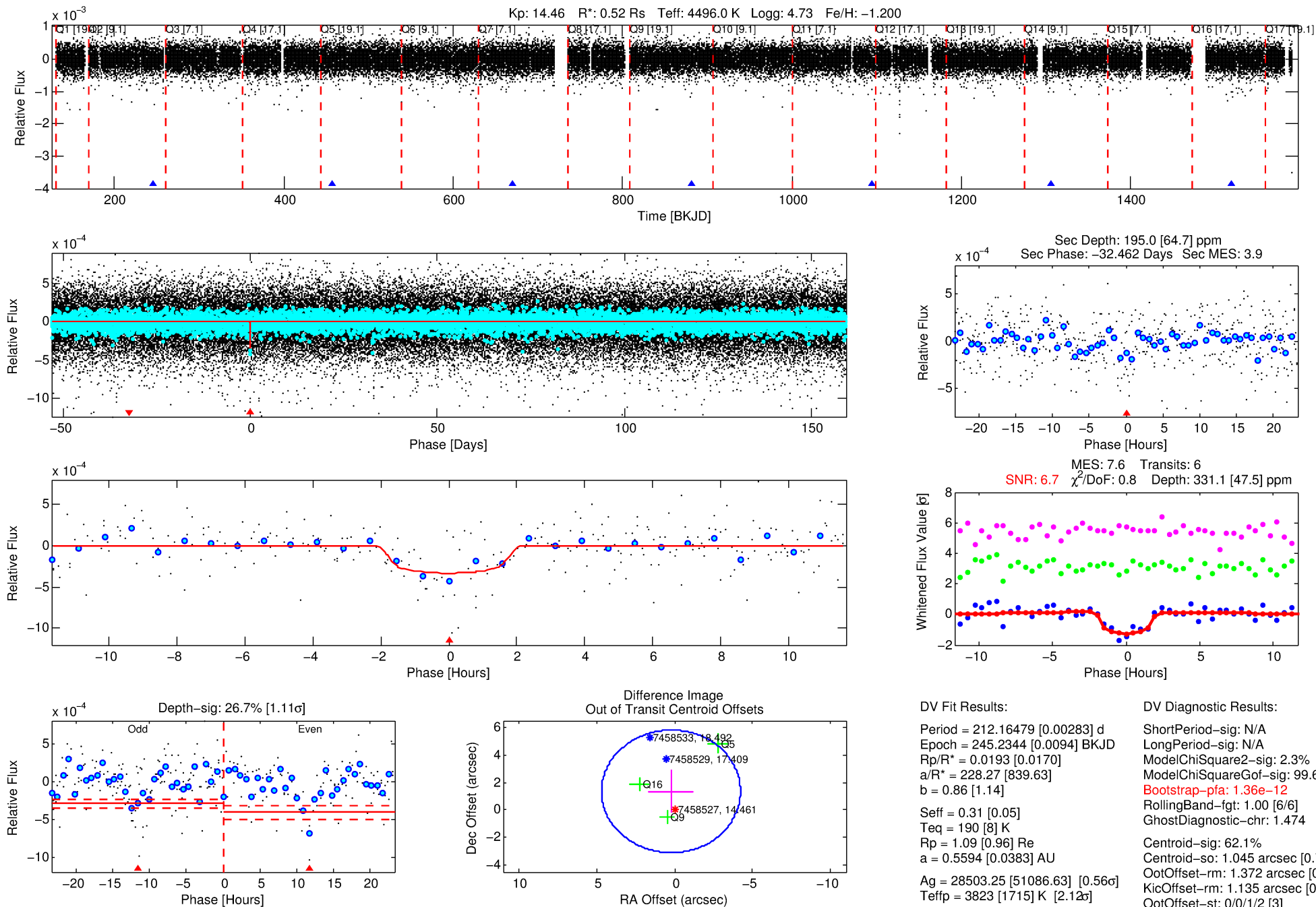


**WARNING: THIS DATA IS
SIMULATED, NOT OBSERVED**

DV One-Page Summary

KIC: 7458527 Candidate: 1 of 1 Period: 212.165 d

**WARNING: THIS DATA IS
SIMULATED, NOT OBSERVED**



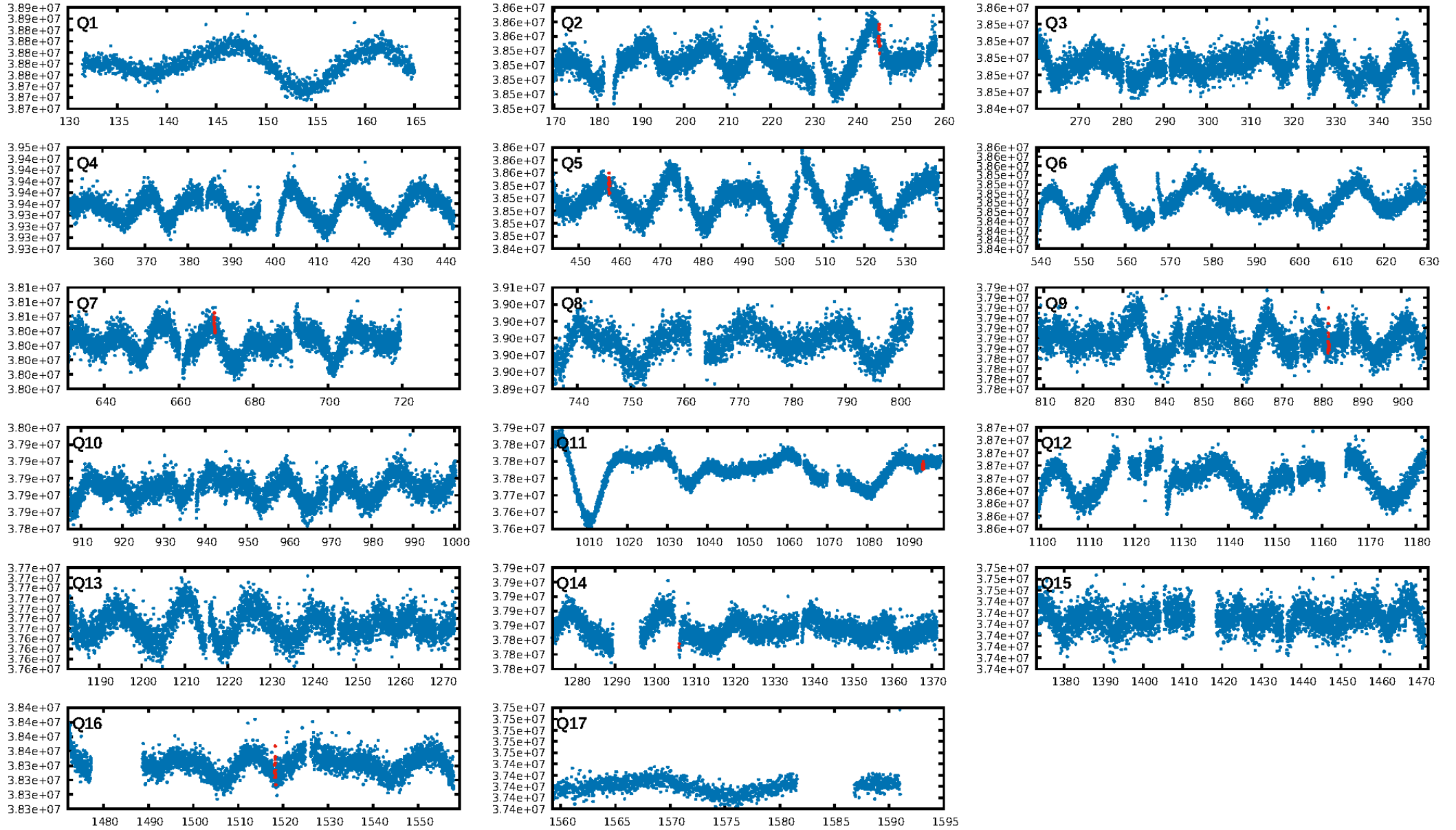
DV Fit Results:

Period = 212.16479 [0.00283] d
Epoch = 245.2344 [0.0094] BKJD
Rp/R* = 0.0193 [0.0170]
a/R* = 228.27 [839.63]
b = 0.86 [1.14]
Seff = 0.31 [0.05]
Teq = 190 [8] K
Rp = 1.09 [0.96] Re
a = 0.5594 [0.0383] AU
Ag = 28503.25 [51086.63] [0.56σ]
Teffp = 3823 [1715] K [2.12σ]

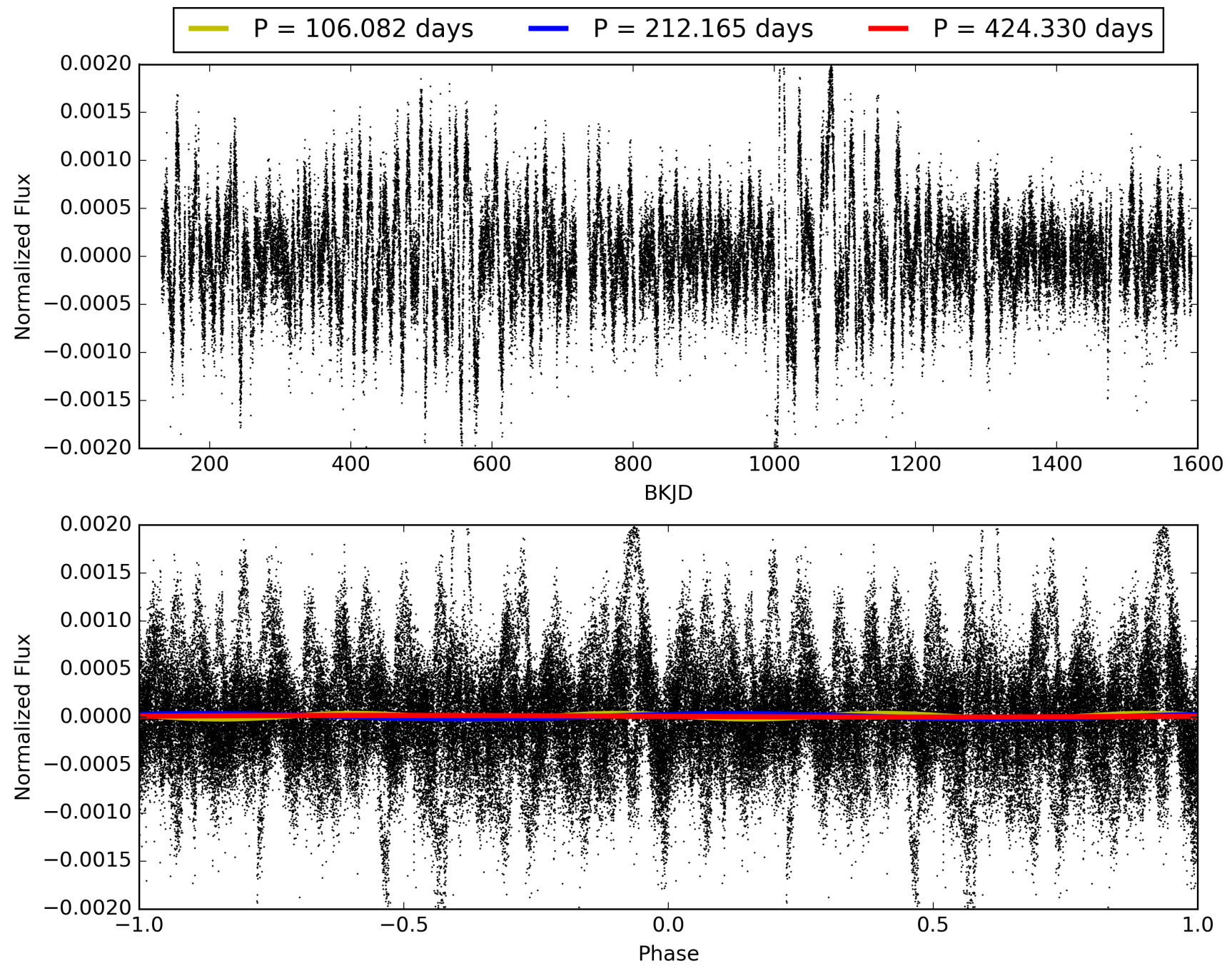
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.3%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 1.36e-12
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 1.474
Centroid-sig: 62.1%
Centroid-so: 1.045 arcsec [0.70σ]
OotOffset-rm: 1.372 arcsec [0.92σ]
KicOffset-rm: 1.135 arcsec [0.77σ]
OotOffset-st: 0/0/1/2 [3]
KicOffset-st: 0/0/1/2 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [5/5]

TCE 007458527-01, PDC Light Curves

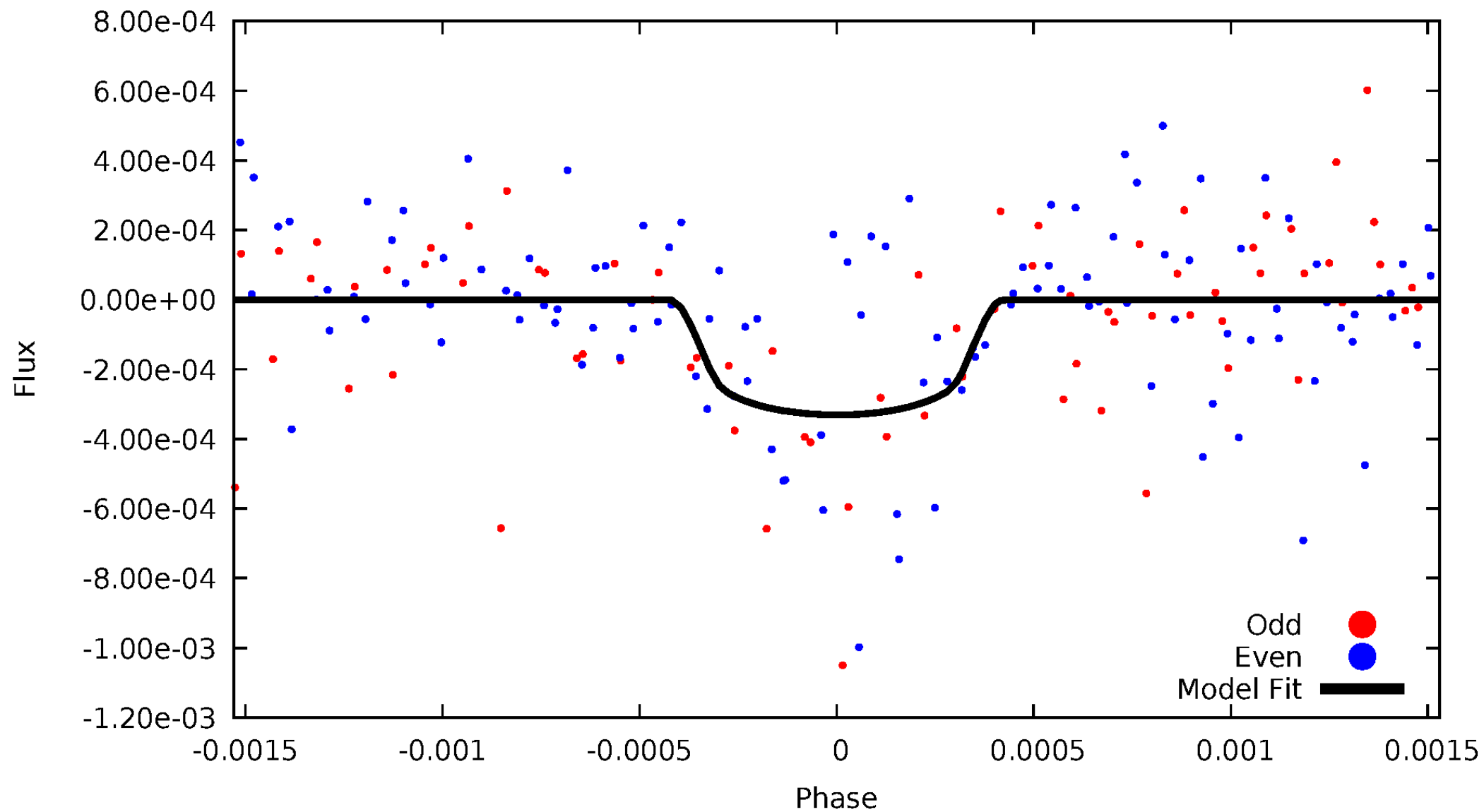


TCE 007458527-01



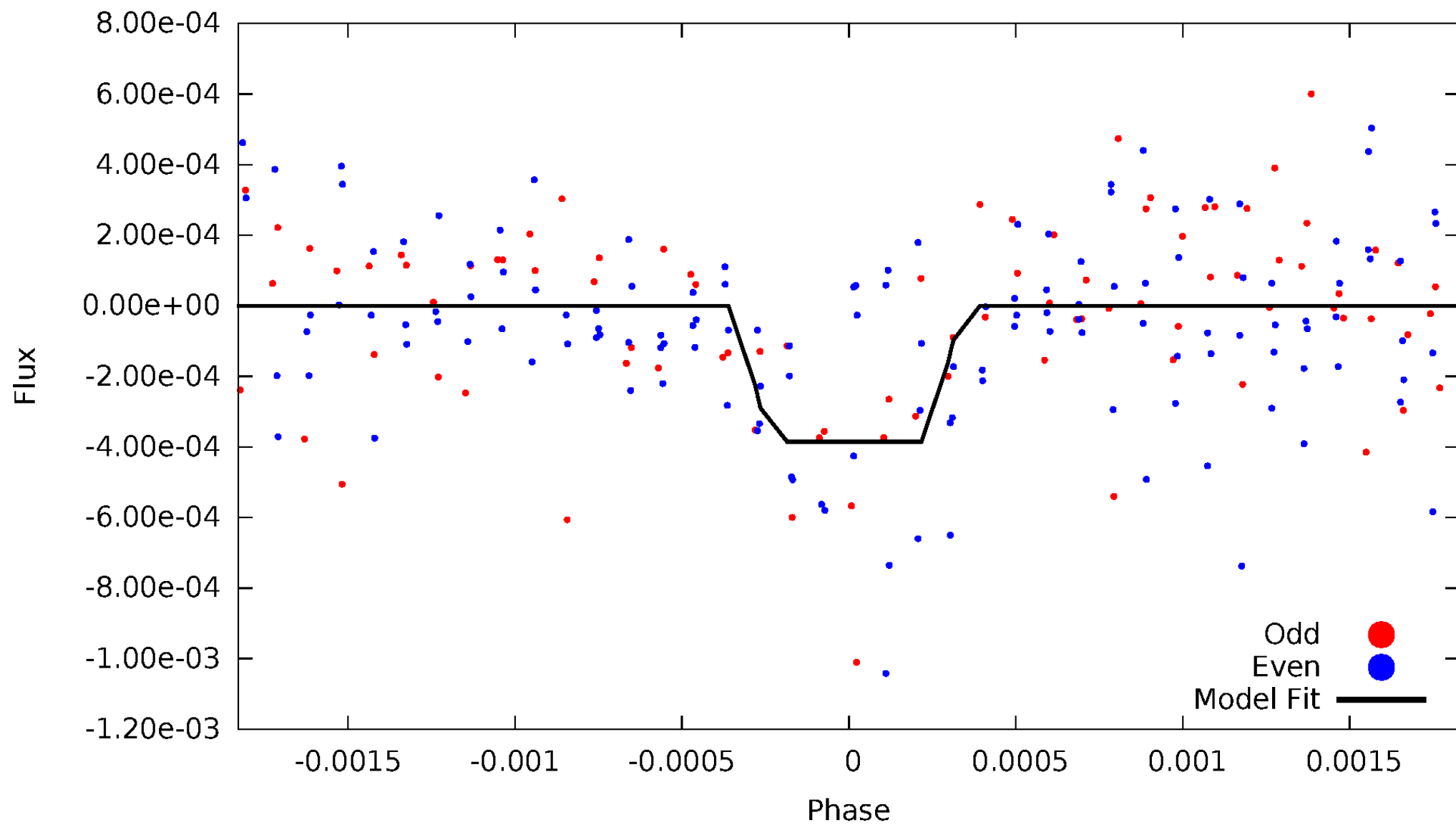
DV Odd/Even

TCE 007458527-01



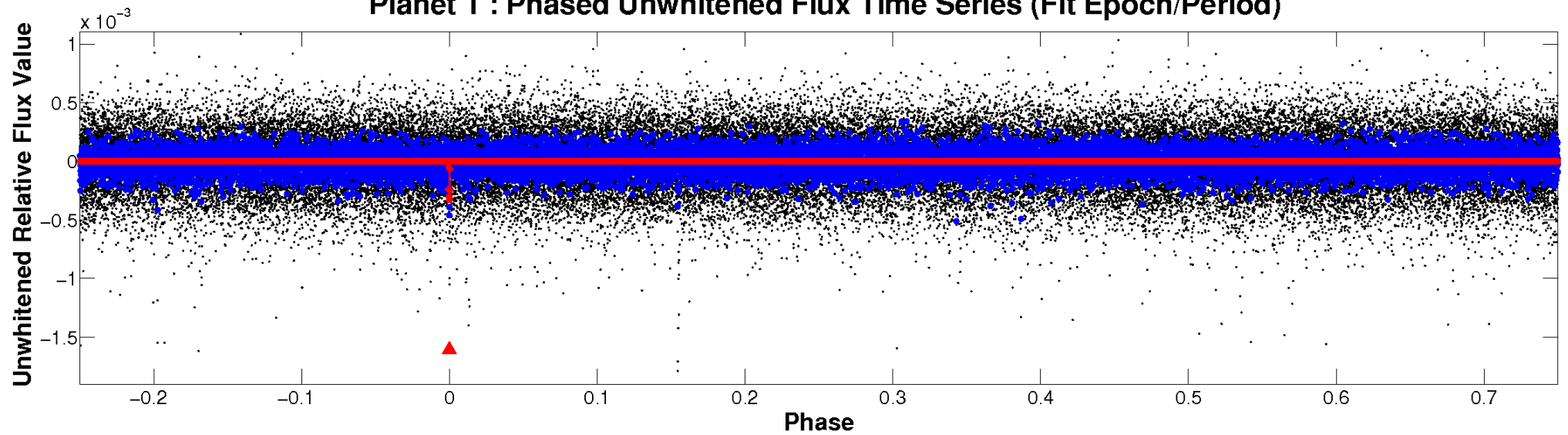
ALT Odd/Even

TCE 007458527-01

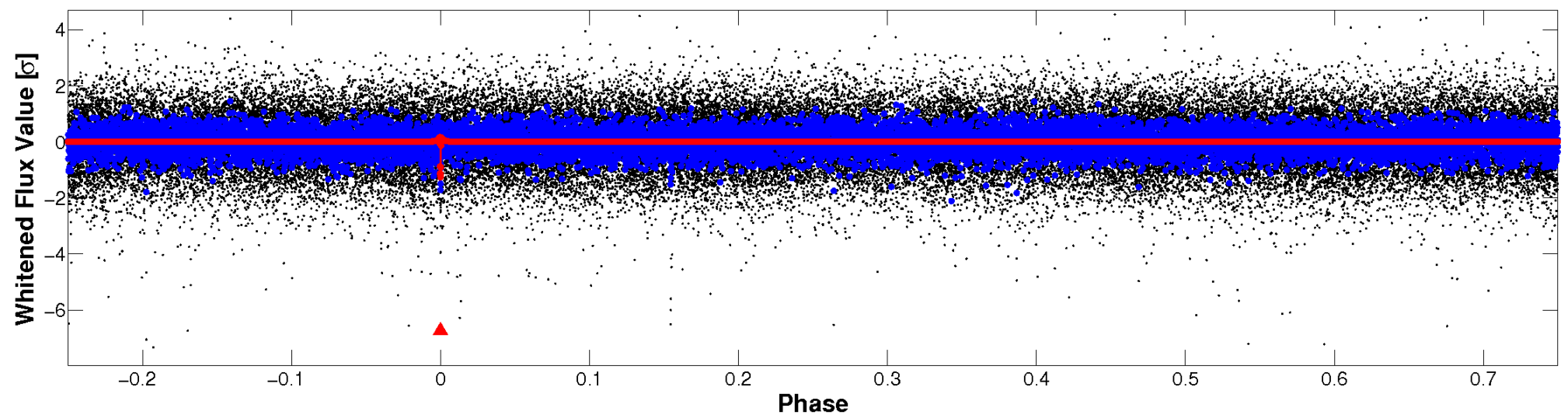


Non-Whitened Vs. Whitened Light Curve

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

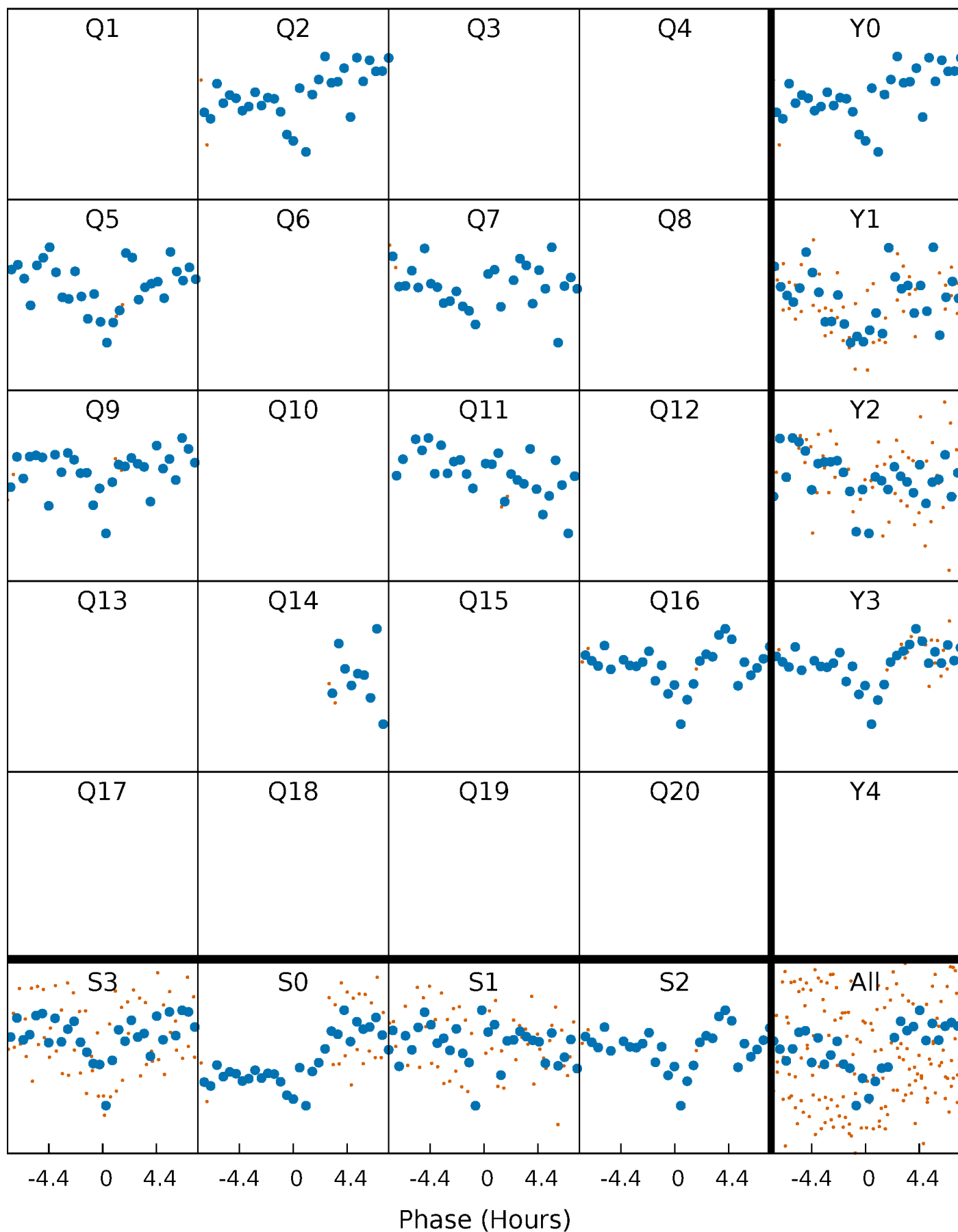


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



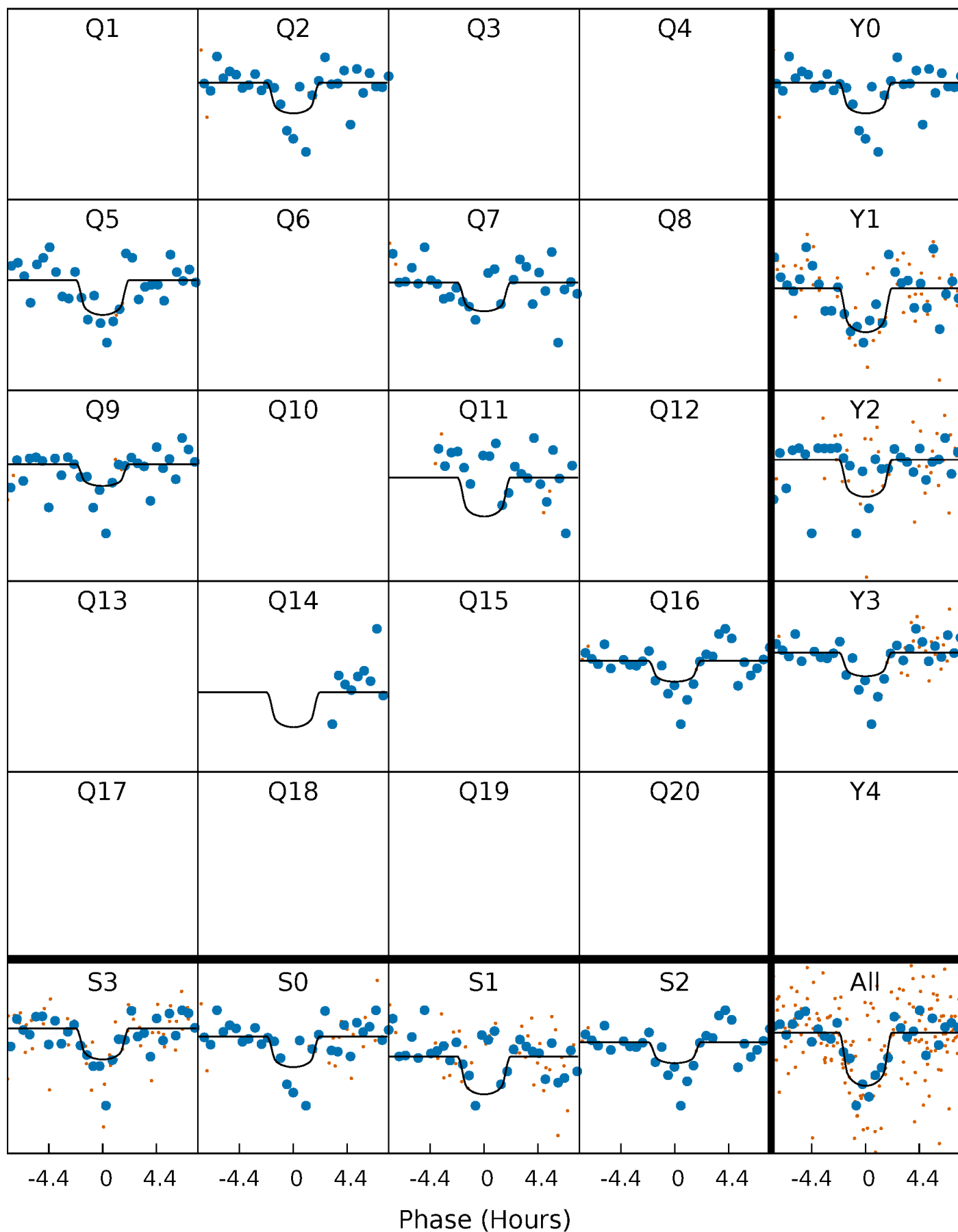
PDC Quarter-Phased Transit Curves

TCE 007458527-01 P=212.164789 Days $T_0=245.234449$ (BKJD)



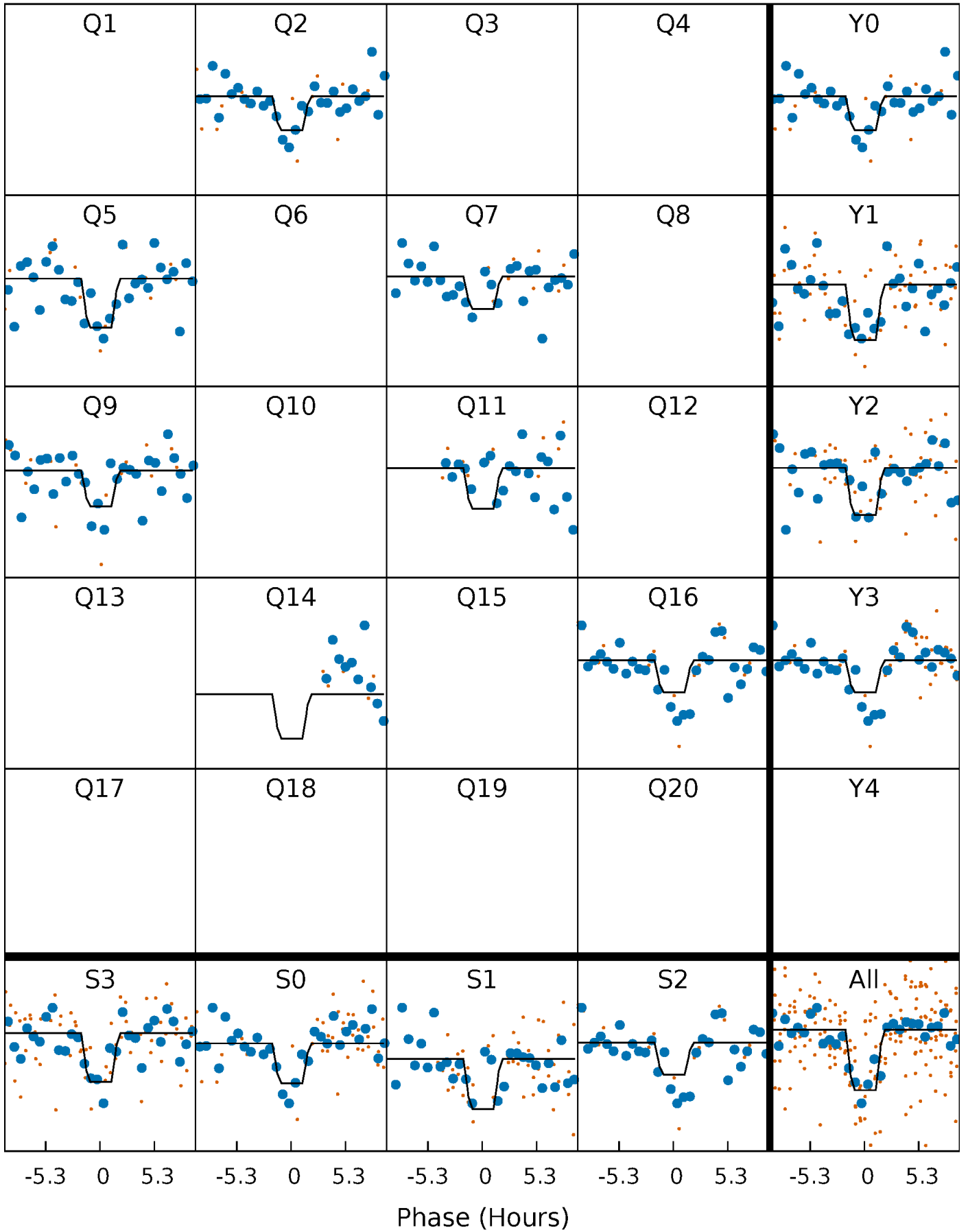
DV Quarter-Phased Transit Curves

TCE 007458527-01 P=212.164789 Days $T_0=245.234449$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

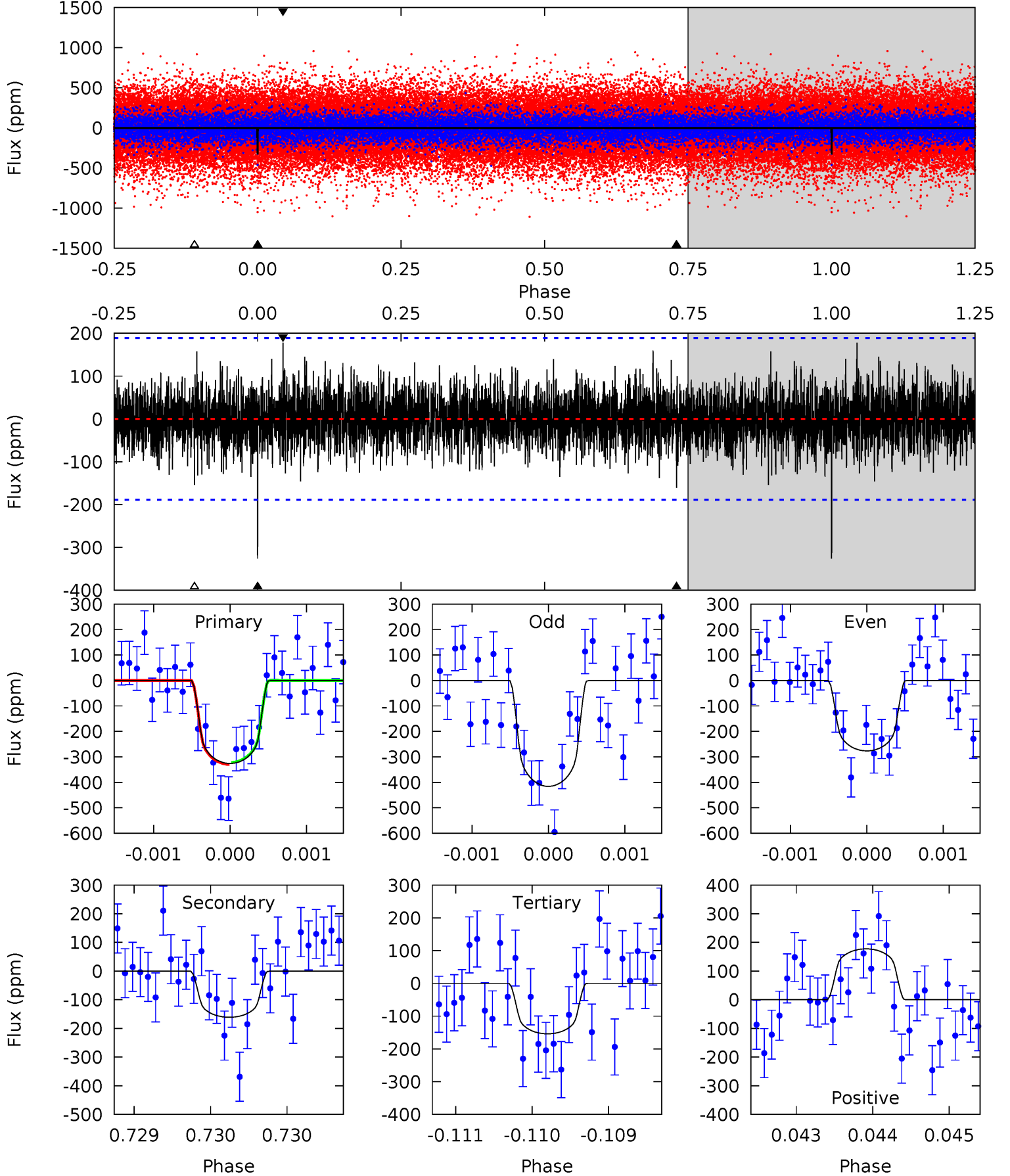
TCE 007458527-01 P=212.161544 Days $T_0=245.242498$ (BKJD)



DV Model-Shift Uniqueness Test

007458527-01, $P = 212.164789$ Days, $E = 33.069660$ Days

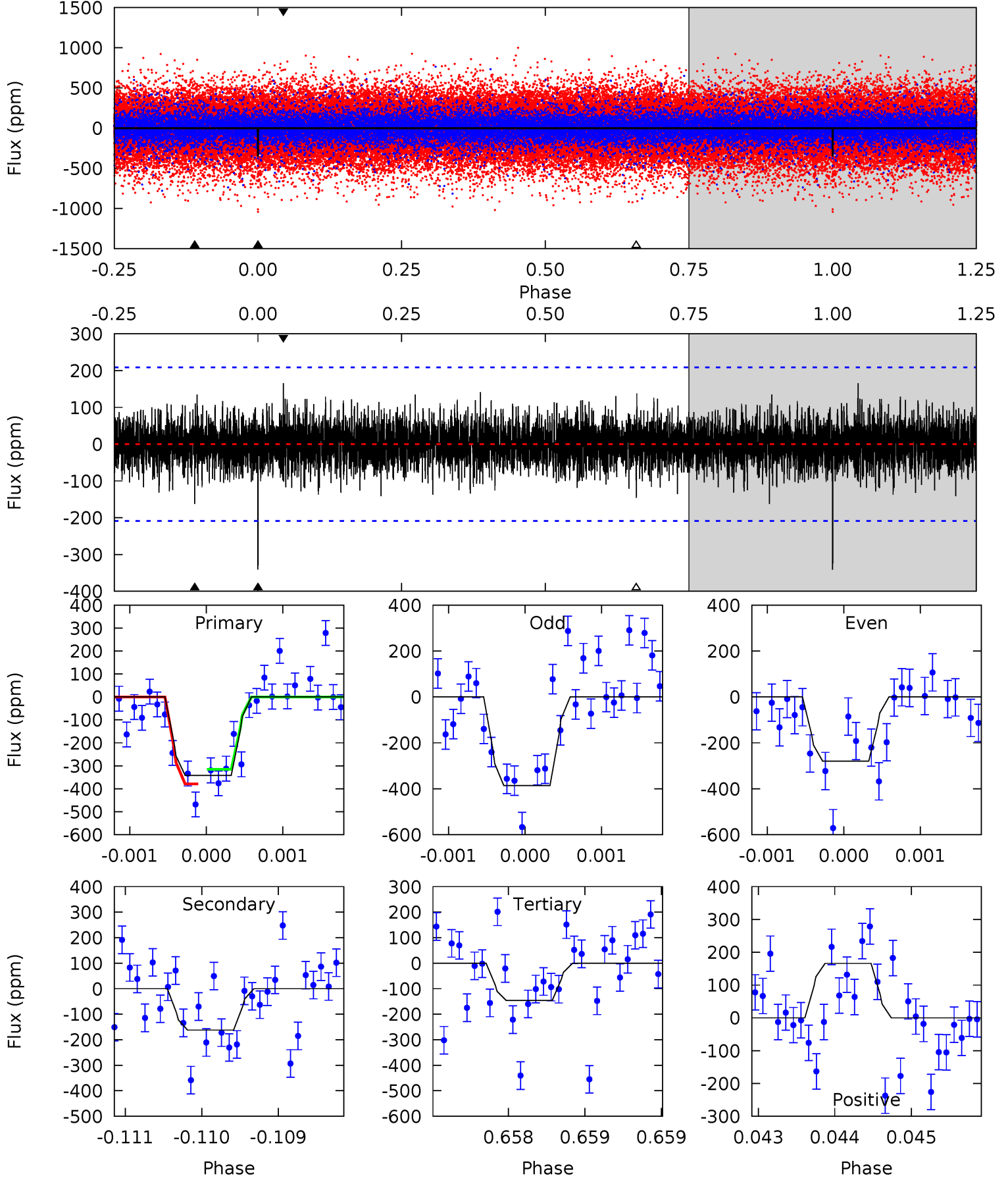
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.47	4.68	4.48	5.16	5.48	3.34	1.31	4.99	4.31	0.20	-0.48	1.94	0.79	0.35	0.12



Alt Model-Shift Uniqueness Test

007458527-01, P = 212.161544 Days, E = 33.080954 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.04	4.29	3.86	4.39	5.52	3.40	1.09	5.18	4.65	0.43	-0.10	1.34	0.87	0.33	0.82



Stellar Parameters For KIC 007458527

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4496^{+134}_{-148}	$4.729^{+0.052}_{-0.028}$	$-1.200^{+0.300}_{-0.300}$	$0.515^{+0.032}_{-0.043}$	$0.517^{+0.036}_{-0.029}$	$5.347^{+1.126}_{-0.695}$
	+3%/-3%	+1%/-1%	+25%/-25%	+6%/-8%	+7%/-6%	+21%/-13%
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 007458527-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-161 ± 34	$1.24^{+0.81}_{-0.76}$	265^{+8}_{-10}	3684^{+1522}_{-557}	18092^{+88256}_{-11817}
Alt.	-162 ± 38	$1.22^{+0.86}_{-0.79}$	264^{+9}_{-9}	3670^{+1878}_{-564}	$18153^{+133796}_{-12039}$

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

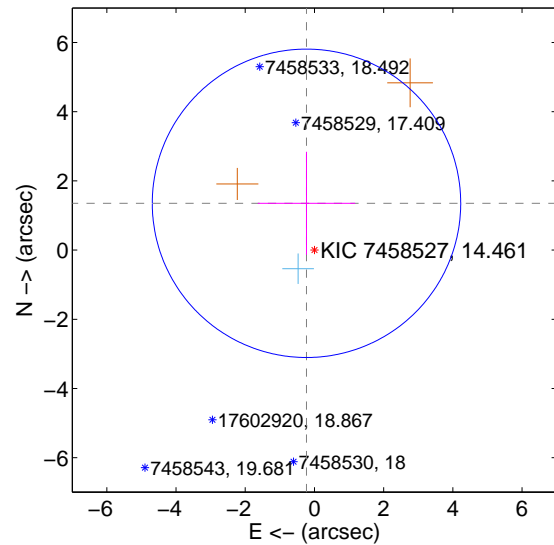
Supplemental centroid analysis for 007458527-01. Kepler magnitude: 14.46. Transit SNR 6.67

There are 1 quarters with good PRF difference image offsets

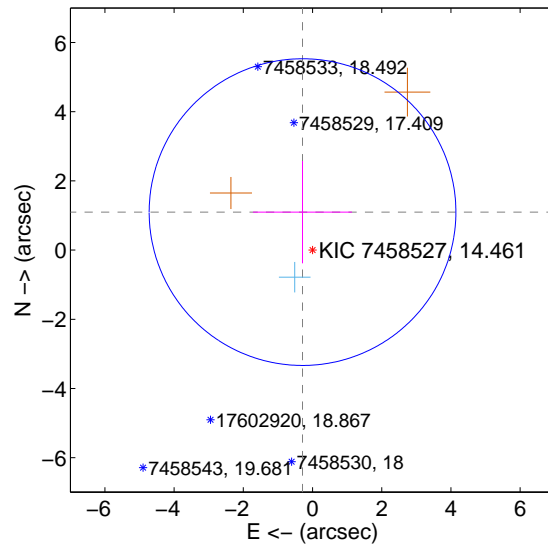
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.372 ± 1.486	0.92	0.230 ± 1.408	1.353 ± 1.488
PRF-fit source offset from KIC position	1.135 ± 1.477	0.77	0.289 ± 1.431	1.098 ± 1.481
photometric centroid source offset	1.04 ± 1.49	0.70	-1.03 ± 1.48	-0.19 ± 1.73

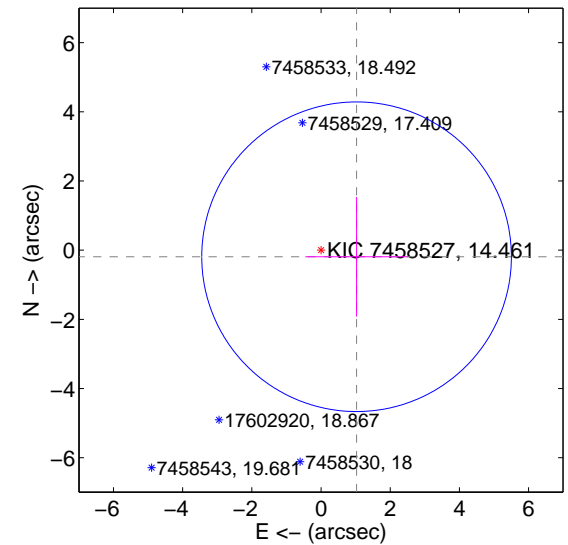
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



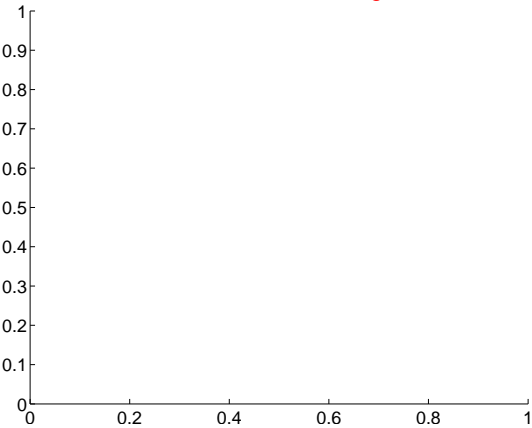
offset from photometric centroids



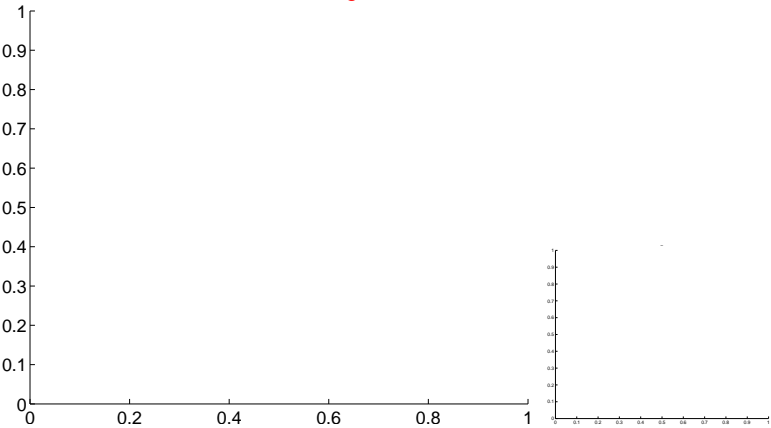
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

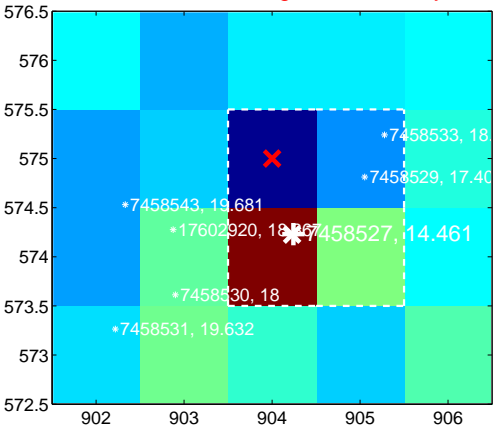
Q1 no difference image



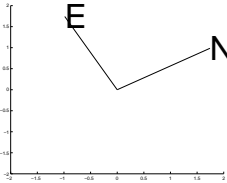
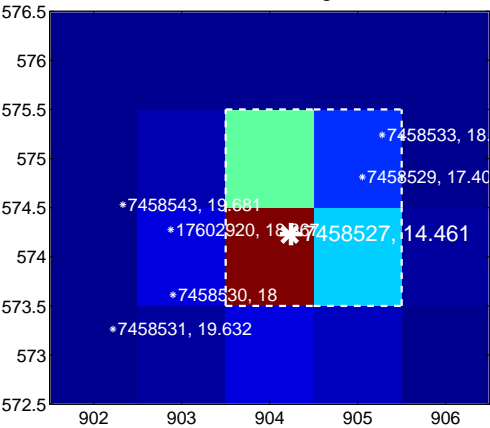
Q1 no OOT image



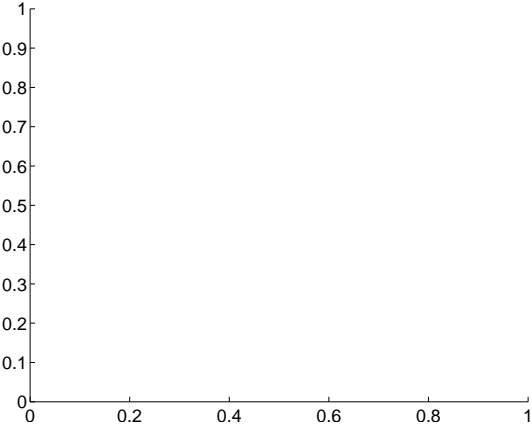
Q2 difference image. Poor Quality



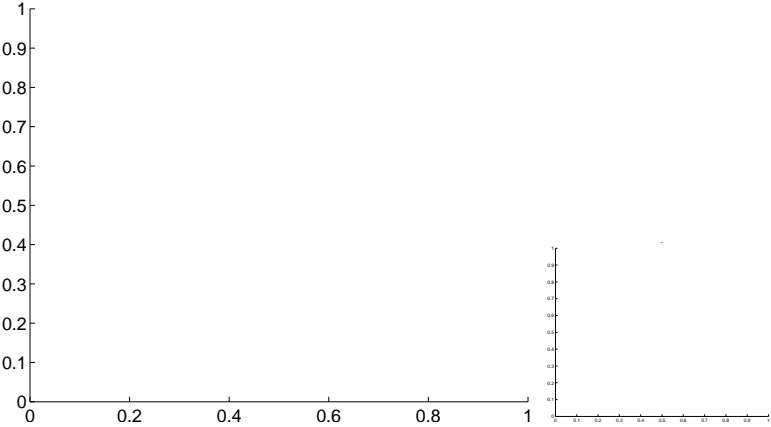
Q2 OOT image



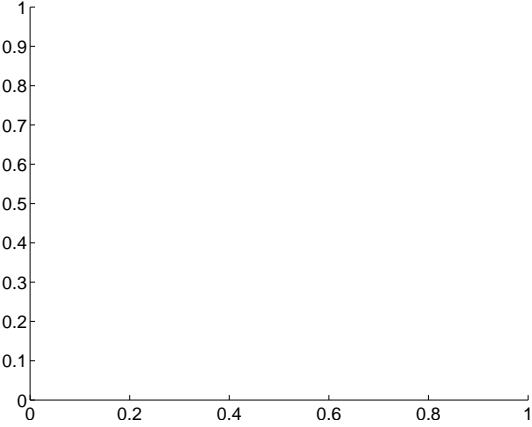
Q3 no difference image



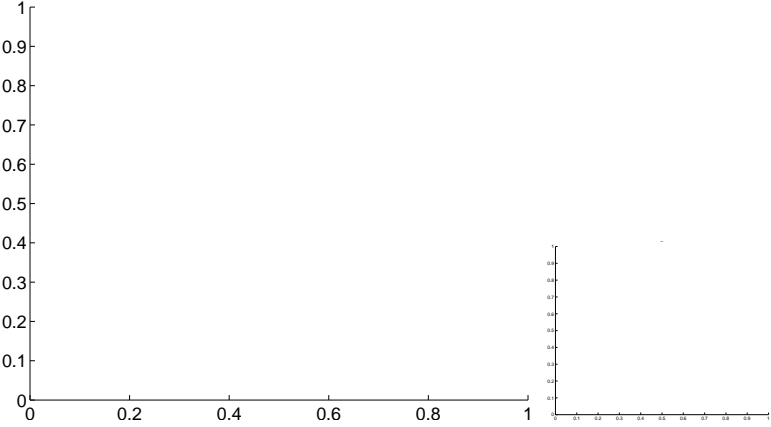
Q3 no OOT image



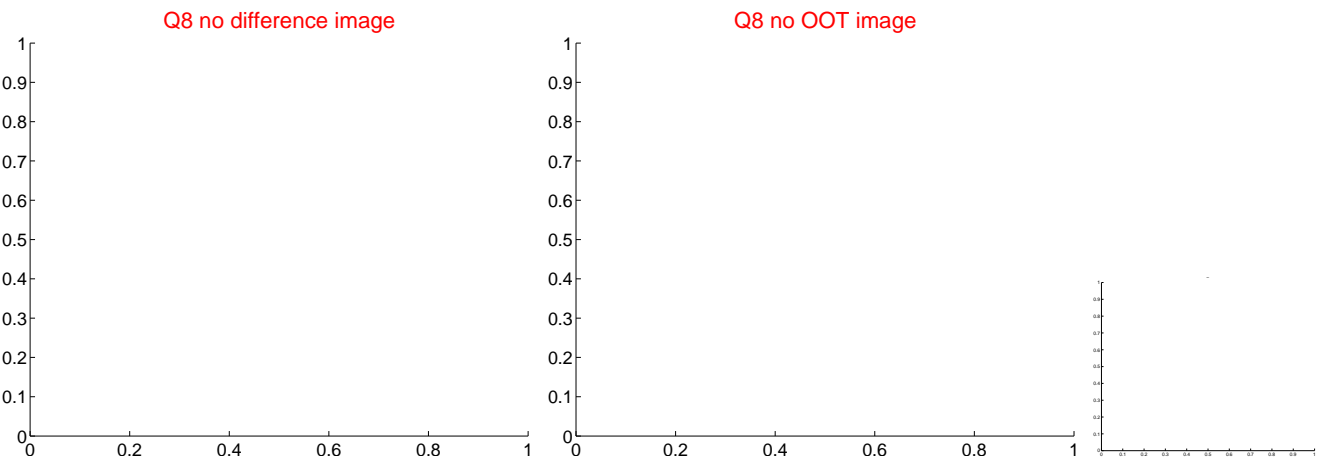
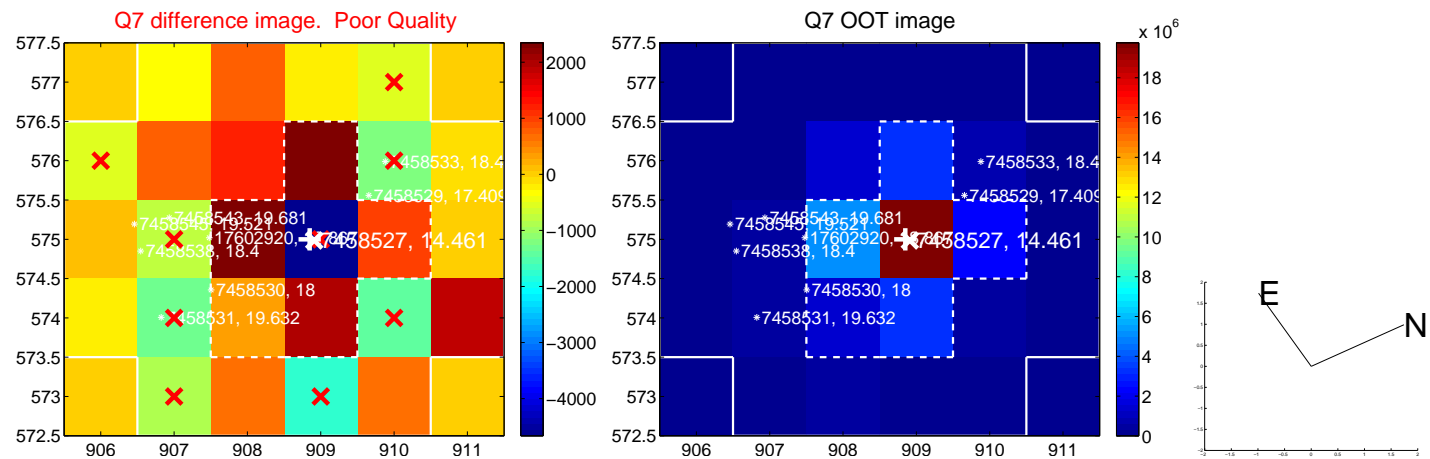
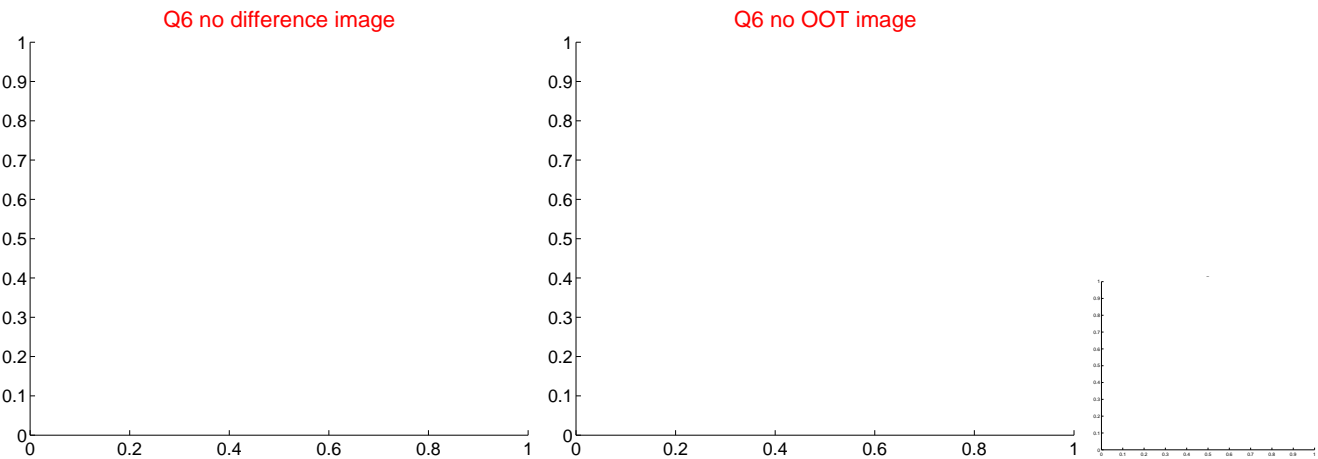
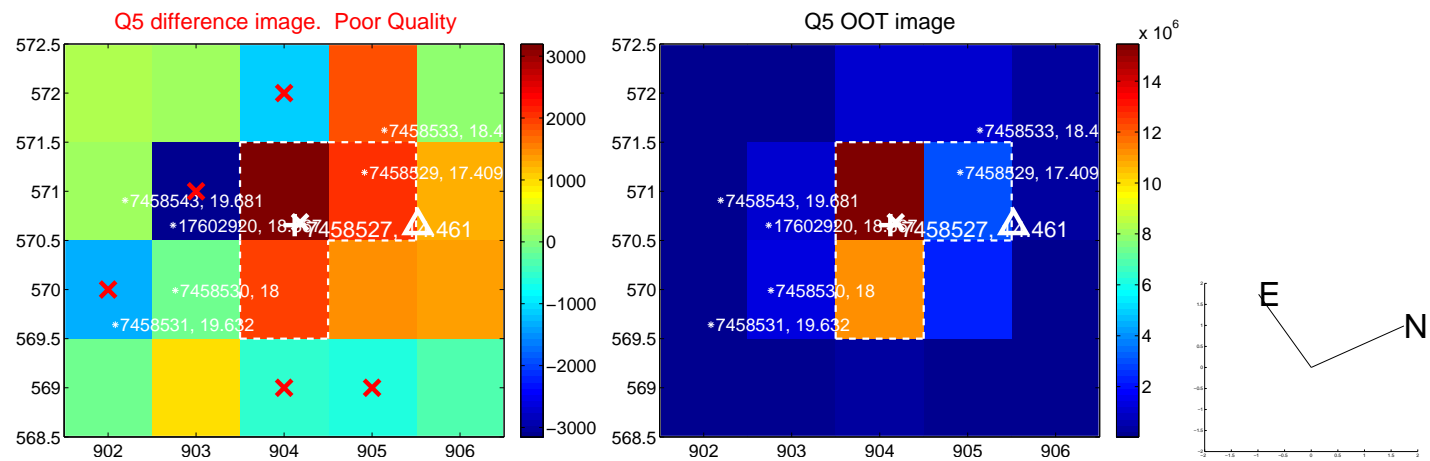
Q4 no difference image



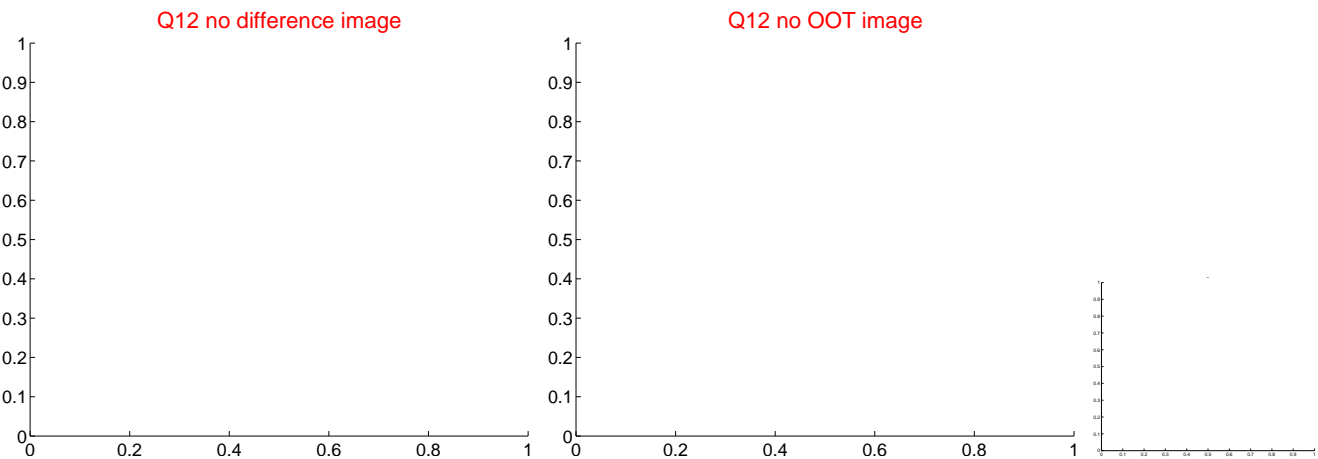
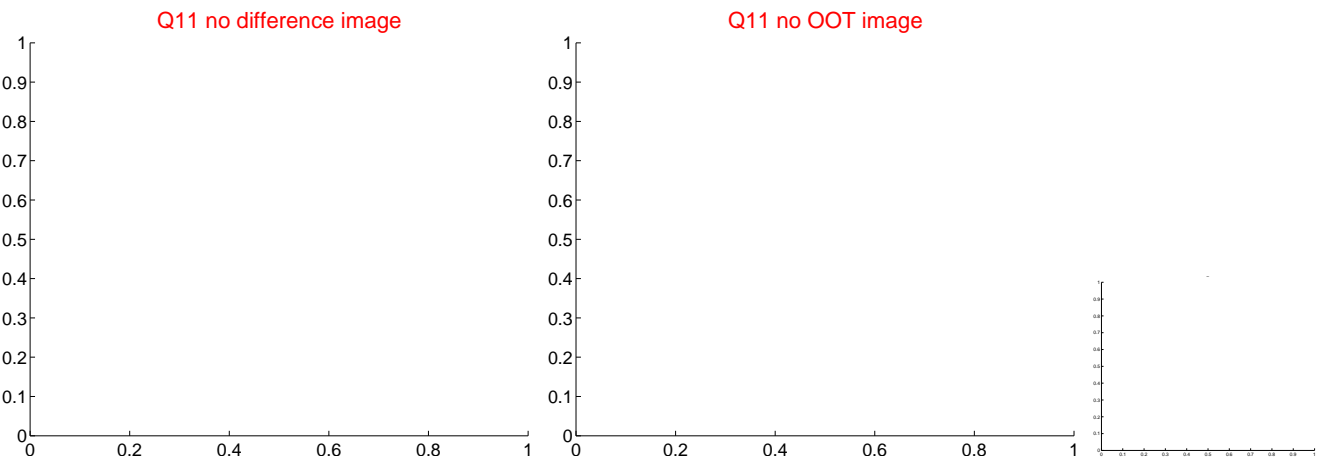
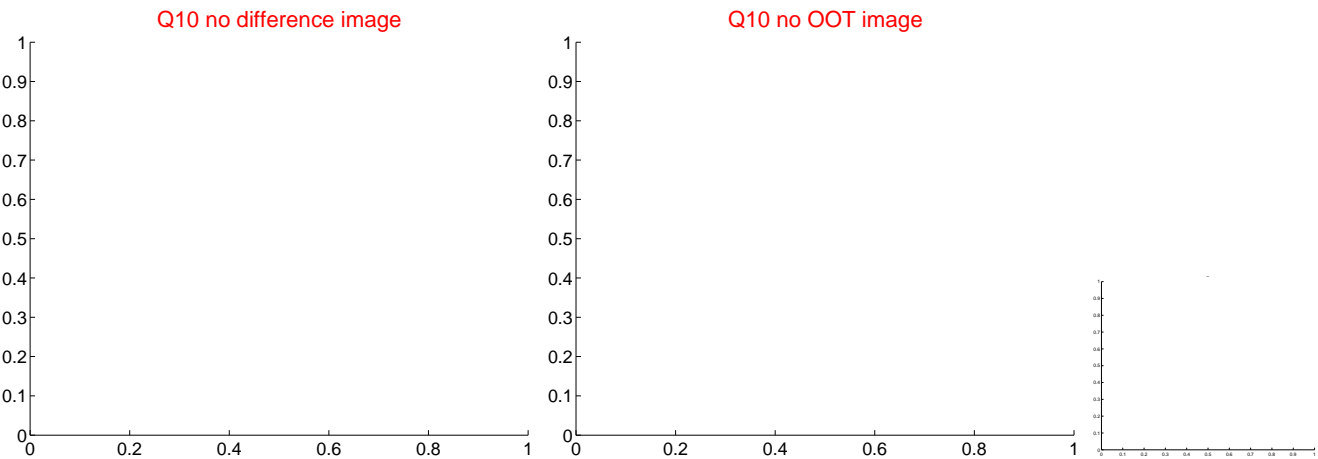
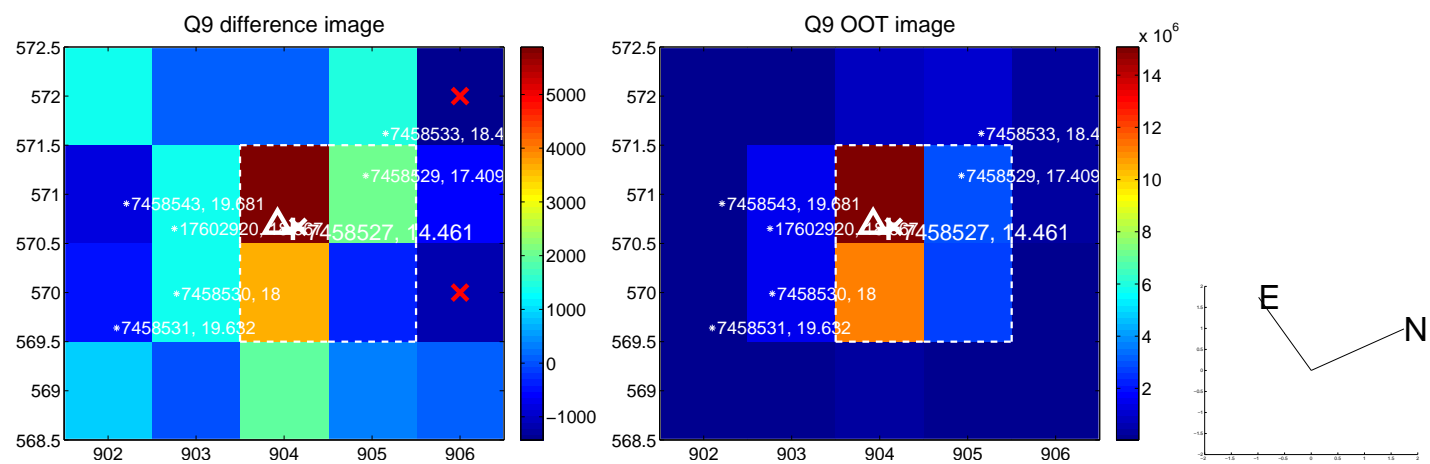
Q4 no OOT image



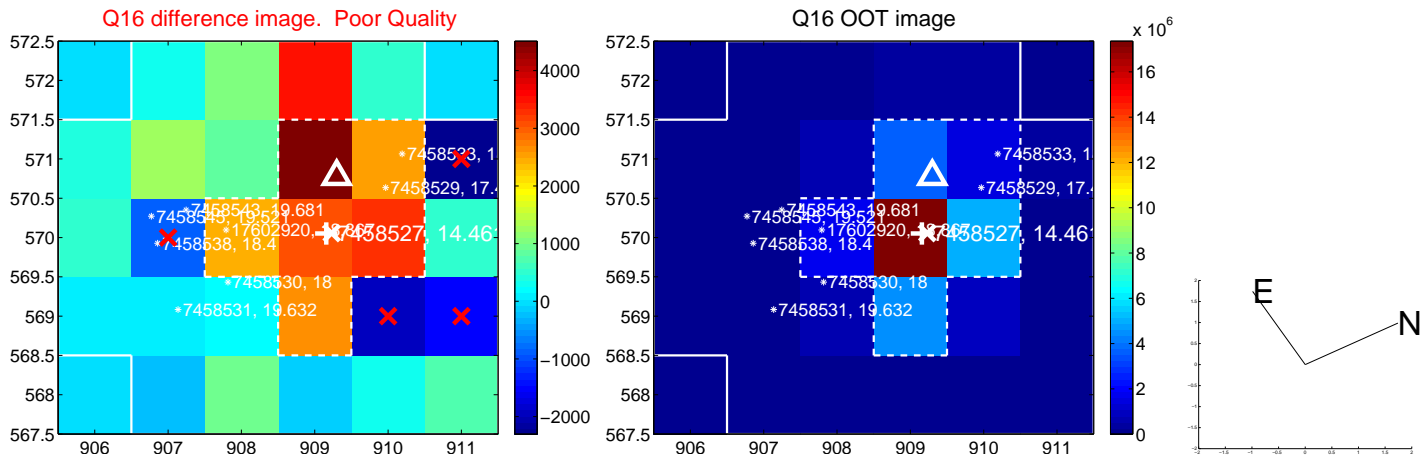
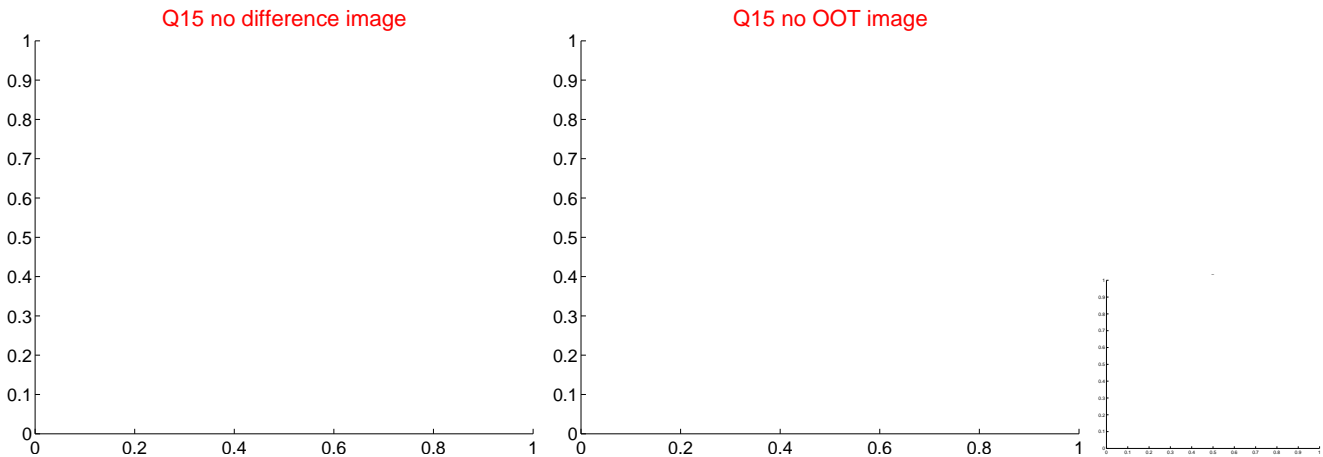
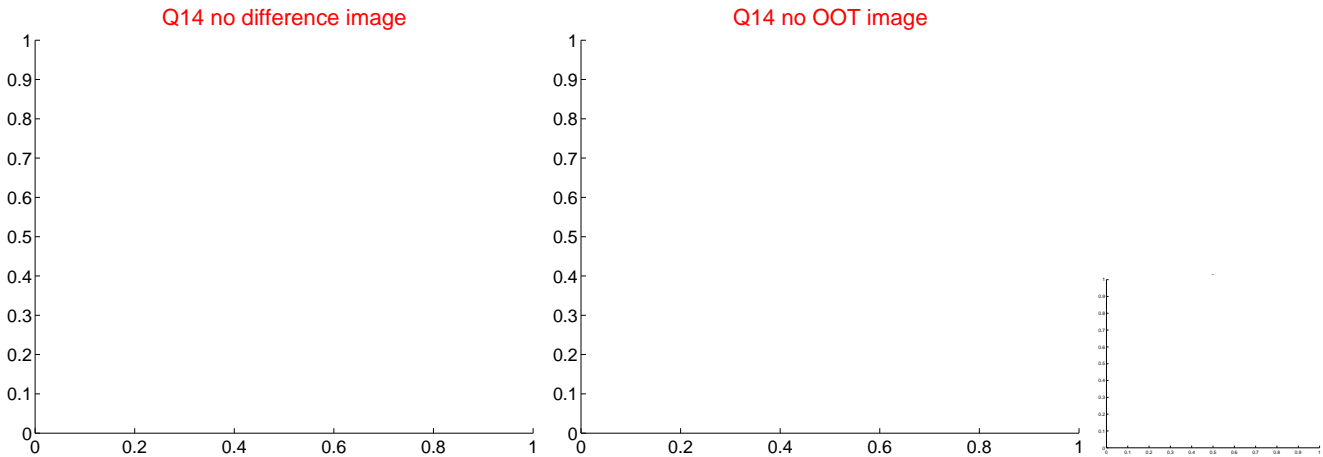
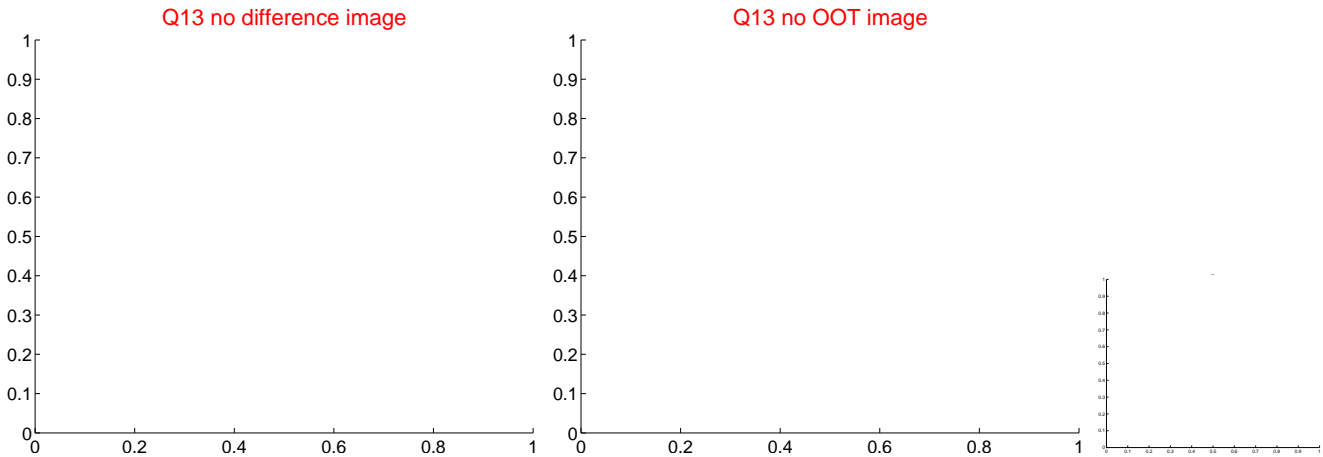
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



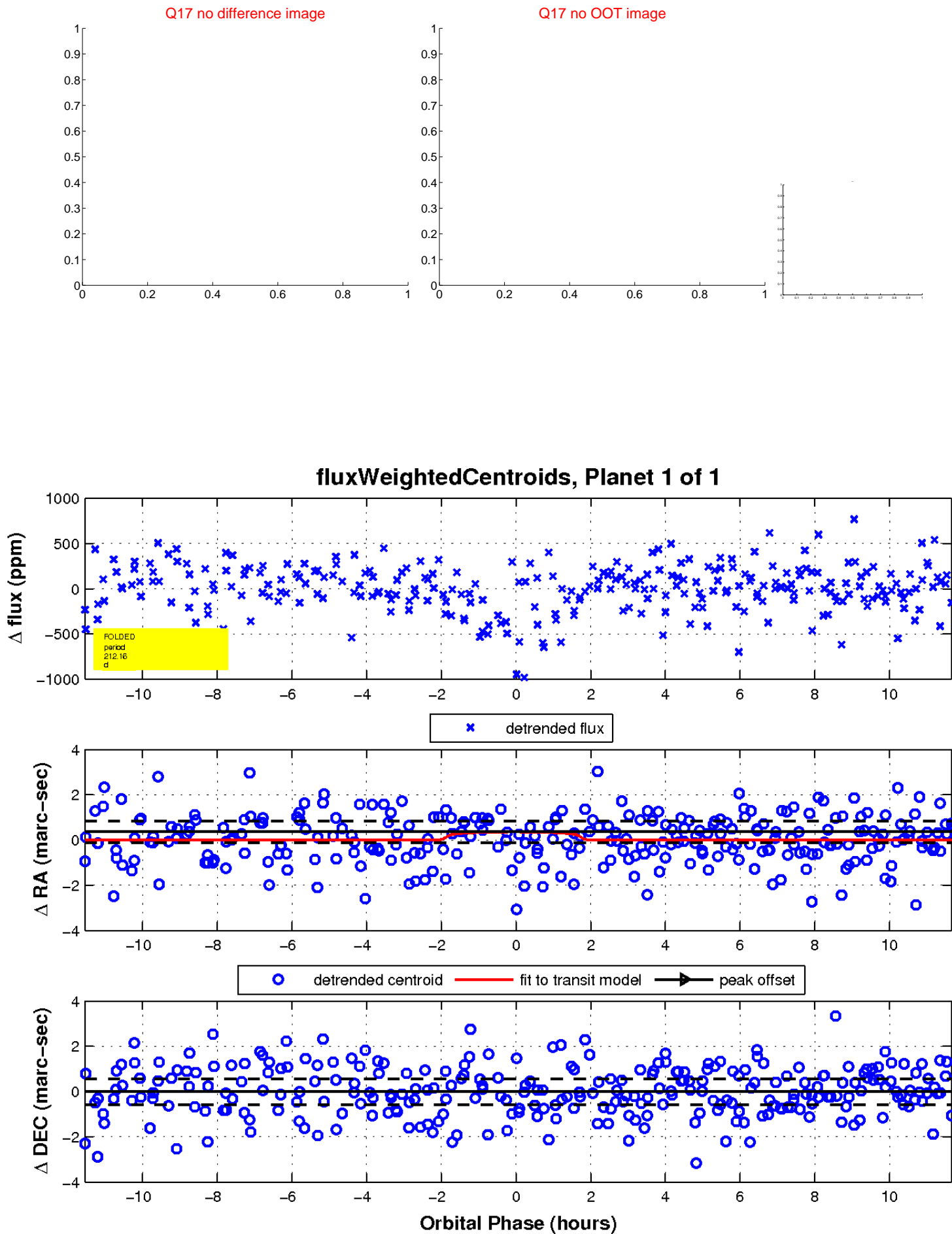
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

