

KIC 012156174

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})
012156174-01	OBS	3260.01	56.674946	160.444732	897.1	5.636	18.1	21.5	1.29	5541	4.22	17.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012156174-01	OBS	PC	0.50	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.

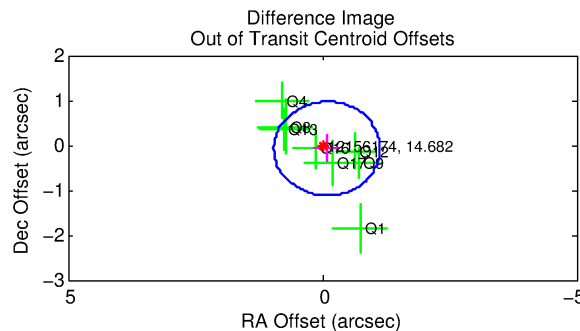
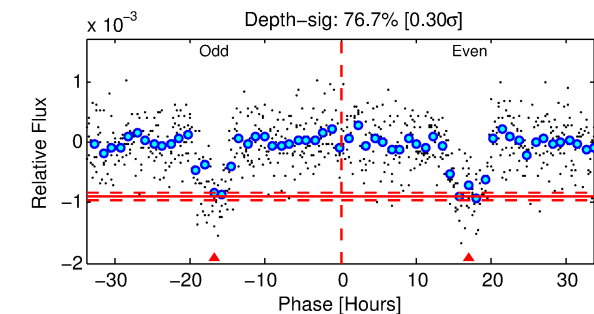
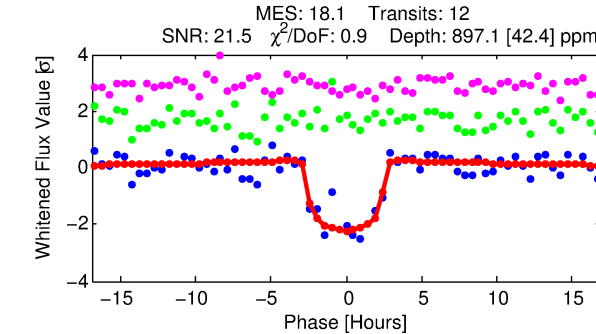
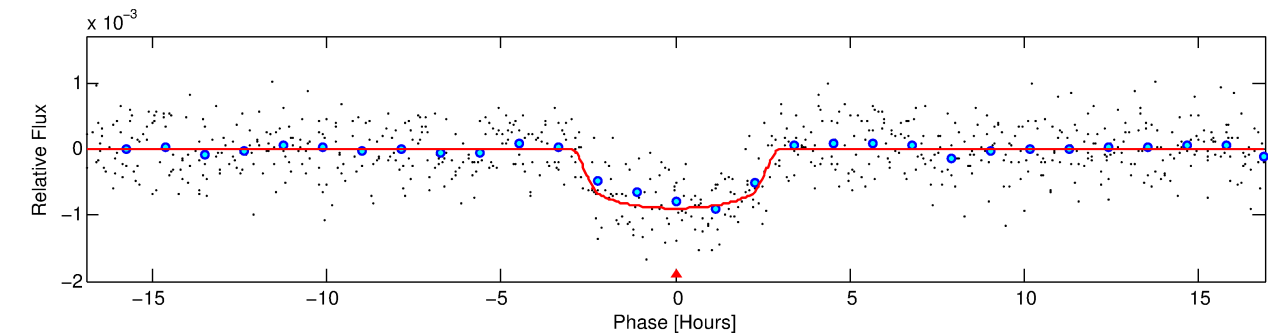
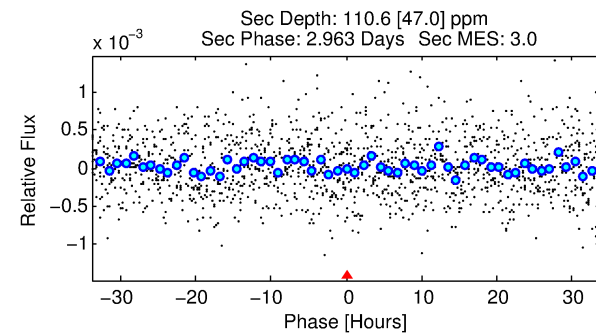
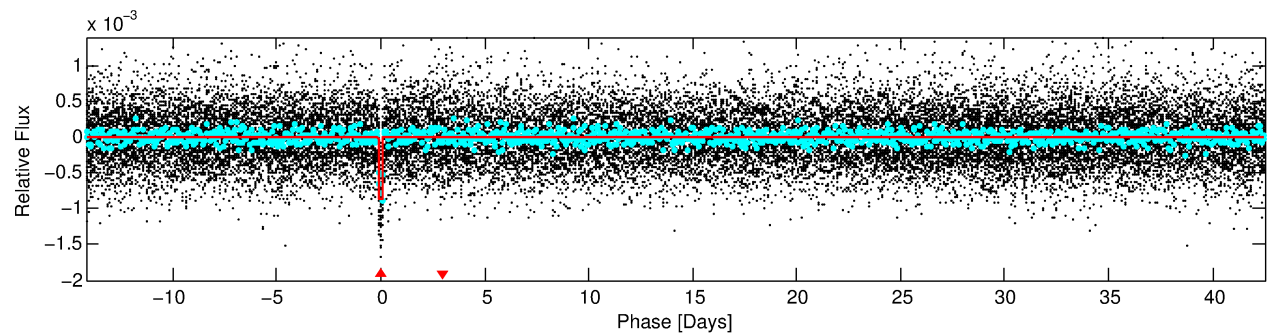
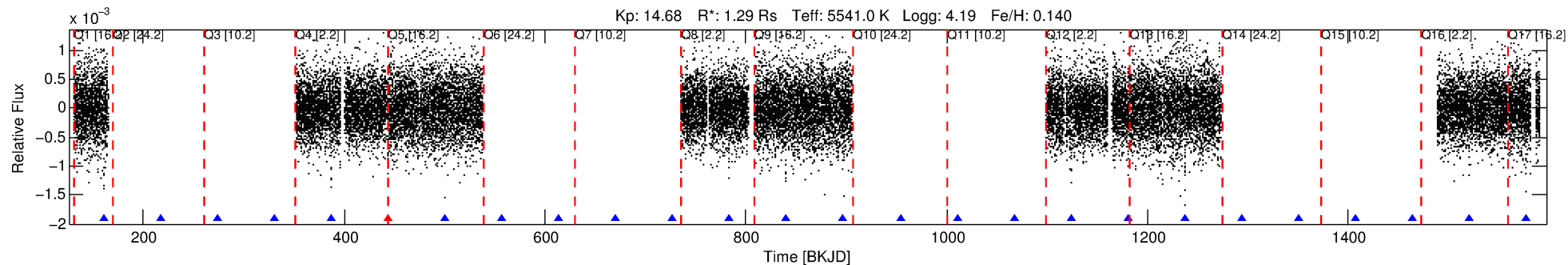
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012156174-01

No Significant Match Found

DV One-Page Summary

KIC: 12156174 Candidate: 1 of 1 Period: 56.675 d
KOI: K03260.01 Corr: 0.981



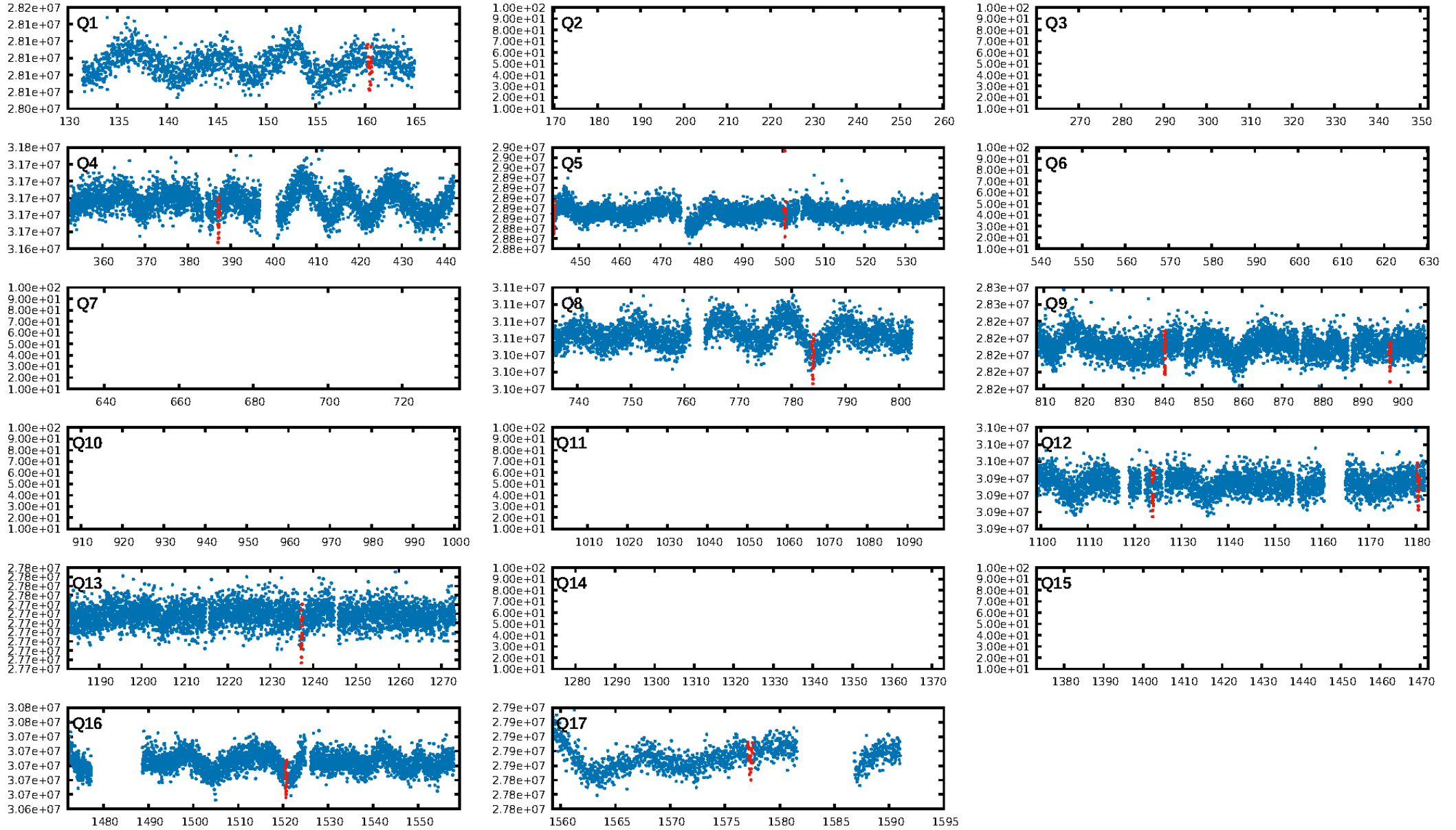
DV Fit Results:

Period = 56.67495 [0.00035] d
Epoch = 160.4447 [0.0054] BKJD
Rp/R* = 0.0299 [0.0075]
a/R* = 54.06 [54.99]
b = 0.75 [0.60]
Seff = 17.63 [5.93]
Teff = 522 [44] K
Rp = 4.22 [1.39] Re
a = 0.2834 [0.0583] AU
Ag = 274.34 [202.48] [1.35 σ]
Teffp = 3288 [544] K [5.06 σ]

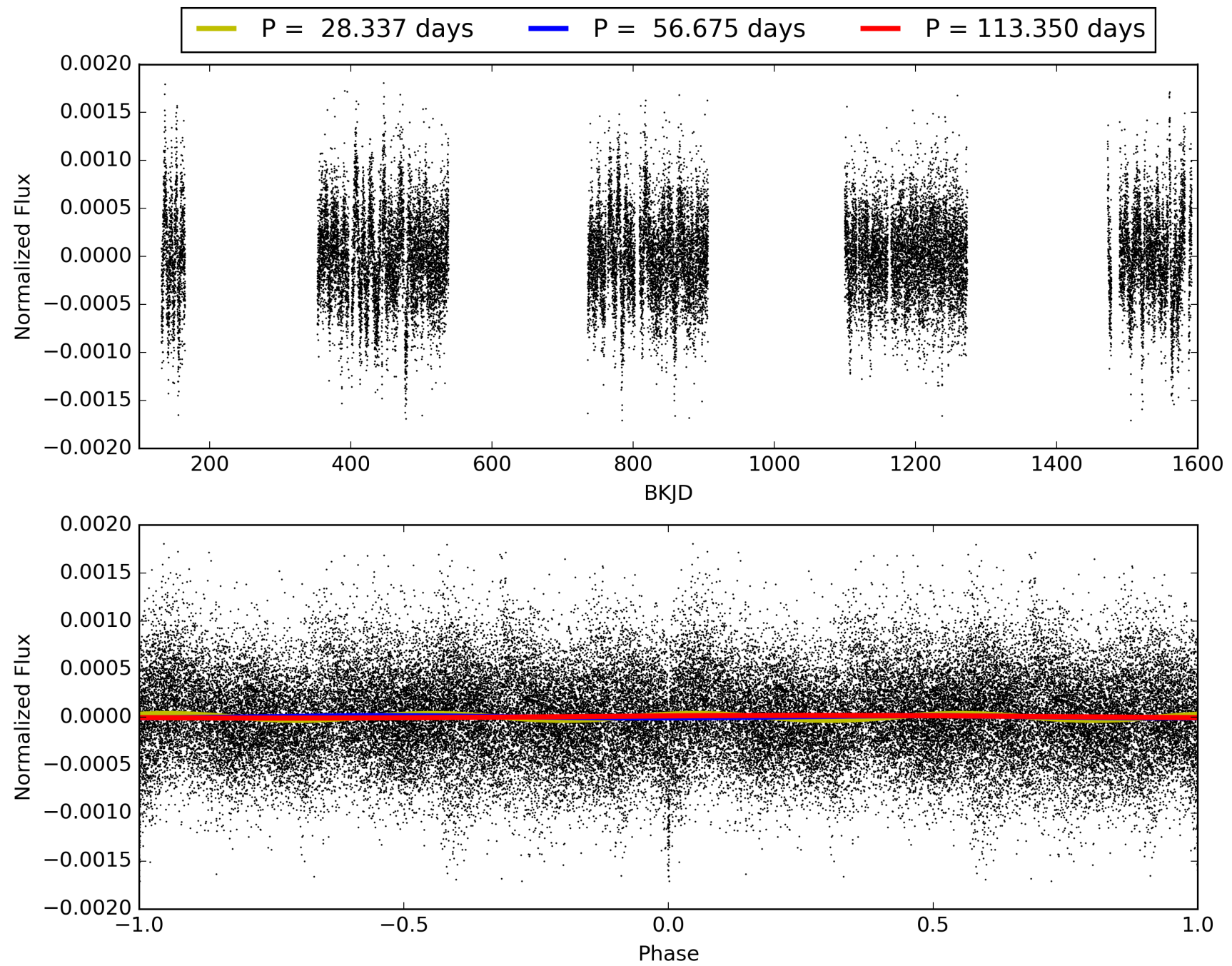
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 66.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.92e-74
RollingBand-fgt: 0.90 [9/10]
GhostDiagnostic-chr: 3.115
Centroid-sig: 28.4%
Centroid-so: 0.246 arcsec [0.39 σ]
OotOffset-rm: 0.117 arcsec [0.34 σ]
KicOffset-rm: 0.124 arcsec [0.48 σ]
OotOffset-st: 0/0/4/4 [8]
KicOffset-st: 0/0/4/4 [8]
DiffImageQuality-fgm: 0.88 [7/8]
DiffImageOverlap-fno: 1.00 [9/9]

TCE 012156174-01, PDC Light Curves

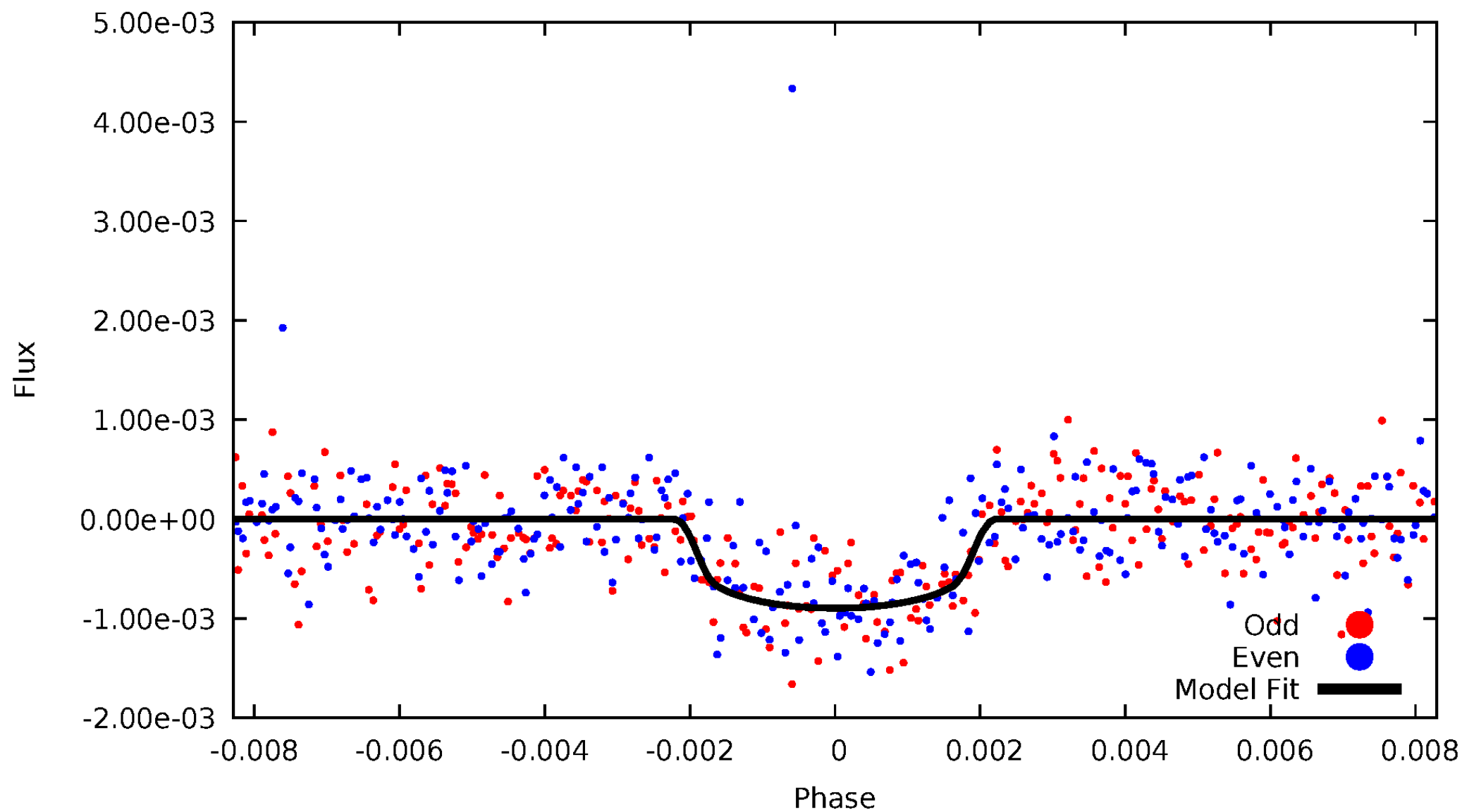


TCE 012156174-01



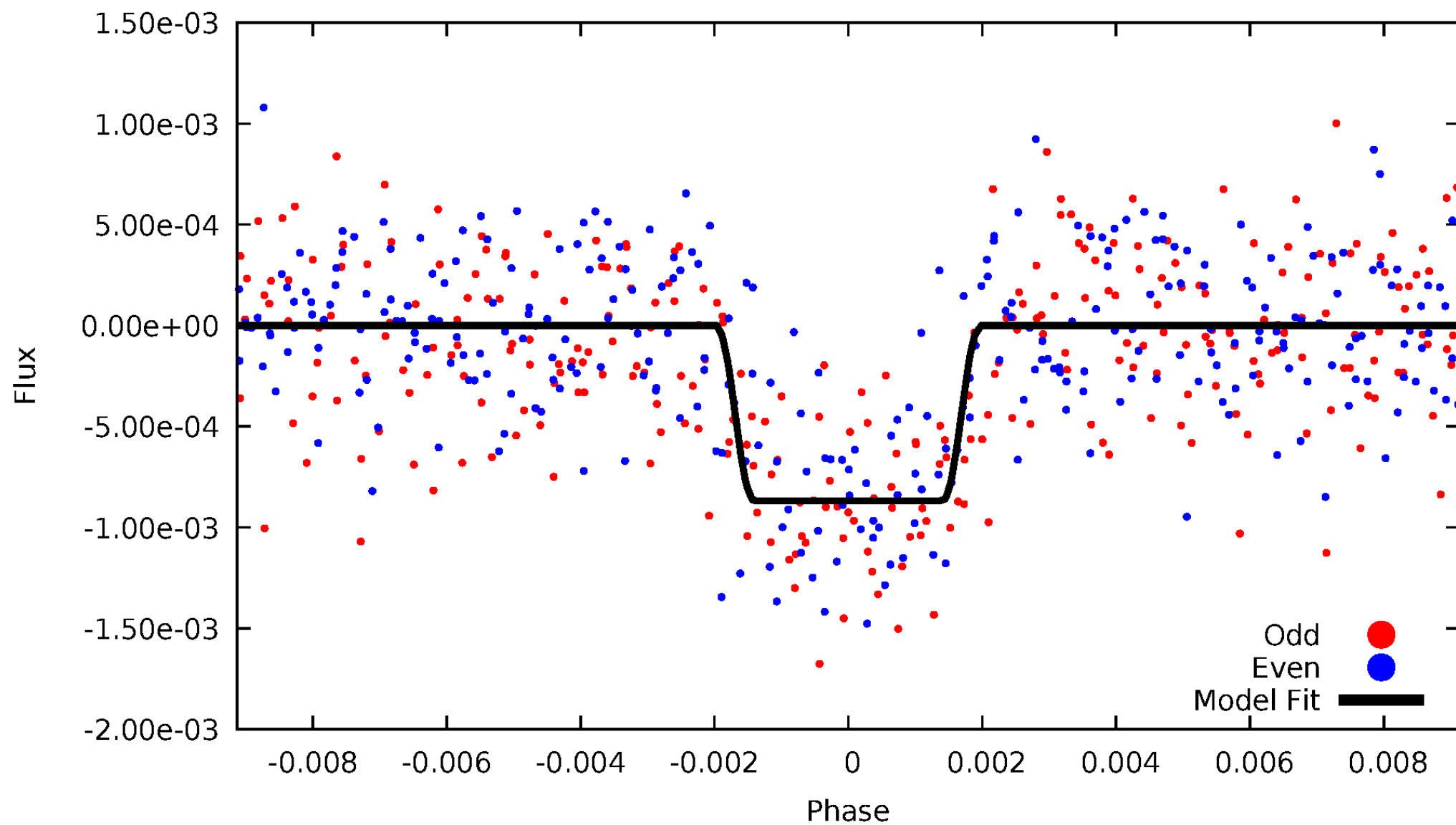
DV Odd/Even

TCE 012156174-01



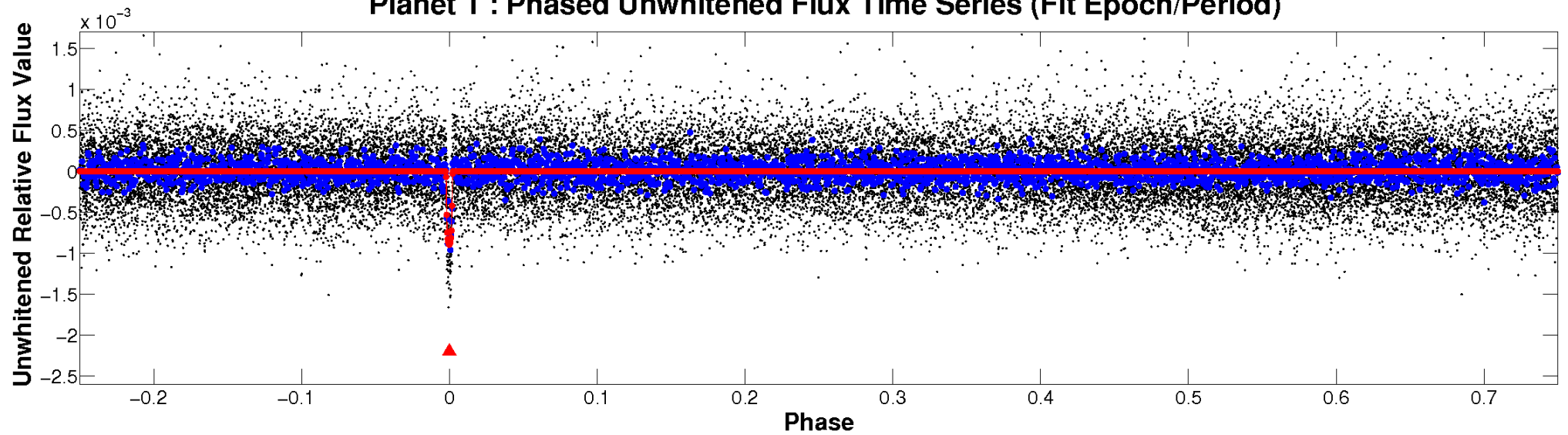
ALT Odd/Even

TCE 012156174-01

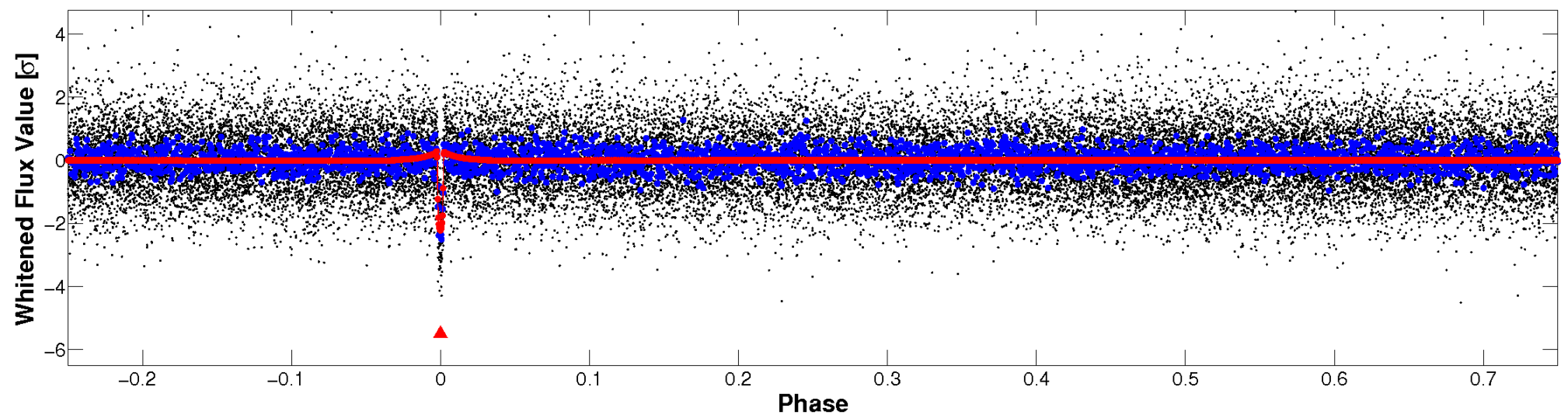


Non-Whitened Vs. Whitened Light Curve

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

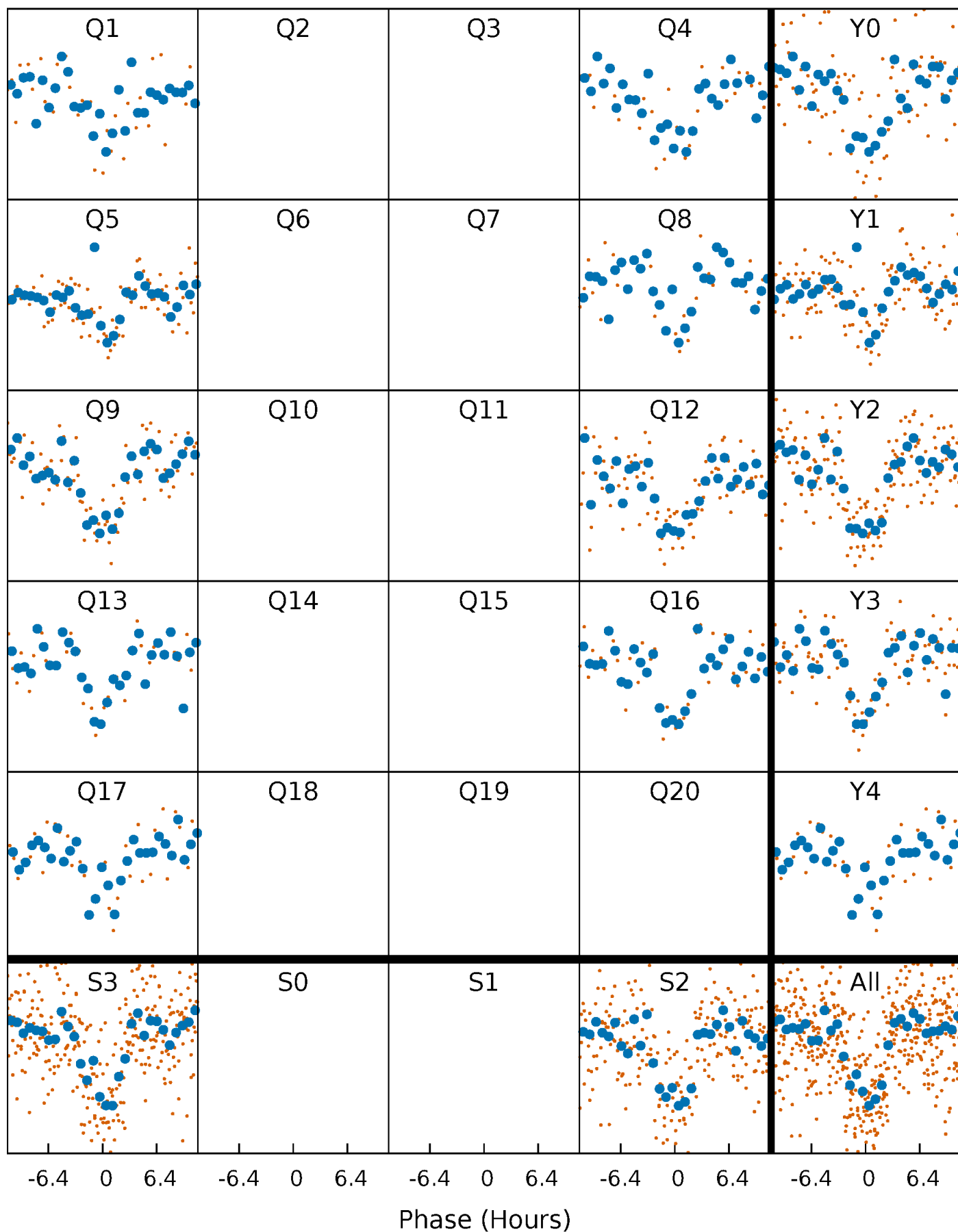


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



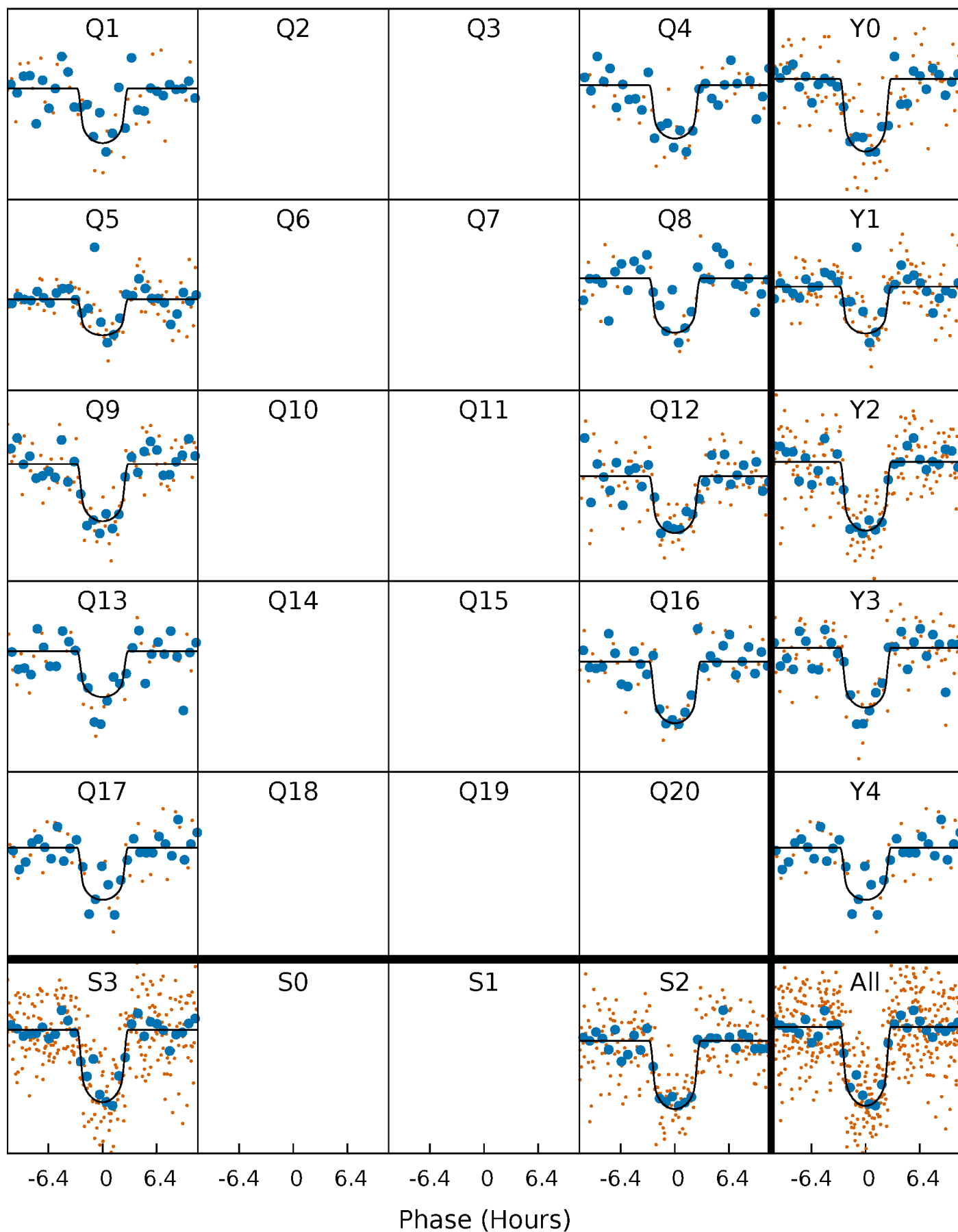
PDC Quarter-Phased Transit Curves

TCE 012156174-01 P= 56.674946 Days $T_0=160.444732$ (BKJD)



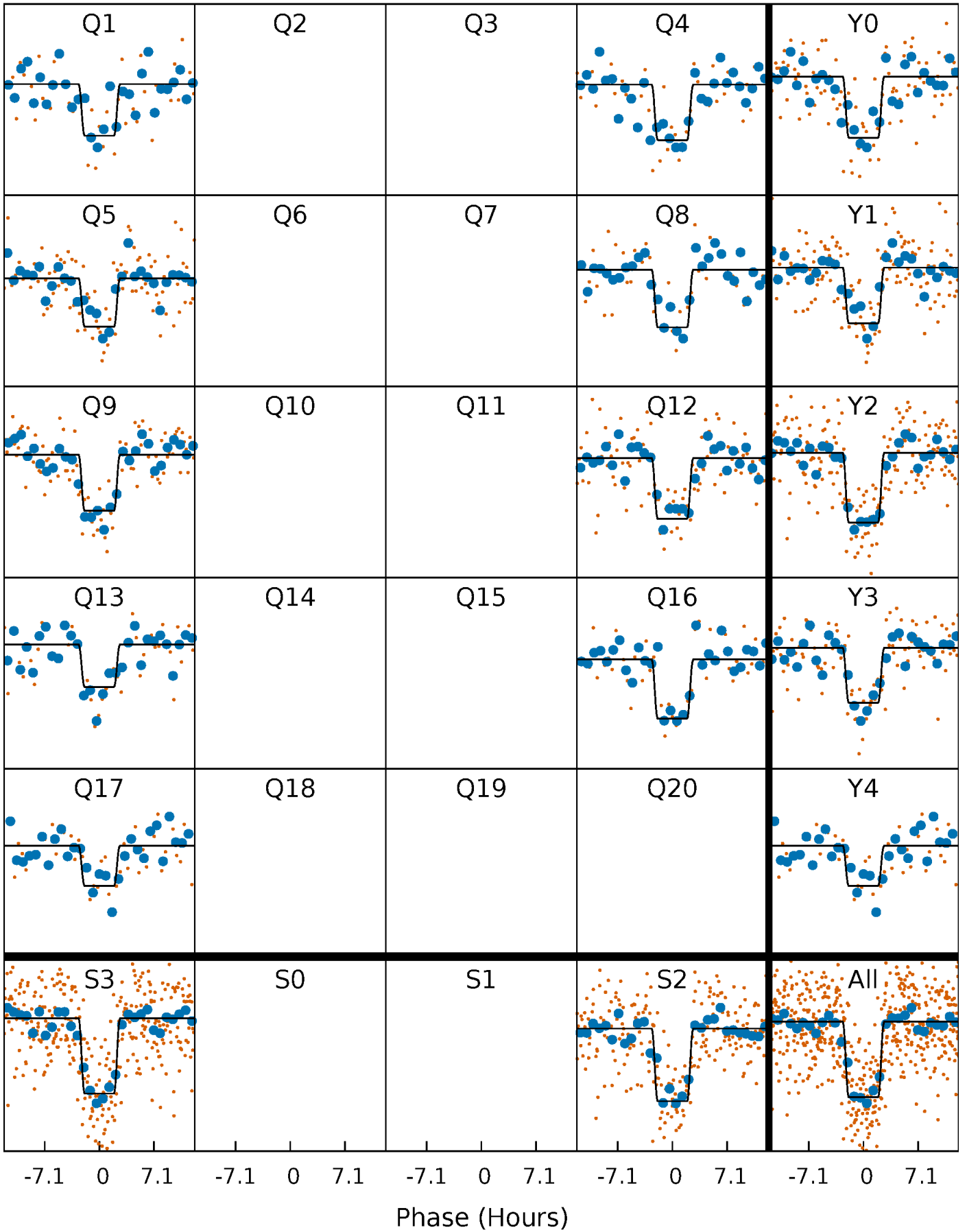
DV Quarter-Phased Transit Curves

TCE 012156174-01 P= 56.674946 Days $T_0=160.444732$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

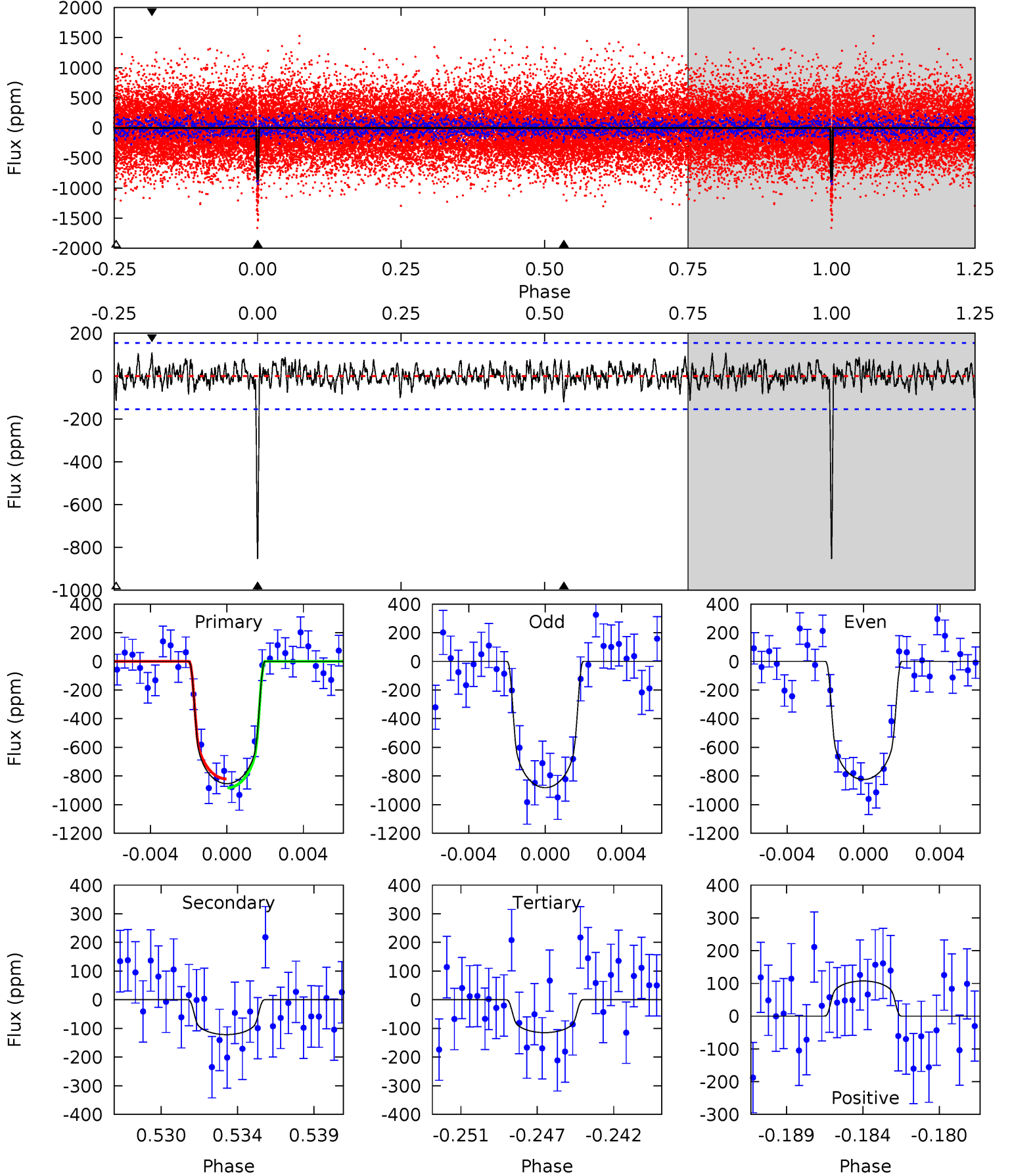
TCE 012156174-01 P= 56.673301 Days $T_0=160.466756$ (BKJD)



DV Model-Shift Uniqueness Test

012156174-01, P = 56.674946 Days, E = 103.769786 Days

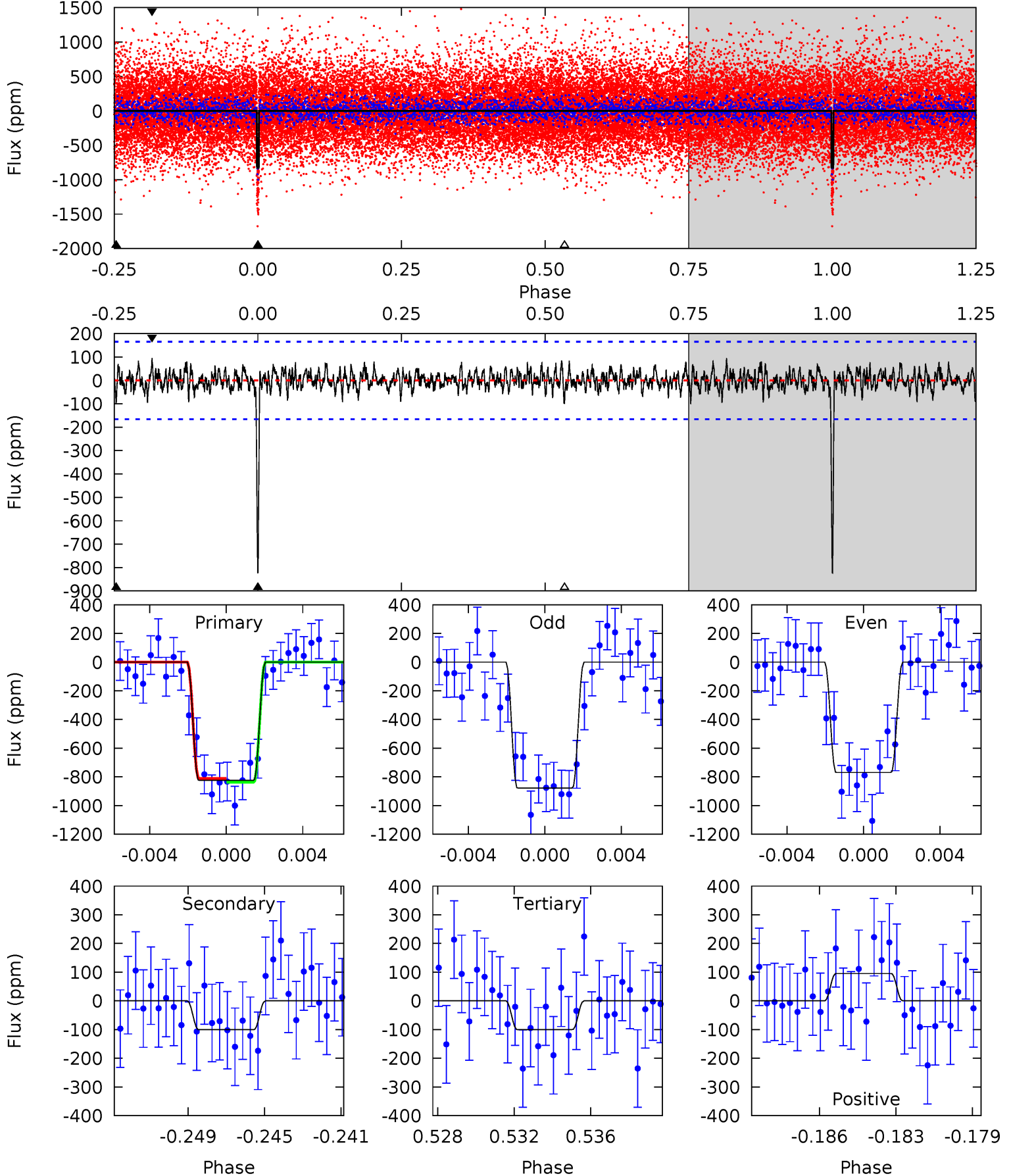
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.5	4.06	3.83	3.59	5.18	2.84	1.12	24.7	24.9	0.23	0.48	0.95	0.97	0.11	1.05



Alt Model-Shift Uniqueness Test

012156174-01, $P = 56.673301$ Days, $E = 103.793455$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.9	3.15	3.14	2.99	5.20	2.89	0.96	22.7	22.9	0.01	0.16	1.71	1.02	0.10	0.43



Stellar Parameters For KIC 012156174

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5541^{+83}_{-72}	$4.189^{+0.195}_{-0.105}$	$0.140^{+0.150}_{-0.100}$	$1.295^{+0.206}_{-0.274}$	$0.945^{+0.073}_{-0.045}$	$0.612^{+0.610}_{-0.189}$
	+1%/-1%	+5%/-3%	+107%/-71%	+16%/-21%	+8%/-5%	+100%/-31%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 012156174-01 / KOI 3260.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-122 ± 30	$4.14^{+1.17}_{-1.05}$	725^{+34}_{-44}	3740^{+429}_{-326}	313^{+286}_{-142}
Alt.	-100 ± 32	$4.12^{+1.07}_{-1.17}$	727^{+32}_{-44}	3646^{+444}_{-335}	258^{+292}_{-116}

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

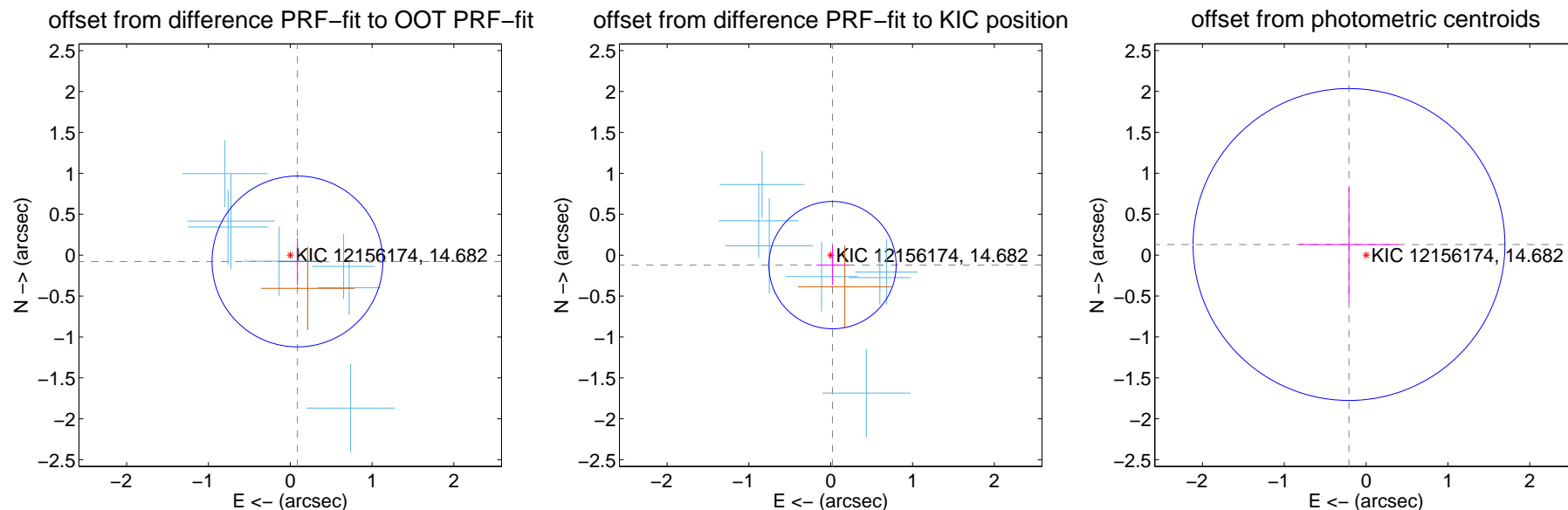
DV Centroid Data

Supplemental centroid analysis for 012156174-01. Kepler magnitude: 14.68. Transit SNR 21.52

There are 7 quarters with good PRF difference image offsets

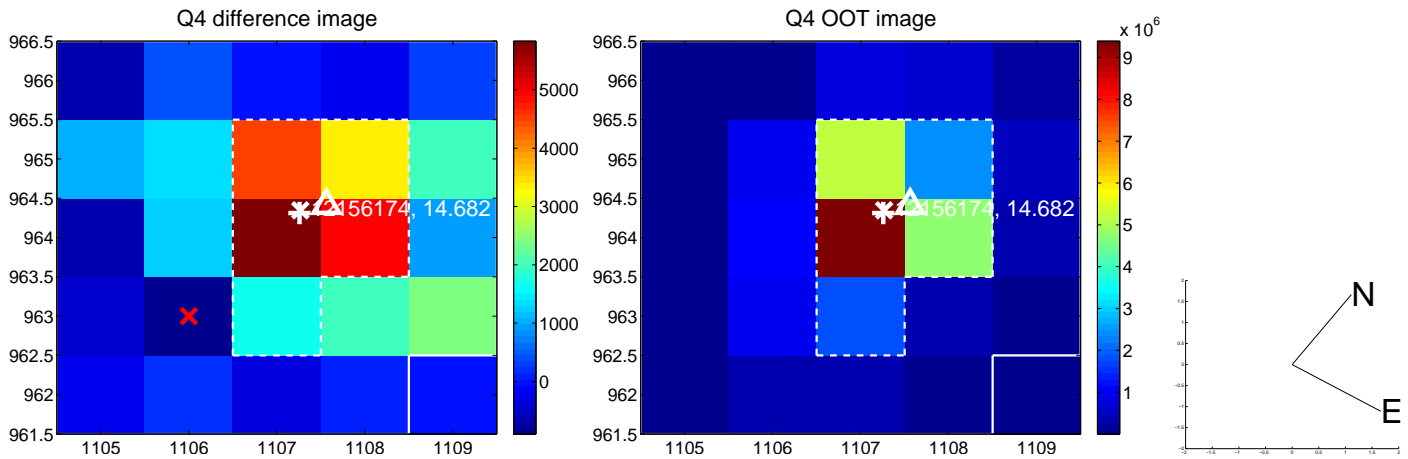
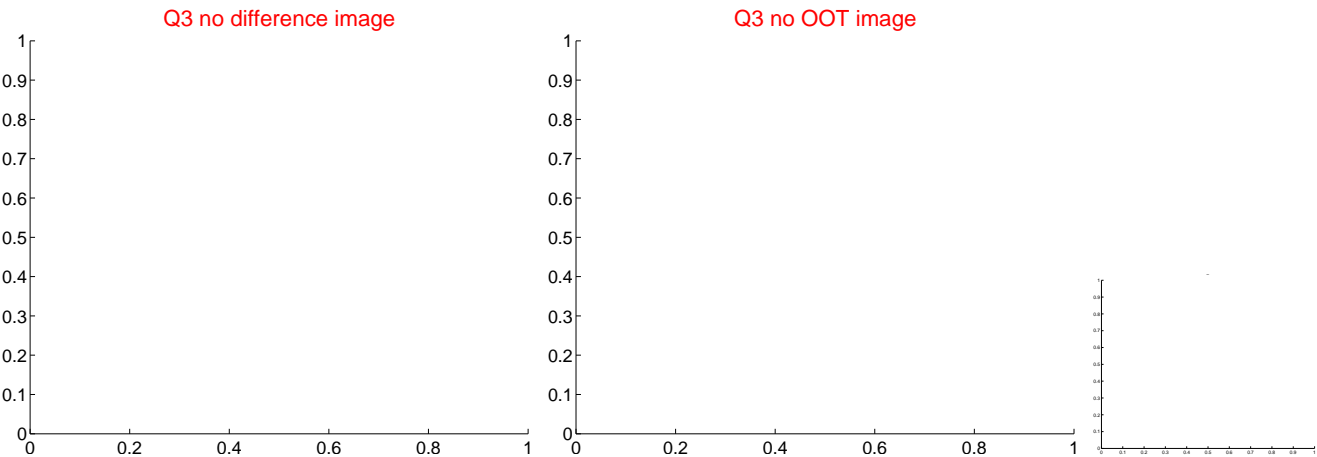
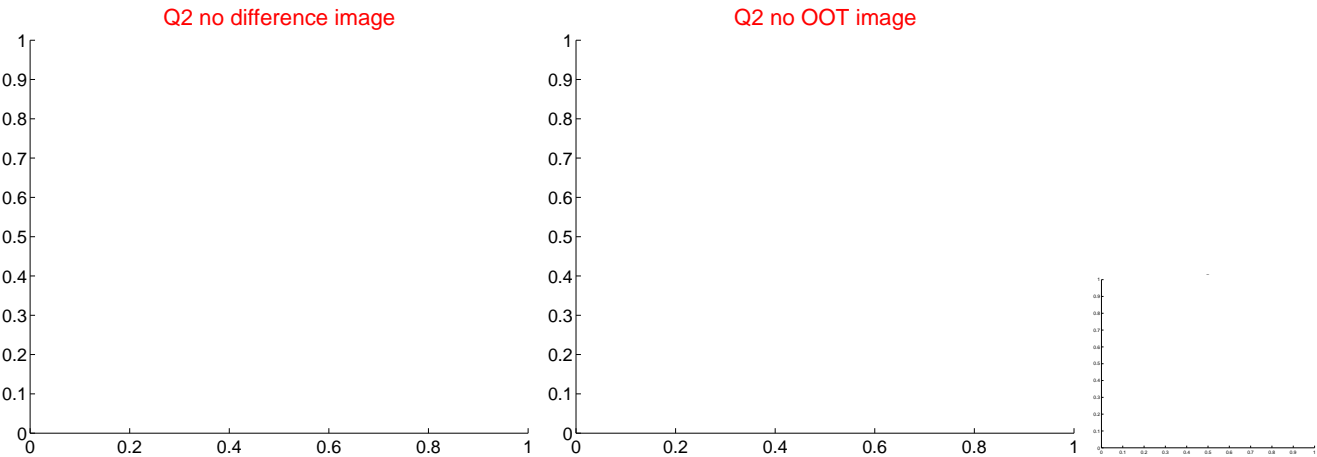
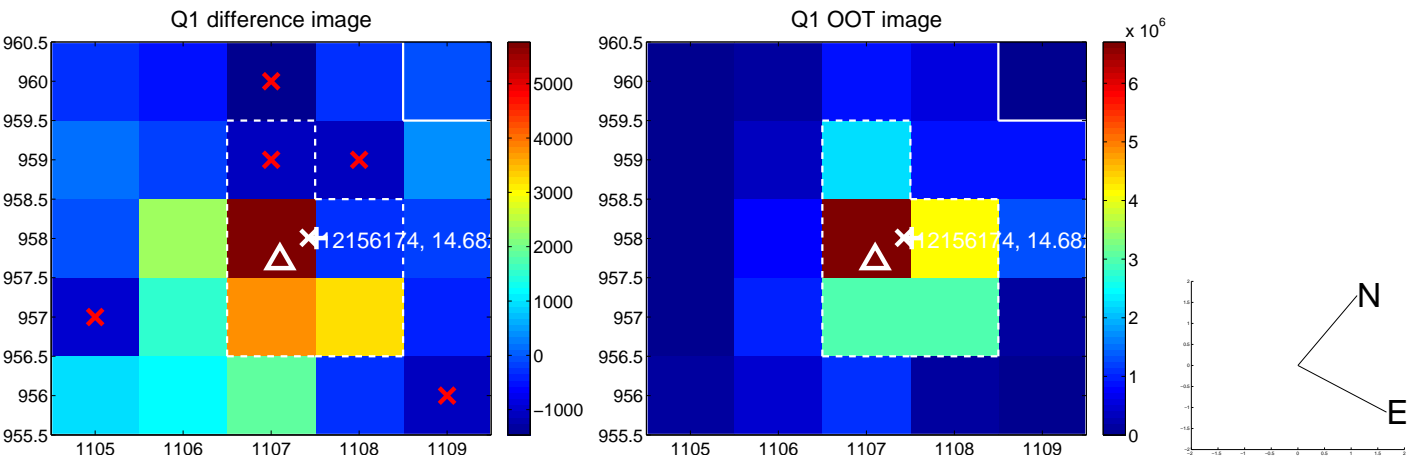
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.117 ± 0.348	0.34	-0.088 ± 0.242	-0.077 ± 0.289
PRF-fit source offset from KIC position	0.124 ± 0.259	0.48	-0.022 ± 0.198	-0.122 ± 0.241
photometric centroid source offset	0.25 ± 0.64	0.39	0.21 ± 0.61	0.13 ± 0.70

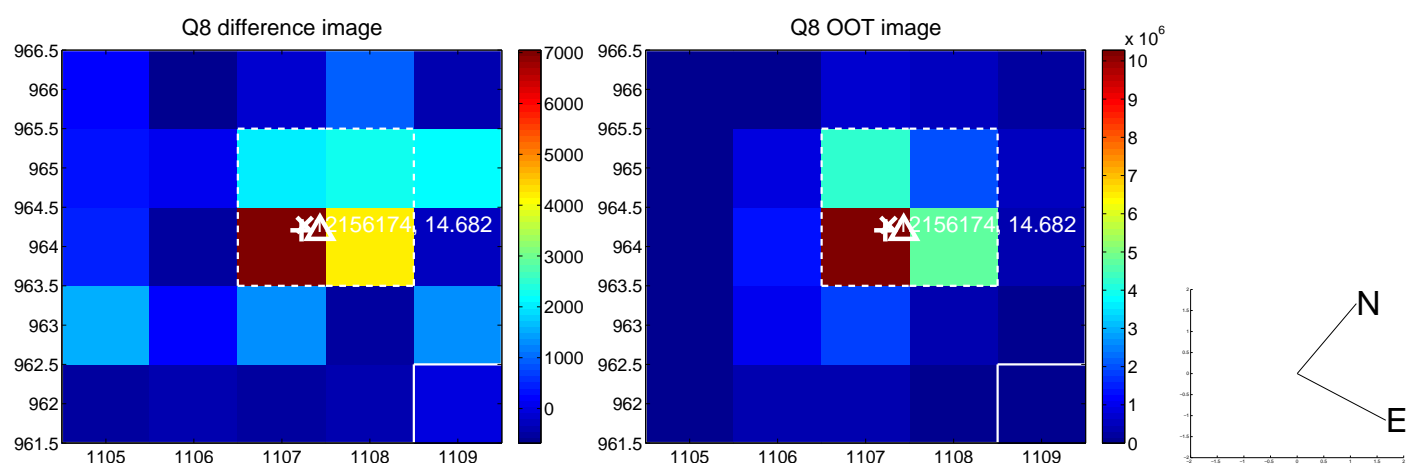
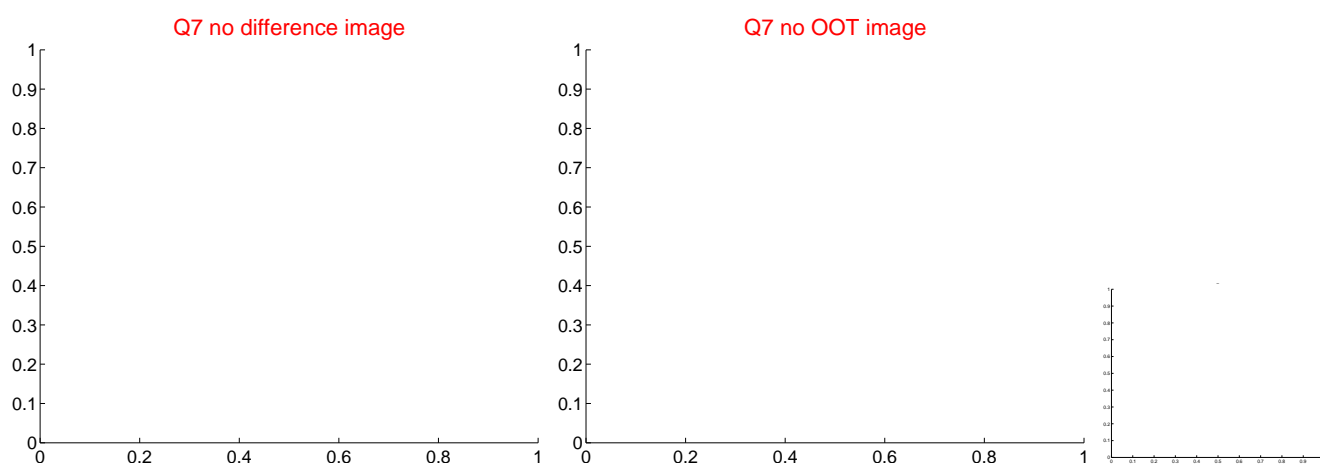
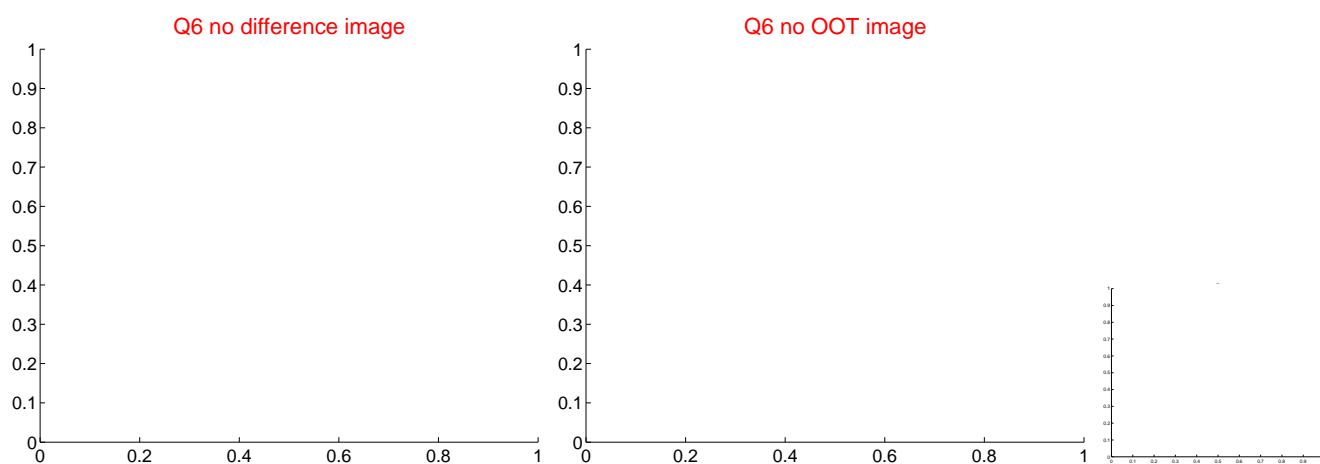
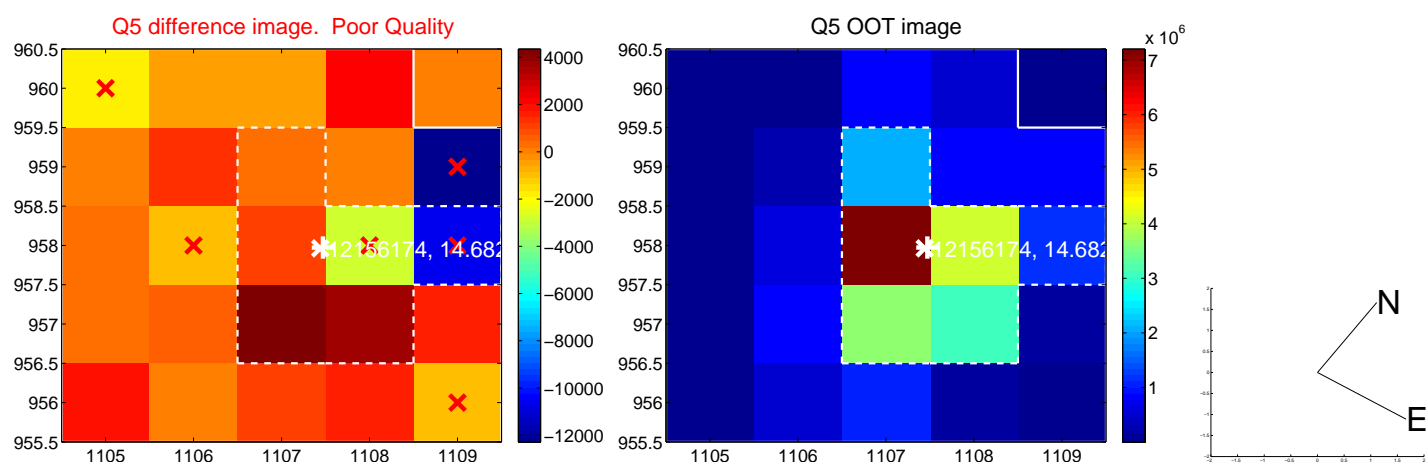


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

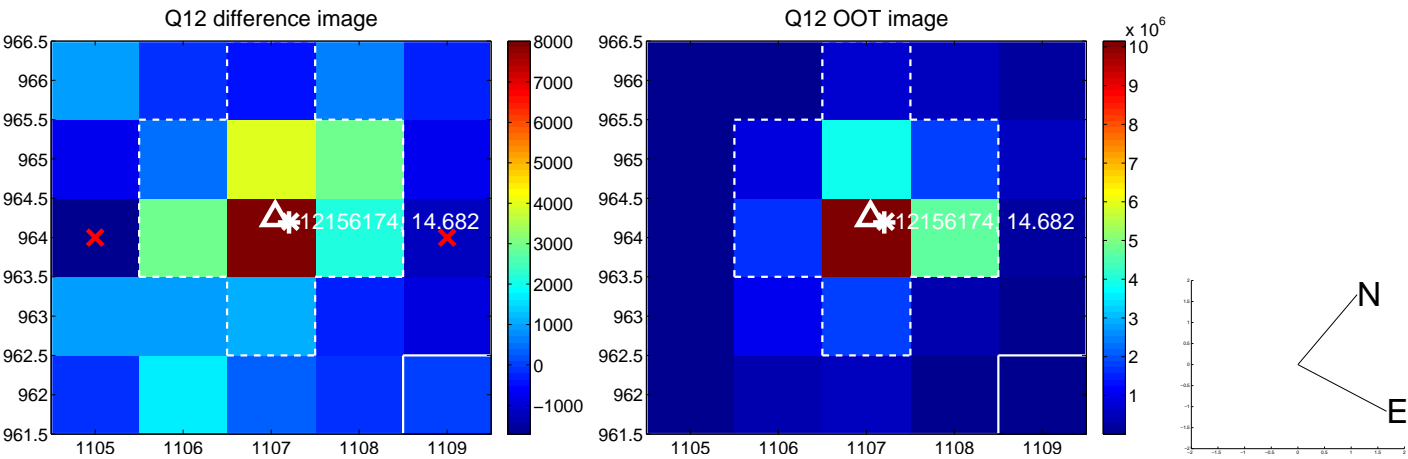
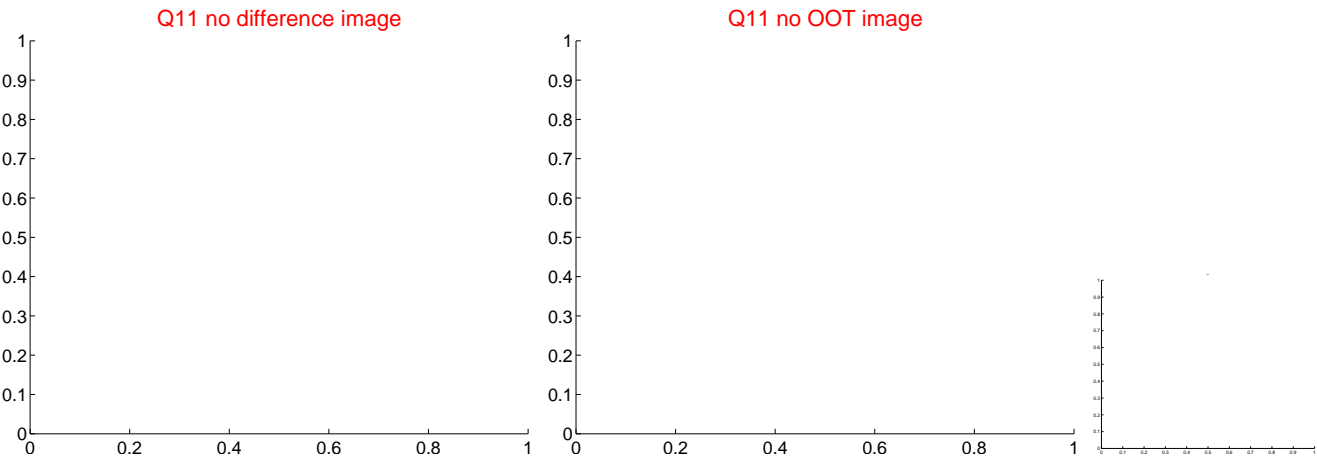
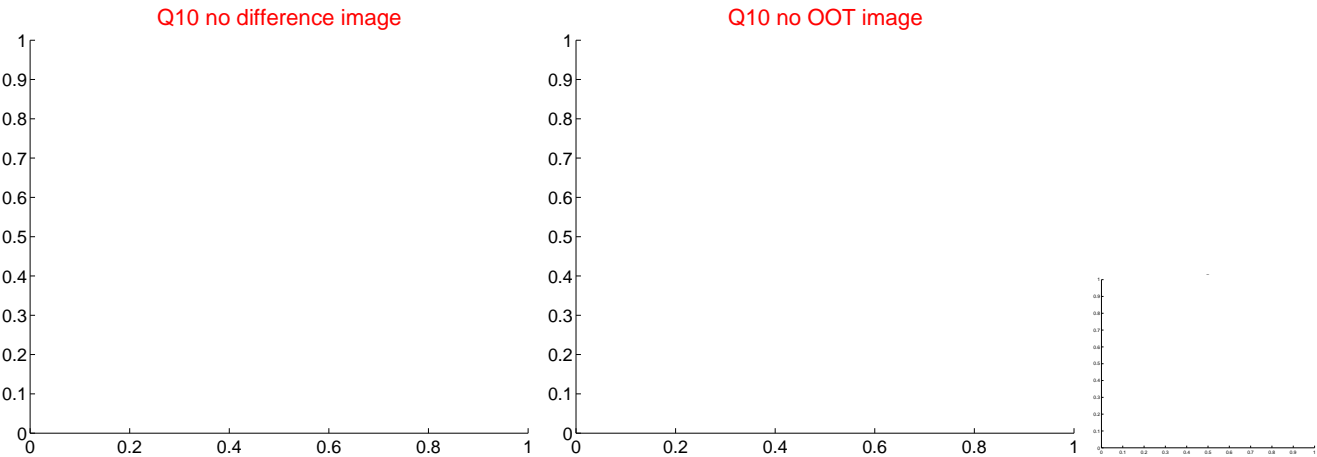
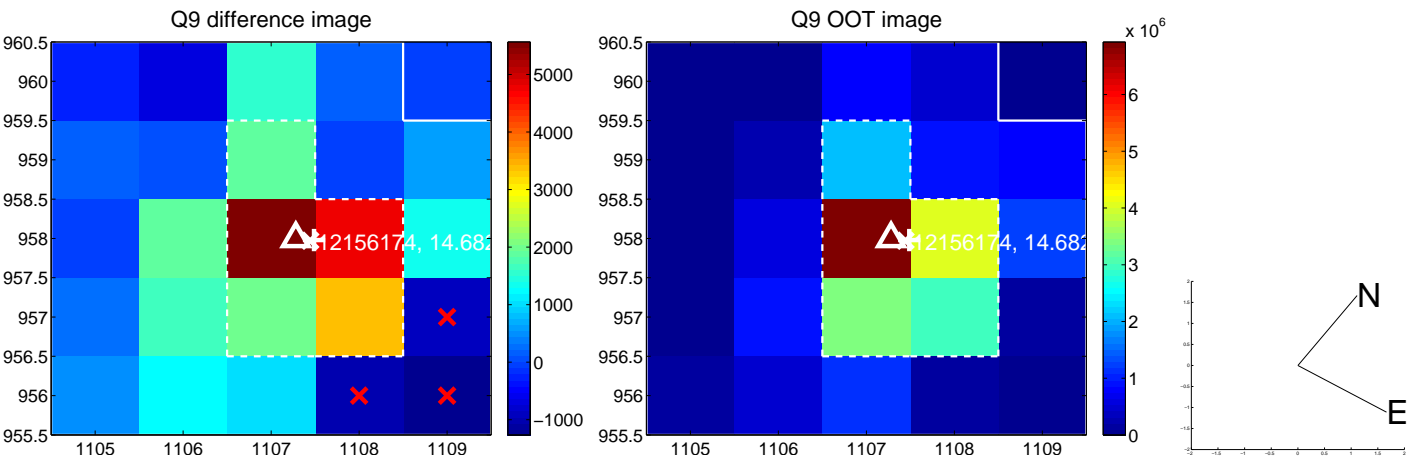
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



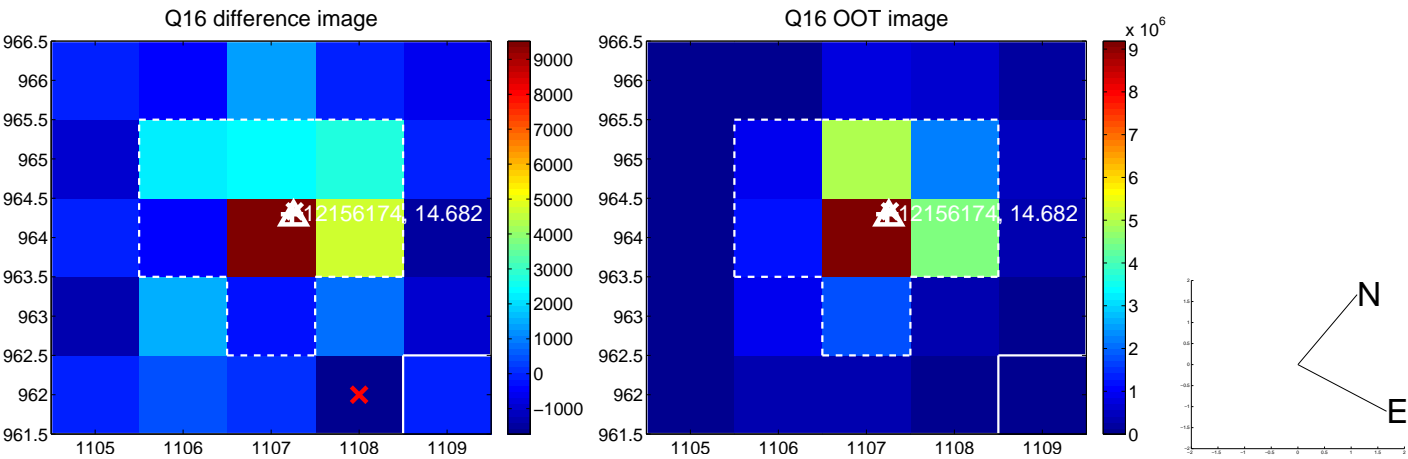
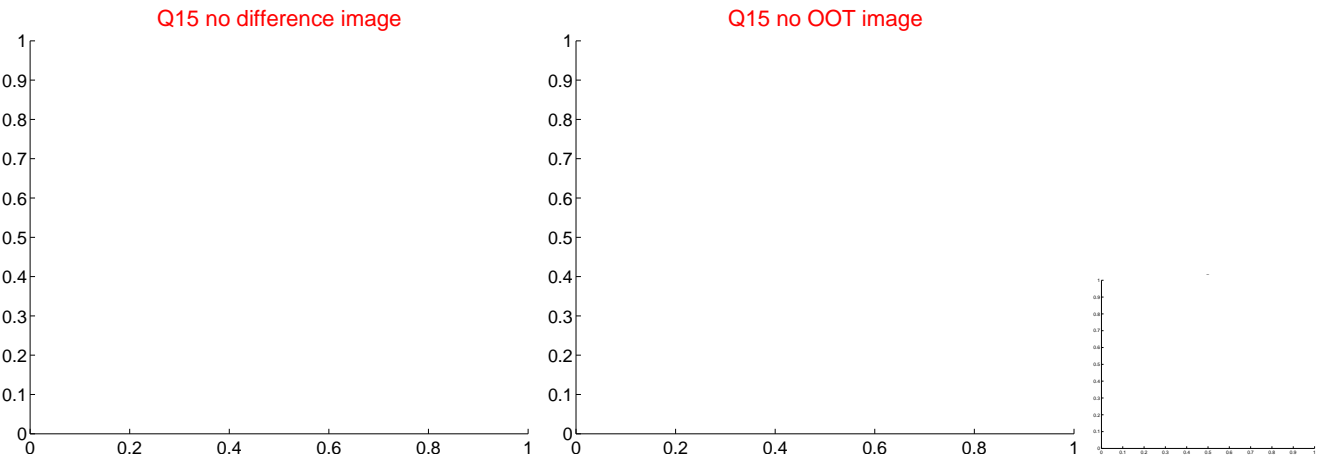
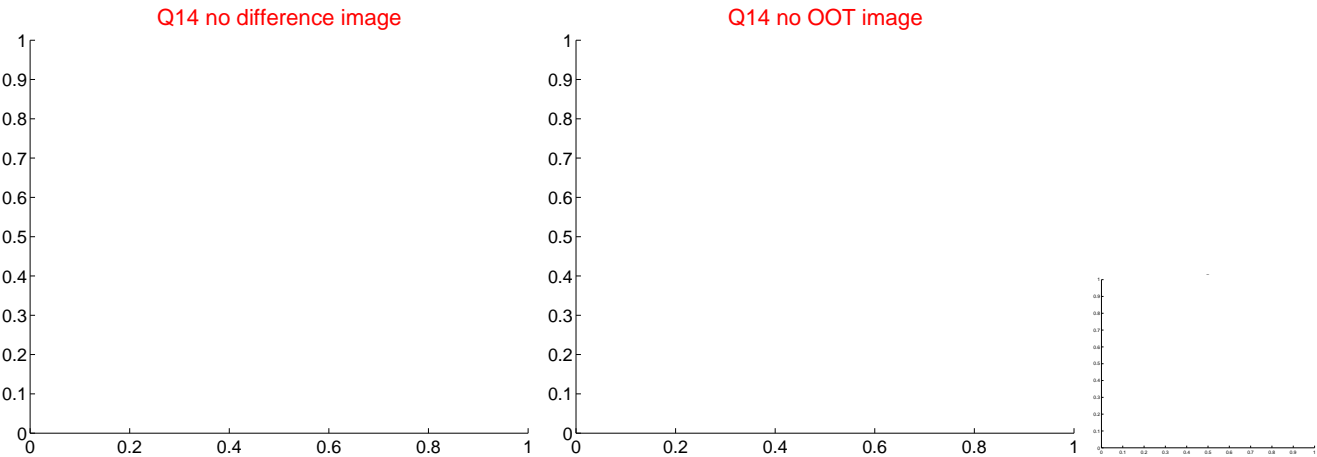
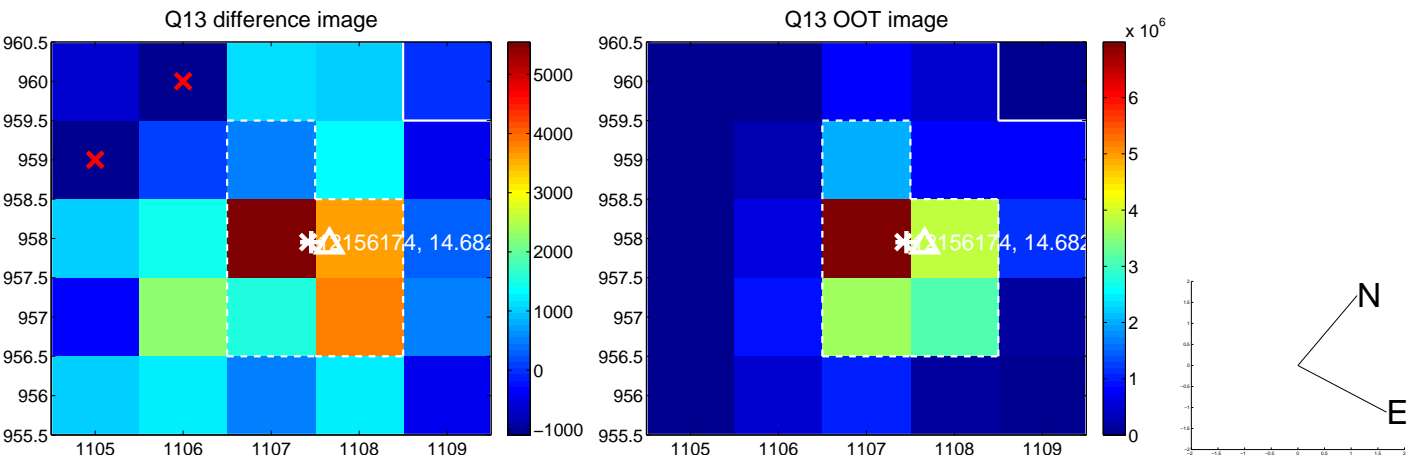
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



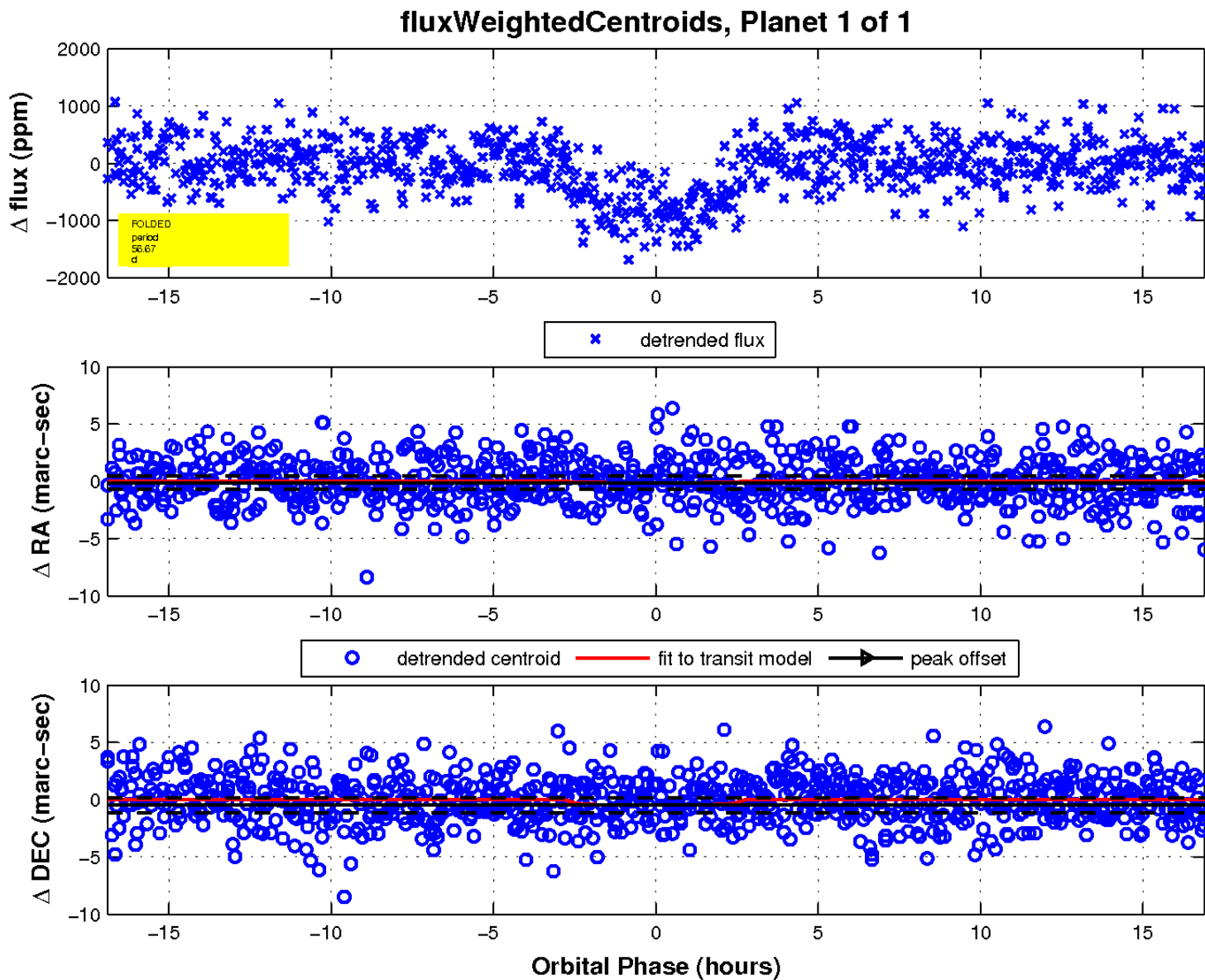
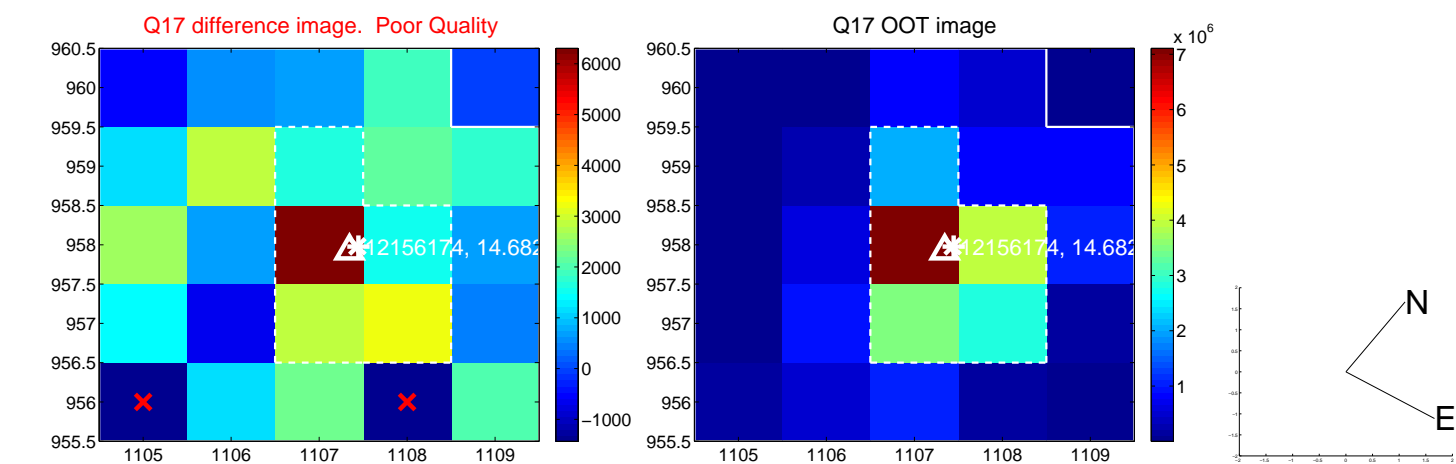
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UKIRT Image

Declination

