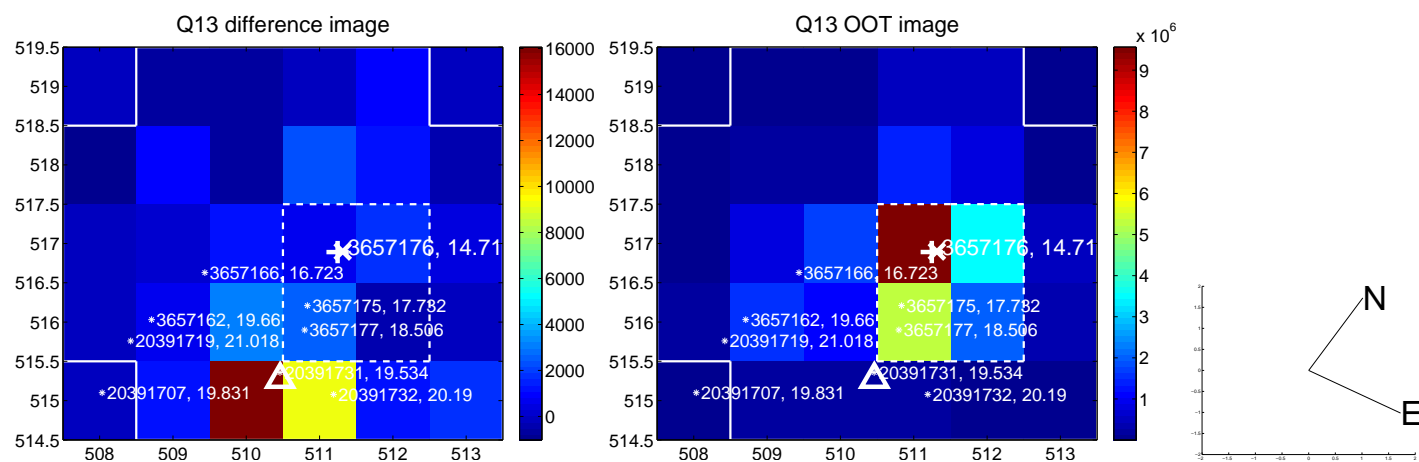
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



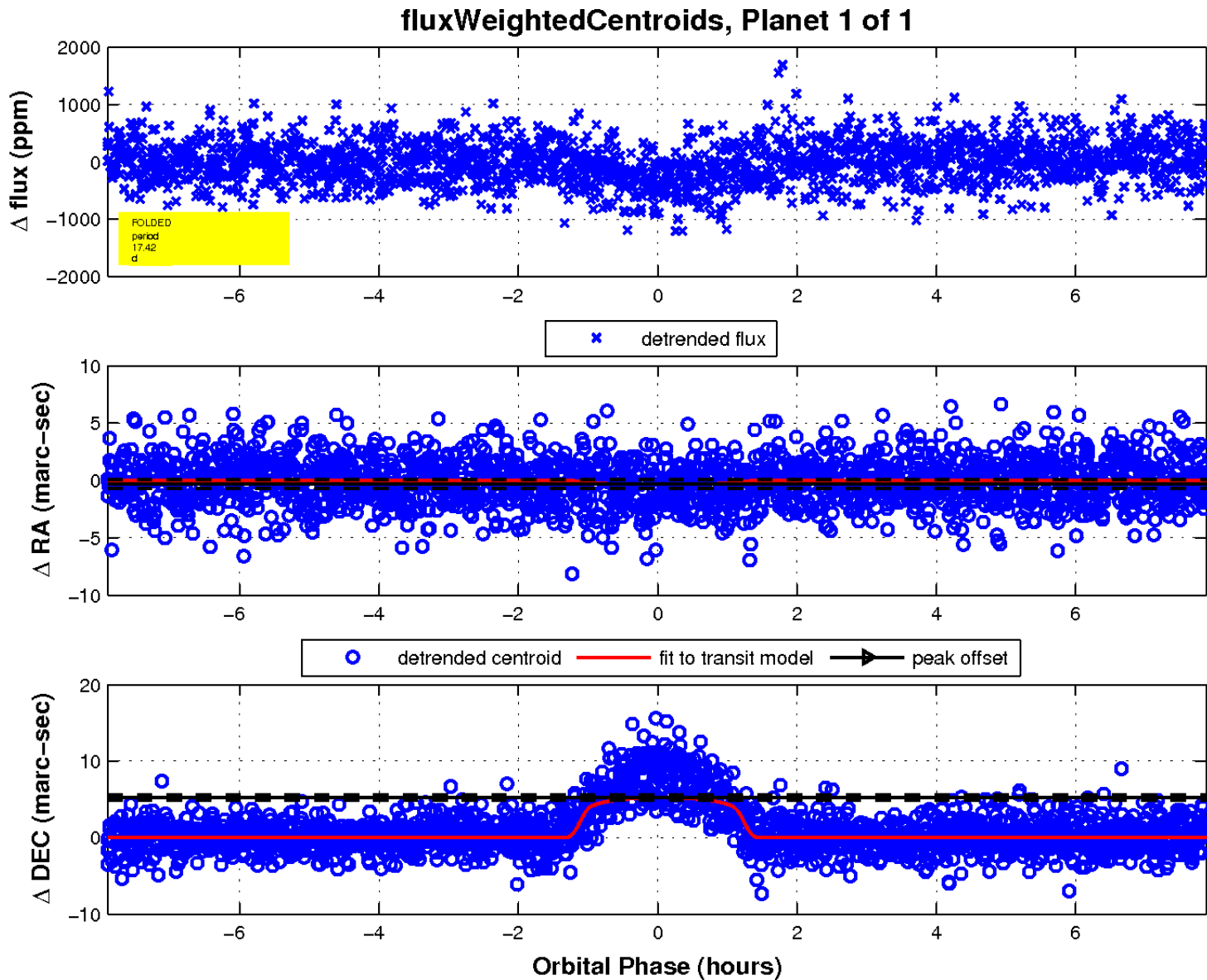
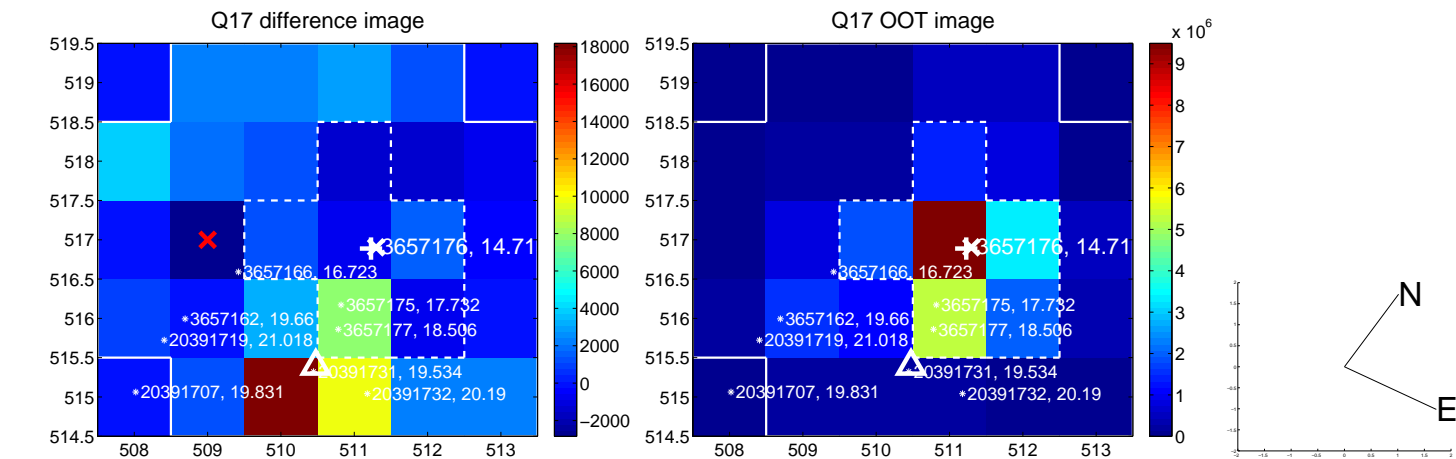
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UKIRT Image

Declination

