

KIC 006124512

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})
006124512-01	OBS	2627.01	8.383908	134.418577	106.1	5.193	12.2	12.8	2.60	5405	3.24	646.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006124512-01	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.

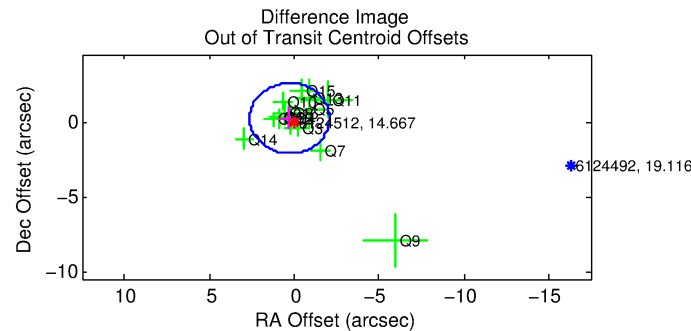
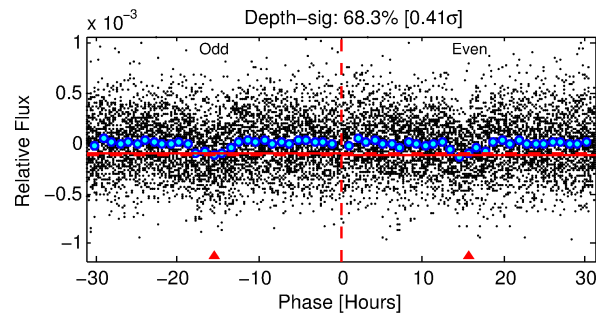
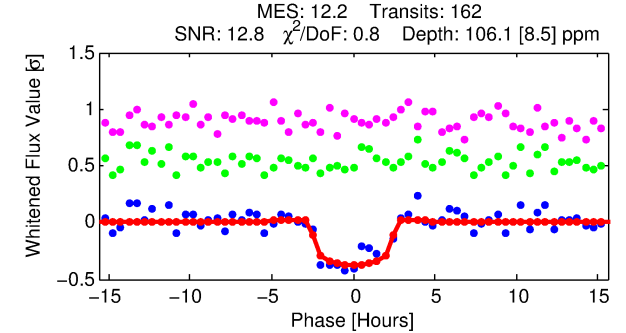
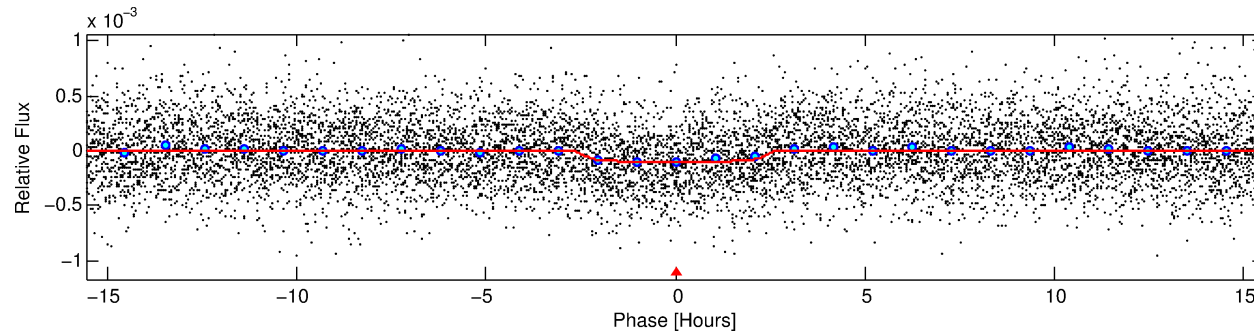
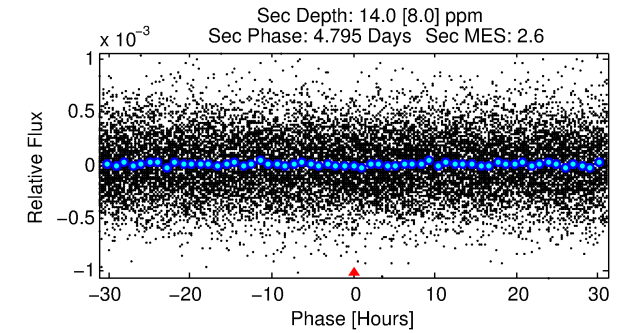
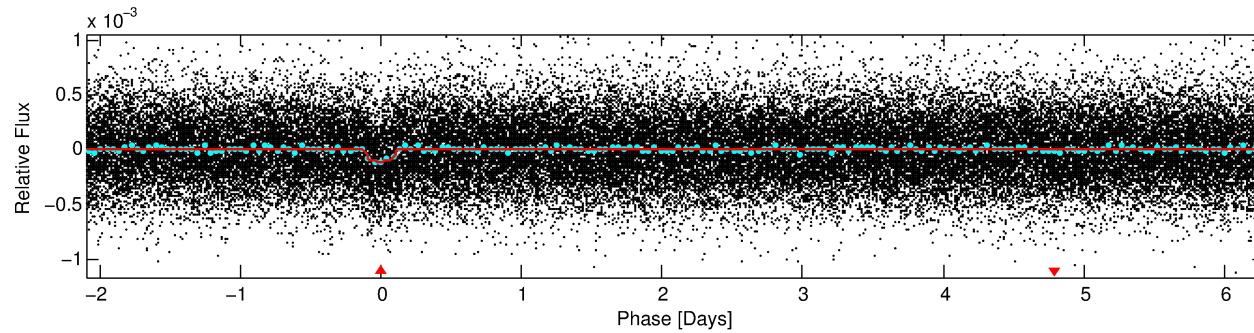
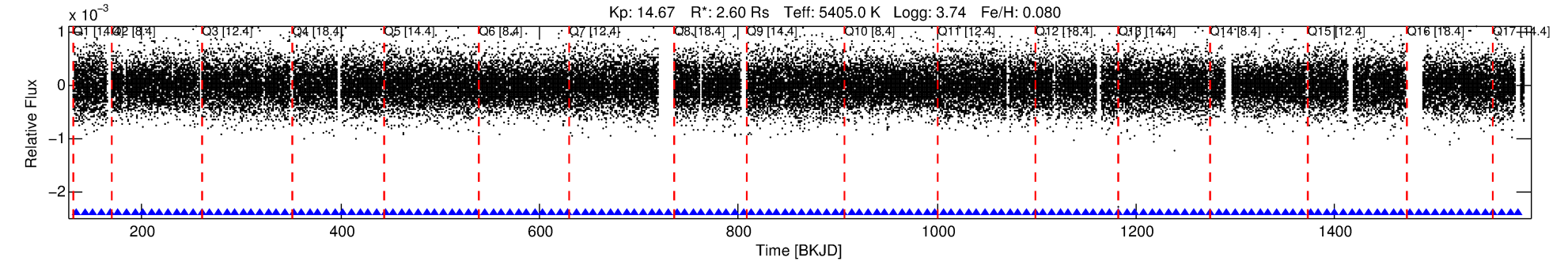
Ephemeris Match Information For 006124512-01

No Significant Match Found

DV One-Page Summary

KIC: 6124512 Candidate: 1 of 1 Period: 8.384 d

KOI: K02627.01 Corr: 0.978



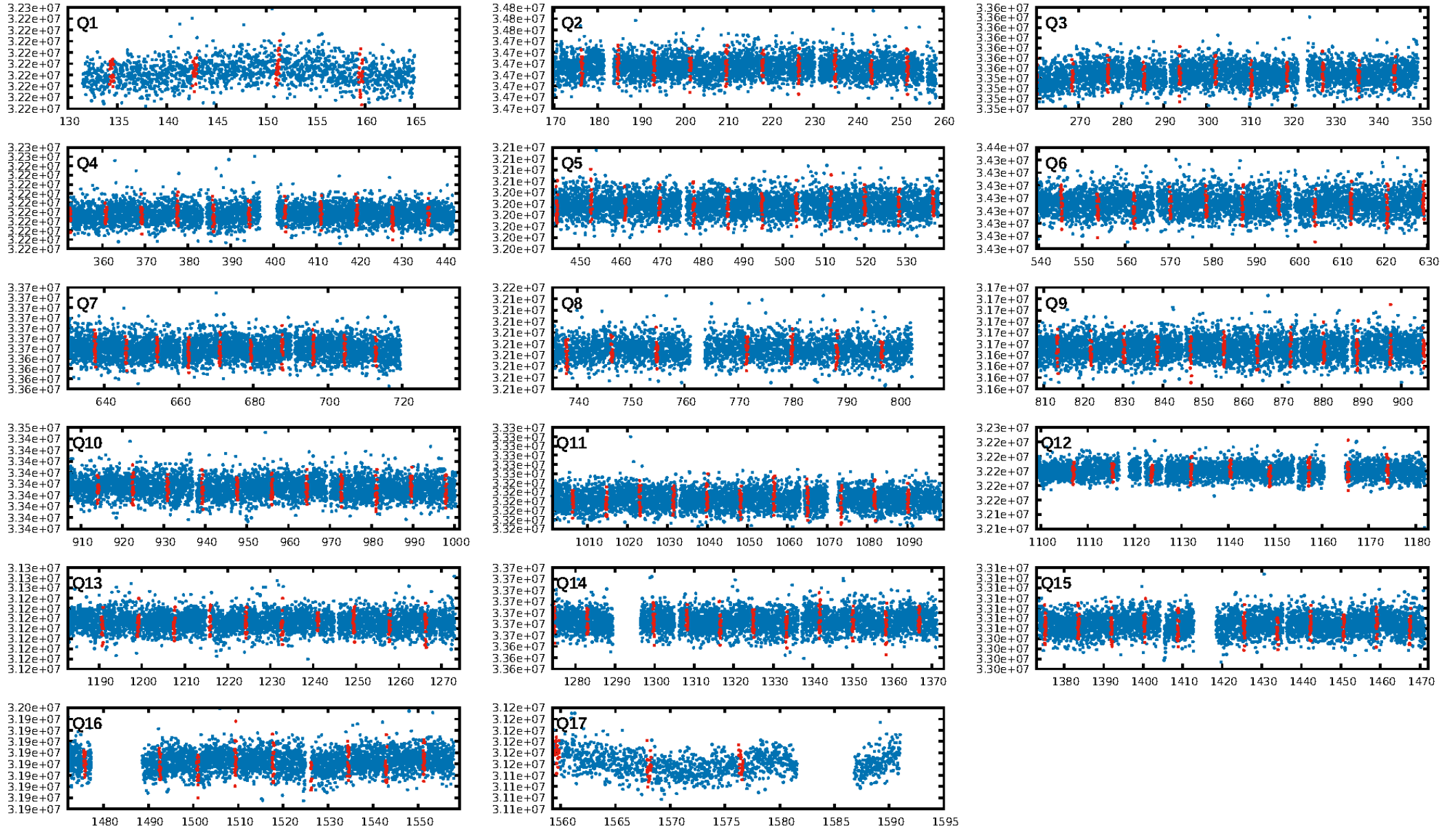
DV Fit Results:

Period = 8.38391 [0.00008] d
Epoch = 134.4186 [0.0076] BKJD
Rp/R* = 0.0114 [0.0041]
a/R* = 5.64 [8.79]
b = 0.91 [0.33]
Seff = 646.68 [258.86]
Teq = 1286 [129] K
Rp = 3.24 [1.56] Re
a = 0.0896 [0.0242] AU
Ag = 5.87 [5.88] [0.83σ]
Teffp = 3094 [715] K [2.49σ]

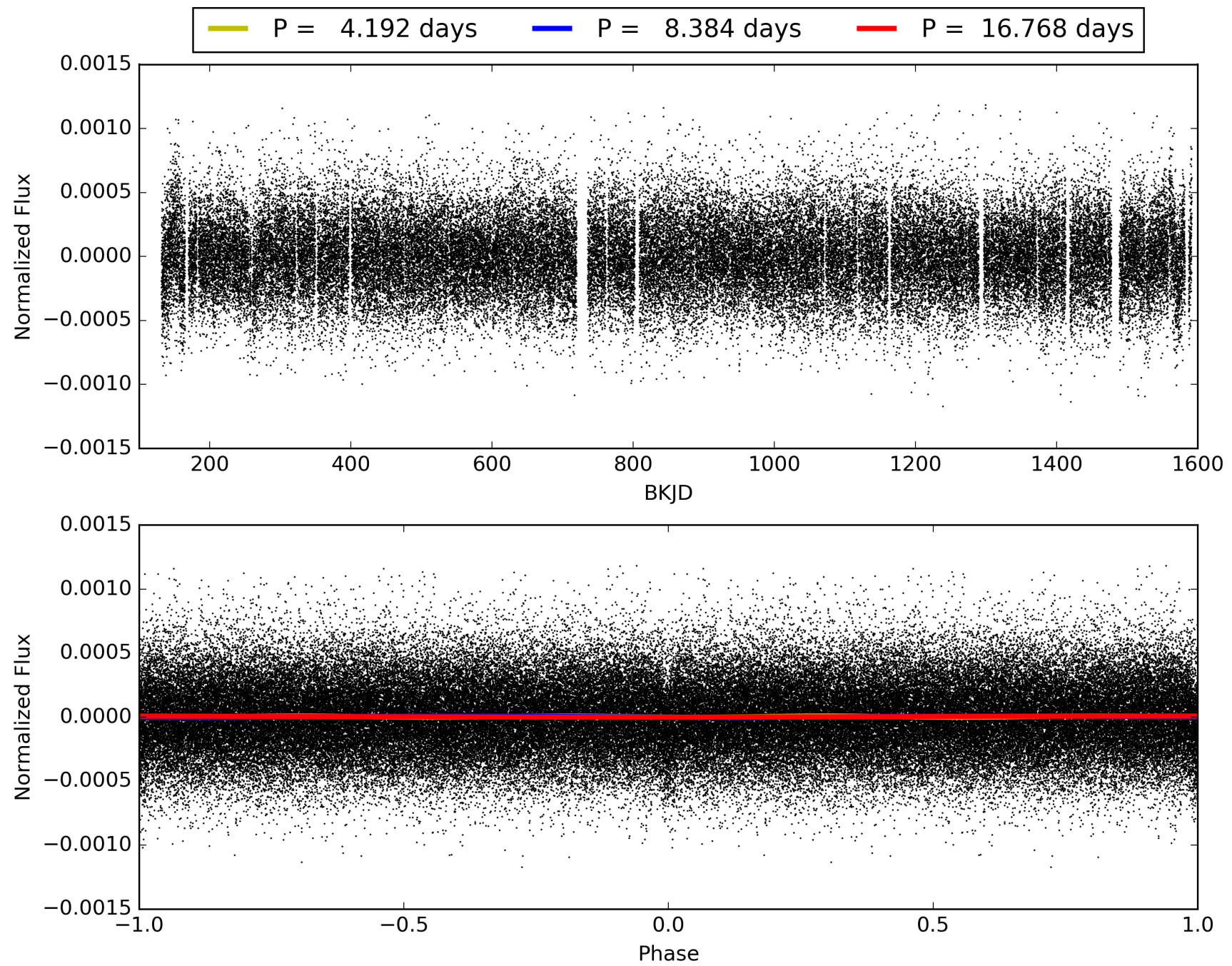
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.38e-33
RollingBand-fgt: 1.00 [155/155]
GhostDiagnostic-chr: 4.783
Centroid-sig: 31.3%
Centroid-so: 1.126 arcsec [1.08σ]
OotOffset-rm: 0.355 arcsec [0.45σ]
KicOffset-rm: 0.169 arcsec [0.26σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 0.80 [12/15]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006124512-01, PDC Light Curves

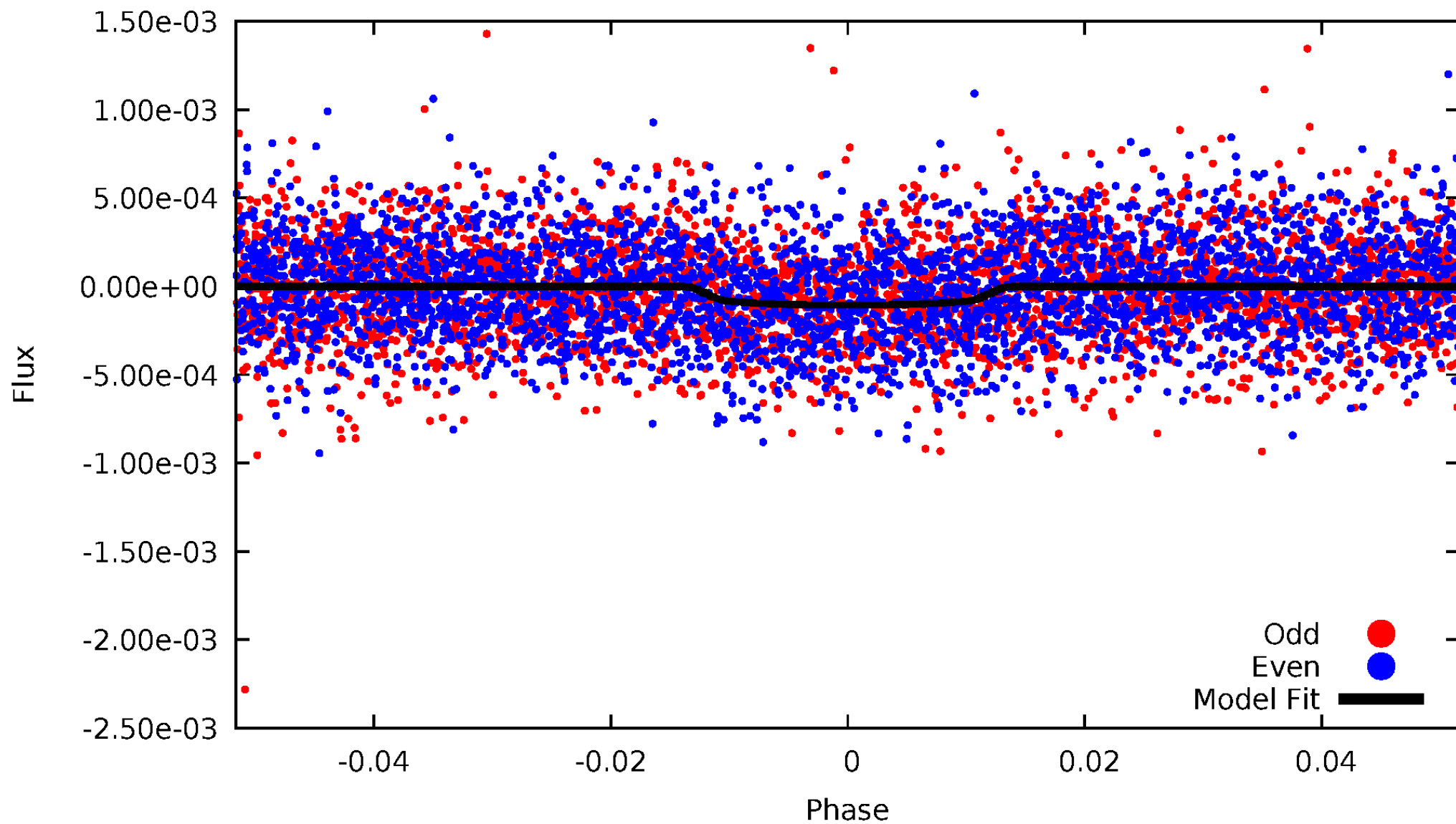


TCE 006124512-01



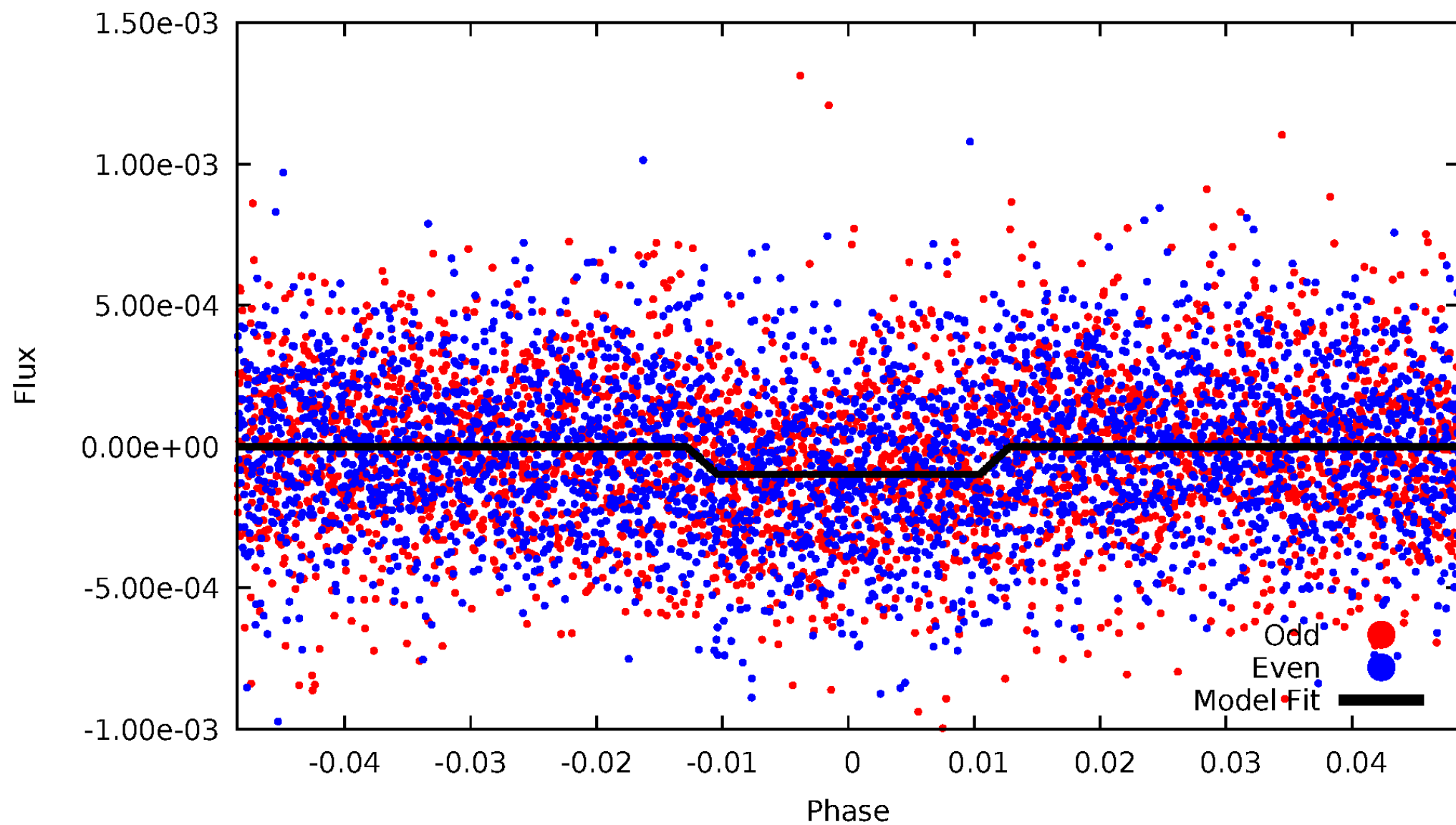
DV Odd/Even

TCE 006124512-01

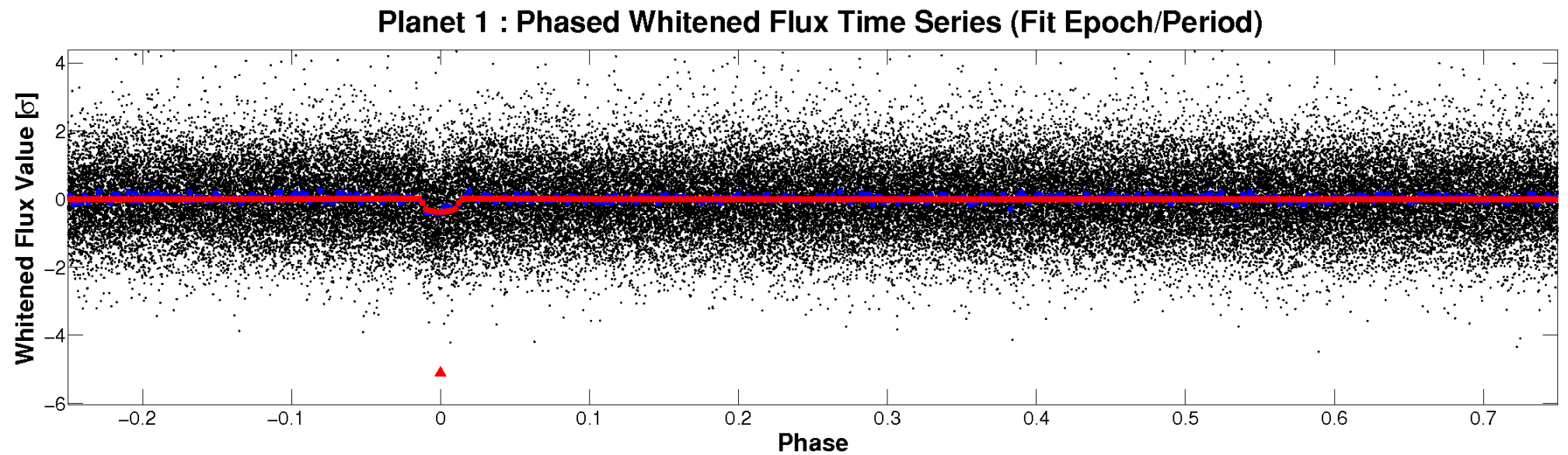
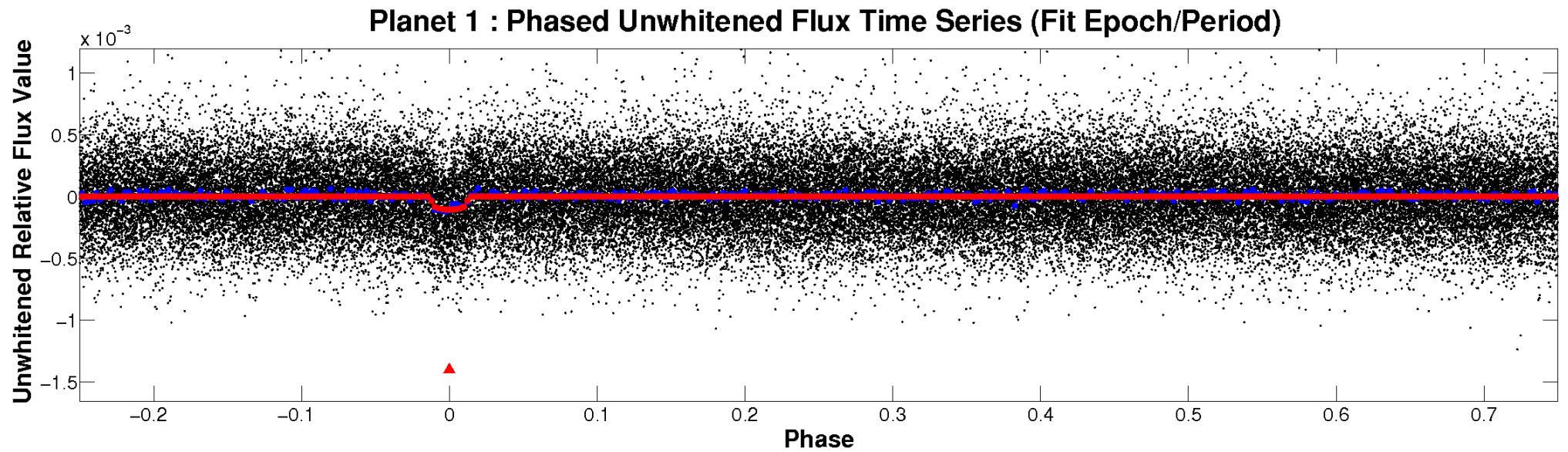


ALT Odd/Even

TCE 006124512-01

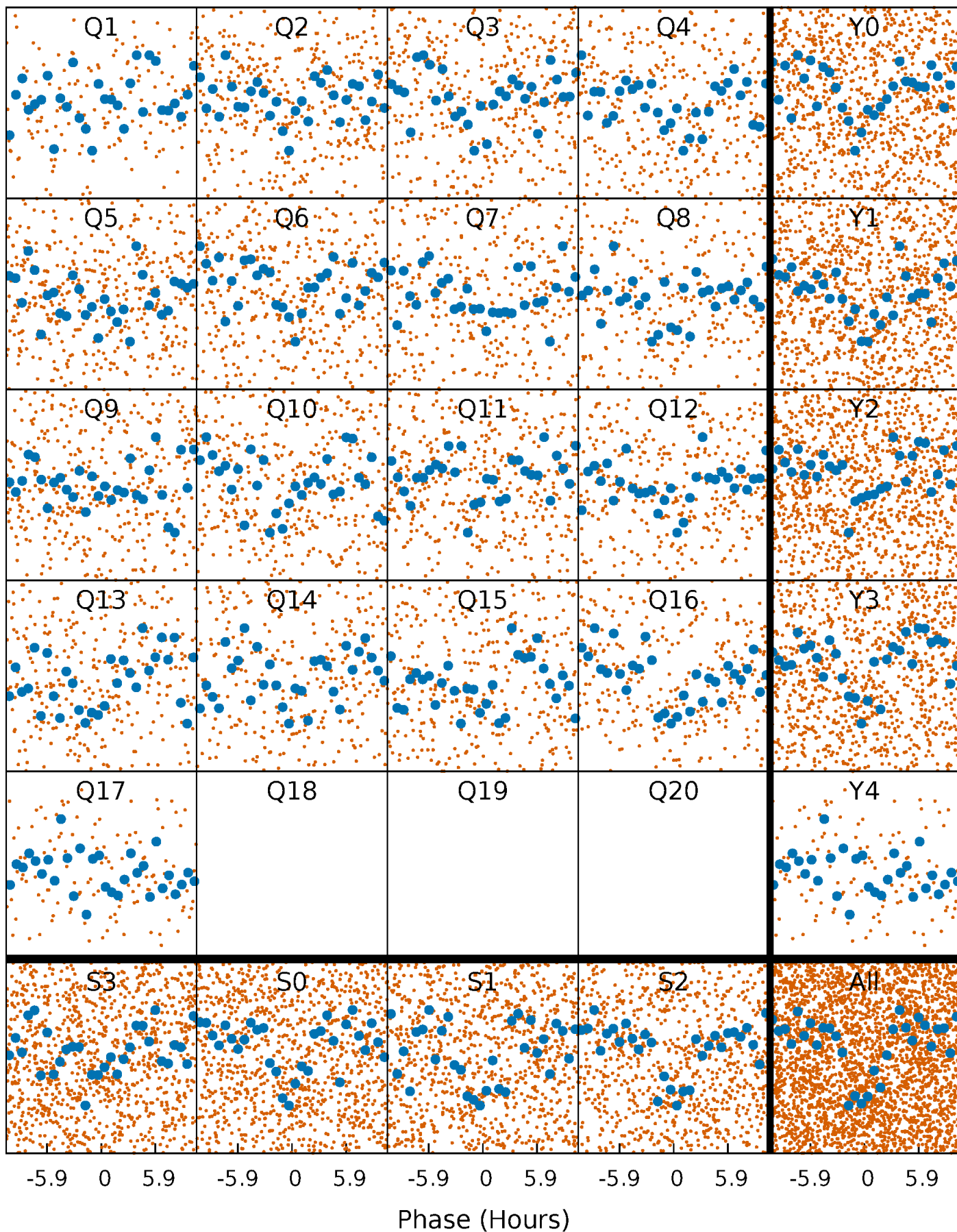


Non-Whitened Vs. Whitened Light Curve



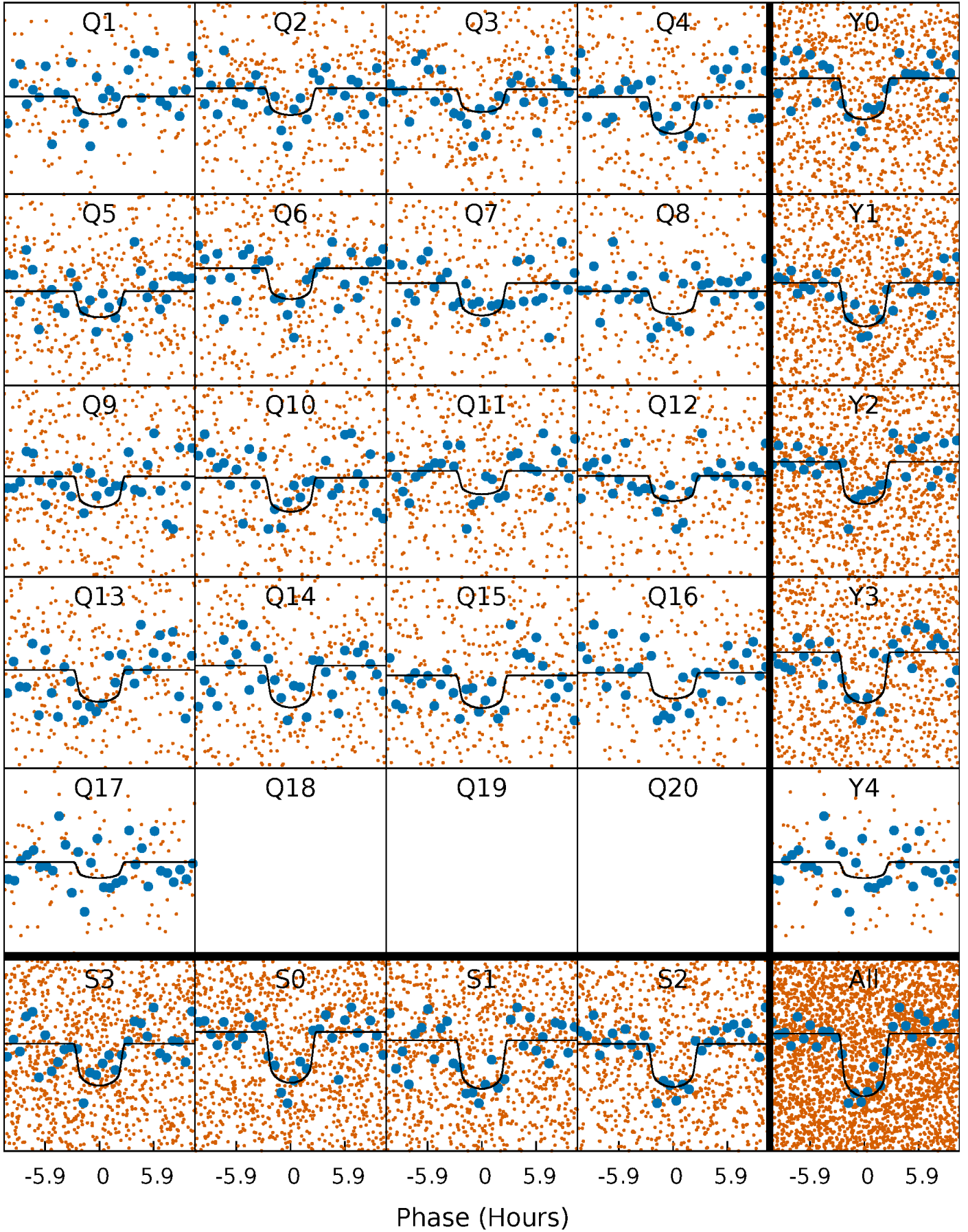
PDC Quarter-Phased Transit Curves

TCE 006124512-01 P= 8.383908 Days $T_0=134.418577$ (BKJD)



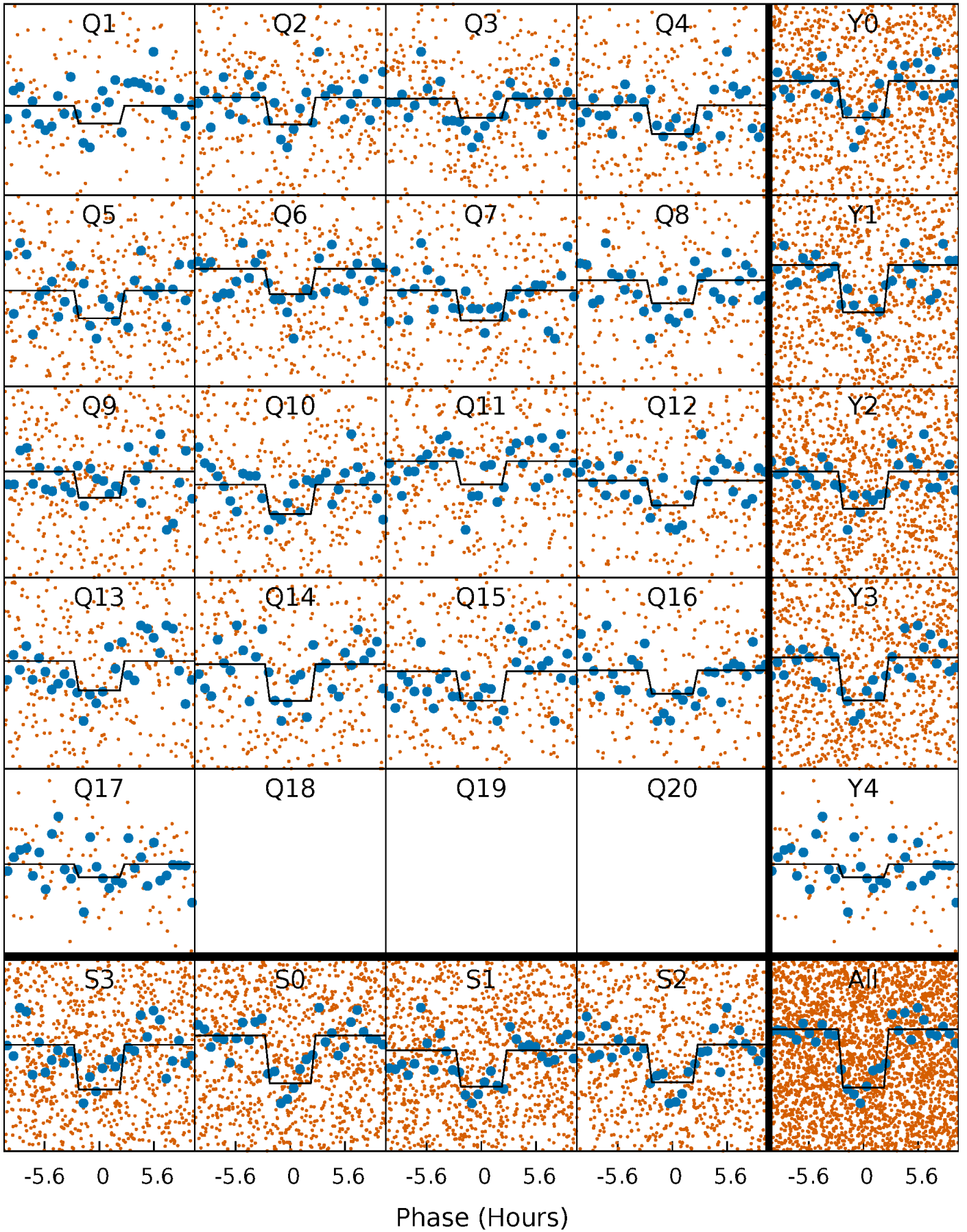
DV Quarter-Phased Transit Curves

TCE 006124512-01 P= 8.383908 Days $T_0=134.418577$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

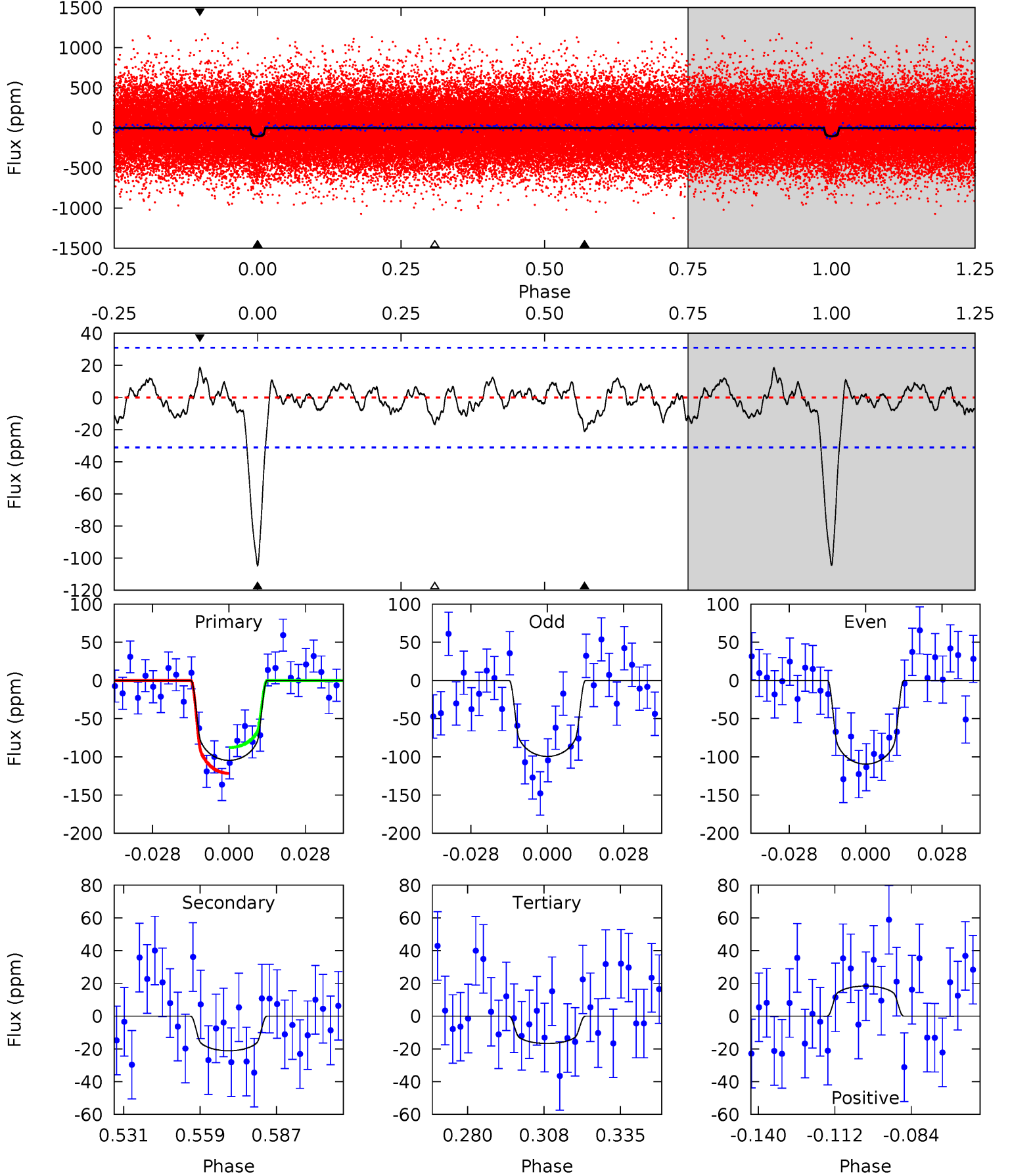
TCE 006124512-01 P= 8.383984 Days $T_0=134.414702$ (BKJD)



DV Model-Shift Uniqueness Test

006124512-01, P = 8.383908 Days, E = 126.034669 Days

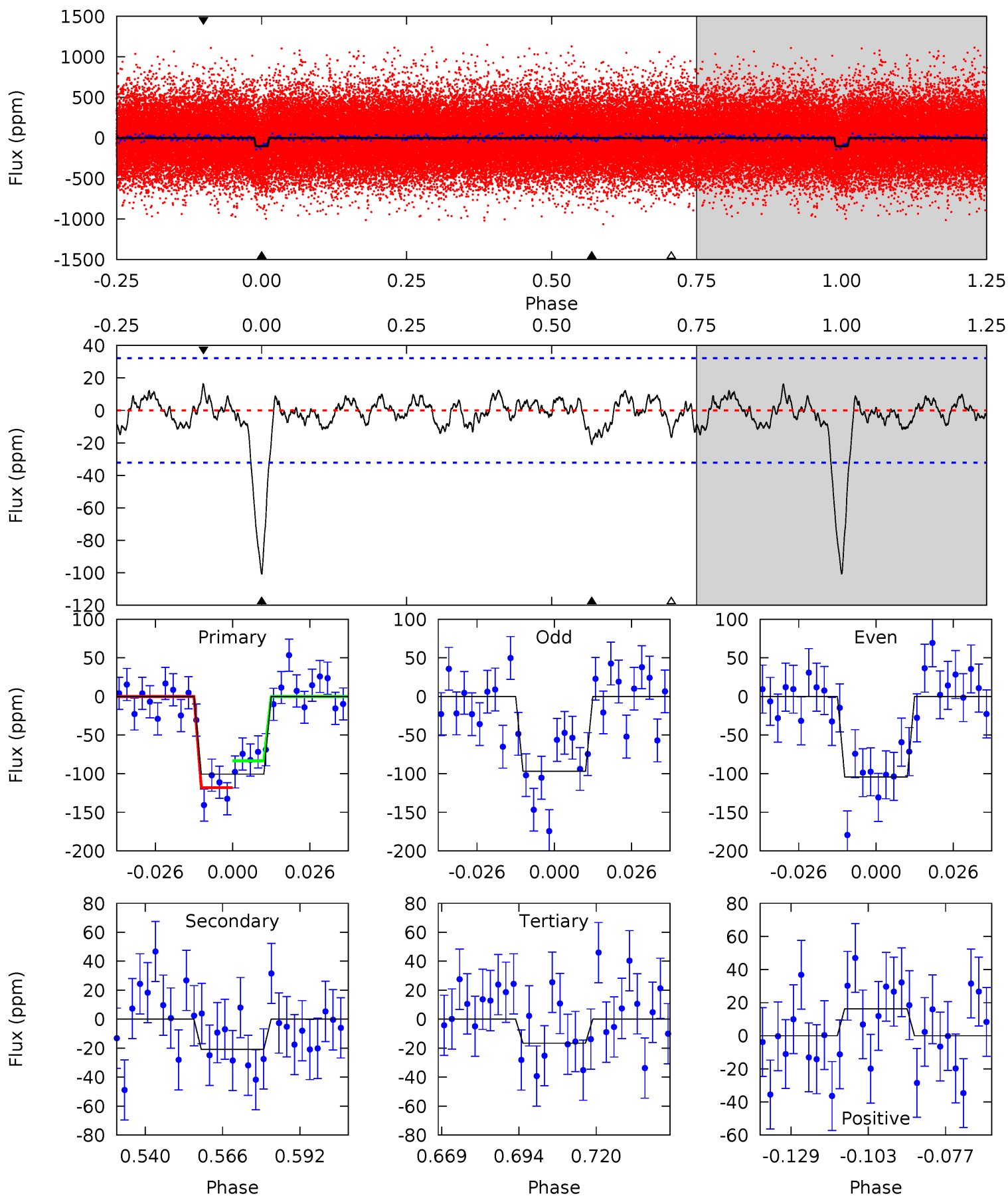
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.3	3.29	2.60	2.86	4.83	2.20	1.01	13.7	13.4	0.69	0.43	0.78	0.90	0.15	2.63



Alt Model-Shift Uniqueness Test

006124512-01, P = 8.383984 Days, E = 126.030718 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	3.13	2.49	2.45	4.84	2.23	0.92	12.6	12.7	0.63	0.68	0.55	0.97	0.14	2.62



Stellar Parameters For KIC 006124512

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5405^{+75}_{-86}	$3.741^{+0.217}_{-0.093}$	$0.080^{+0.150}_{-0.150}$	$2.605^{+0.447}_{-0.831}$	$1.365^{+0.146}_{-0.341}$	$0.109^{+0.146}_{-0.033}$
	+1%/-2%	+6%/-2%	+188%/-188%	+17%/-32%	+11%/-25%	+134%/-31%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 006124512-01 / KOI 2627.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-21 ± 6	$3.06^{+1.30}_{-1.19}$	1776^{+87}_{-130}	3758^{+718}_{-461}	$9.713^{+16.089}_{-5.520}$
Alt.	-21 ± 7	$2.71^{+1.27}_{-1.13}$	1771^{+90}_{-122}	3907^{+907}_{-481}	12^{+24}_{-7}

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

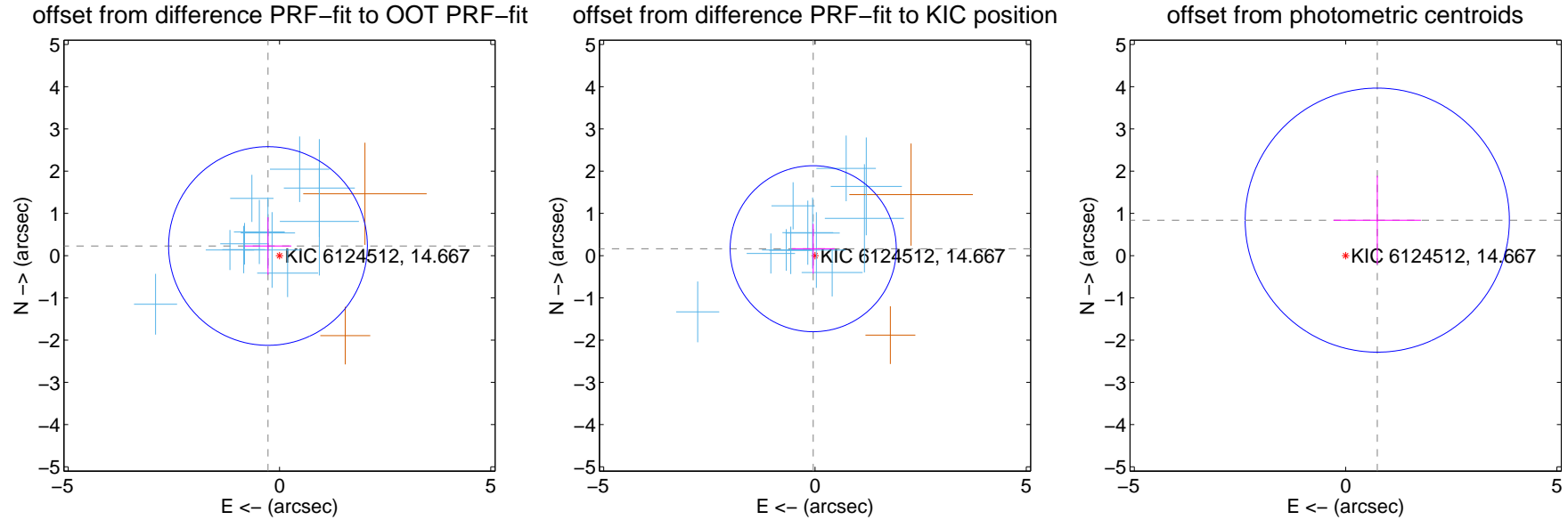
DV Centroid Data

Supplemental centroid analysis for 006124512-01. Kepler magnitude: 14.67. Transit SNR 12.77

There are 12 quarters with good PRF difference image offsets

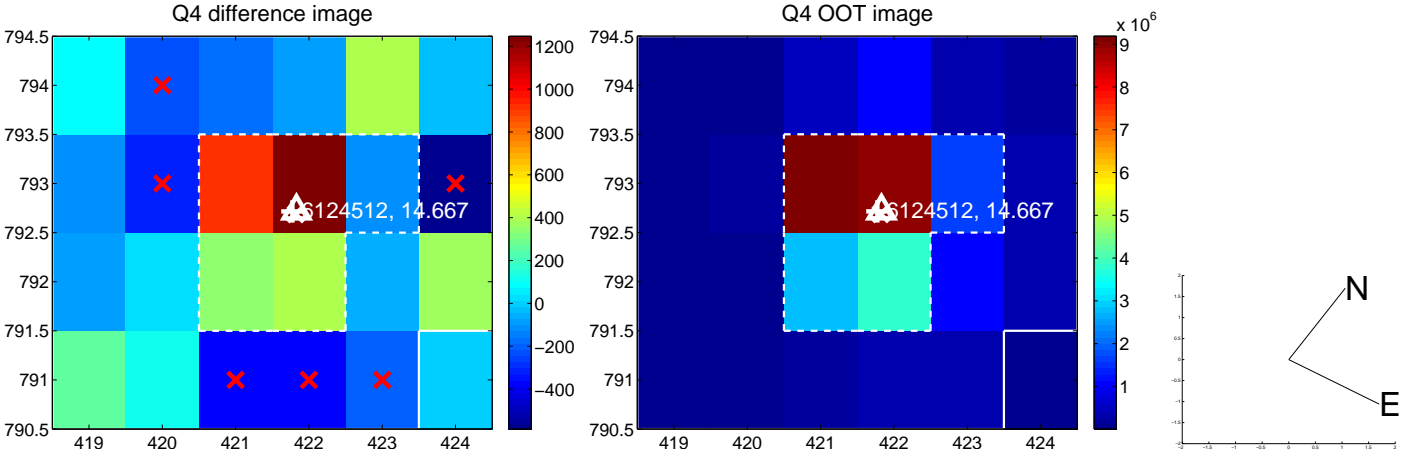
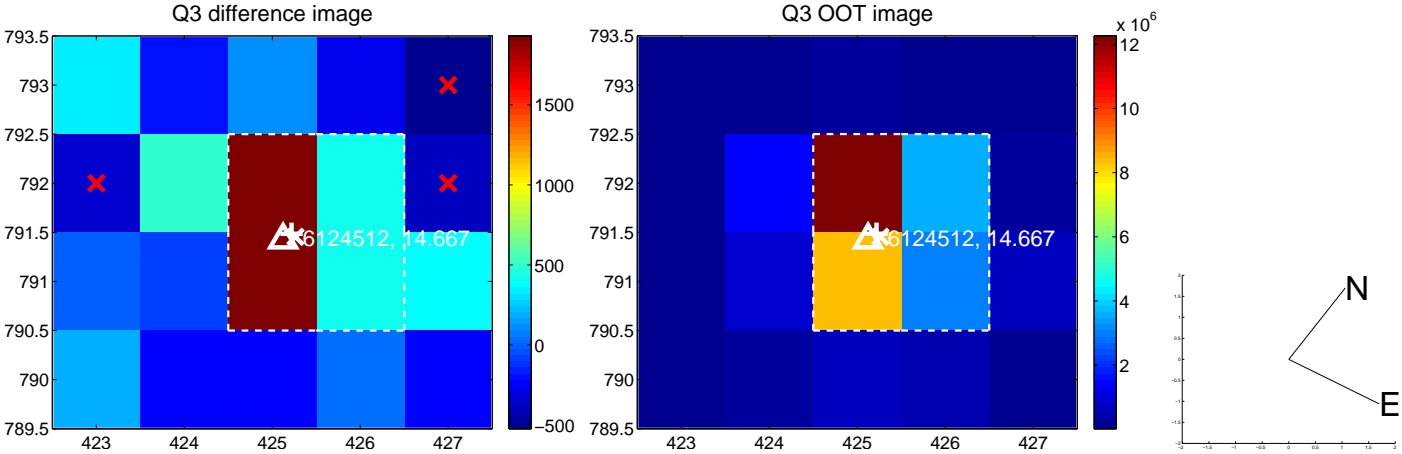
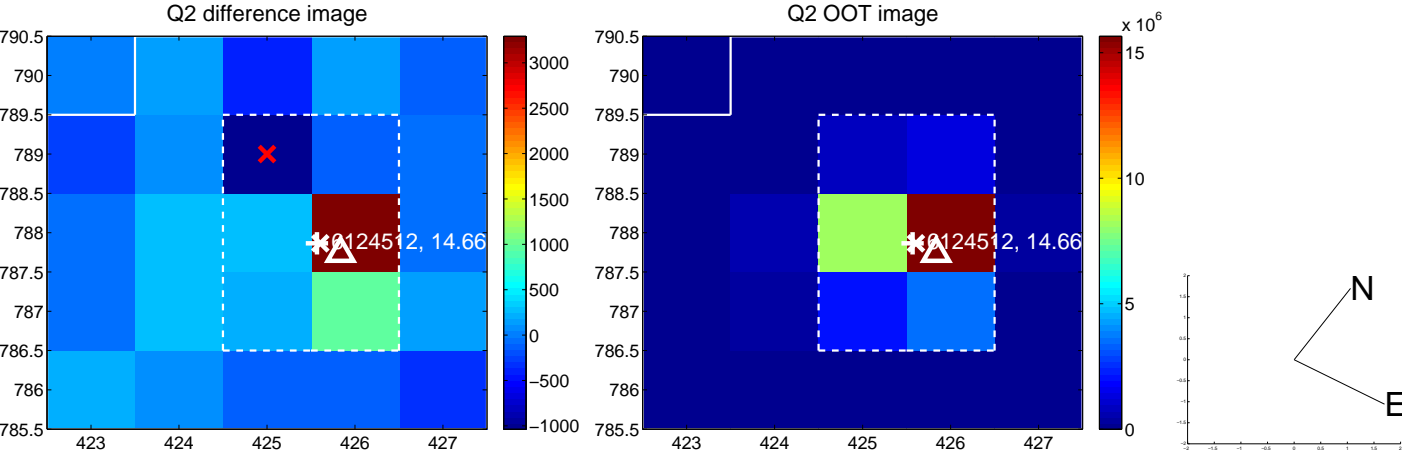
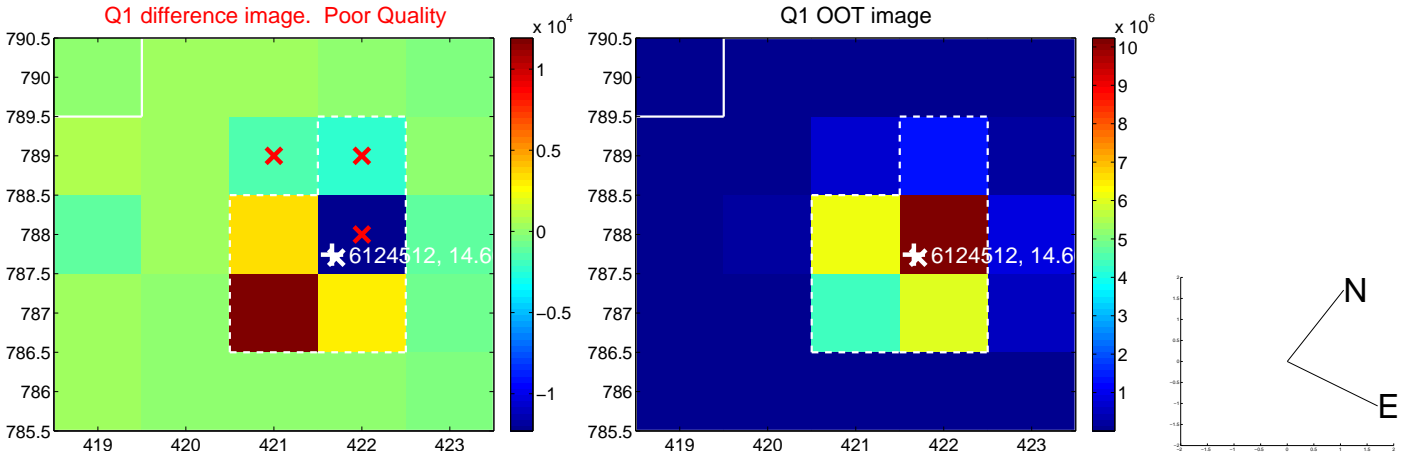
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.355 ± 0.784	0.45	0.272 ± 0.555	0.228 ± 0.681
PRF-fit source offset from KIC position	0.169 ± 0.655	0.26	0.042 ± 0.506	0.164 ± 0.587
photometric centroid source offset	1.13 ± 1.04	1.08	-0.75 ± 1.03	0.84 ± 1.05

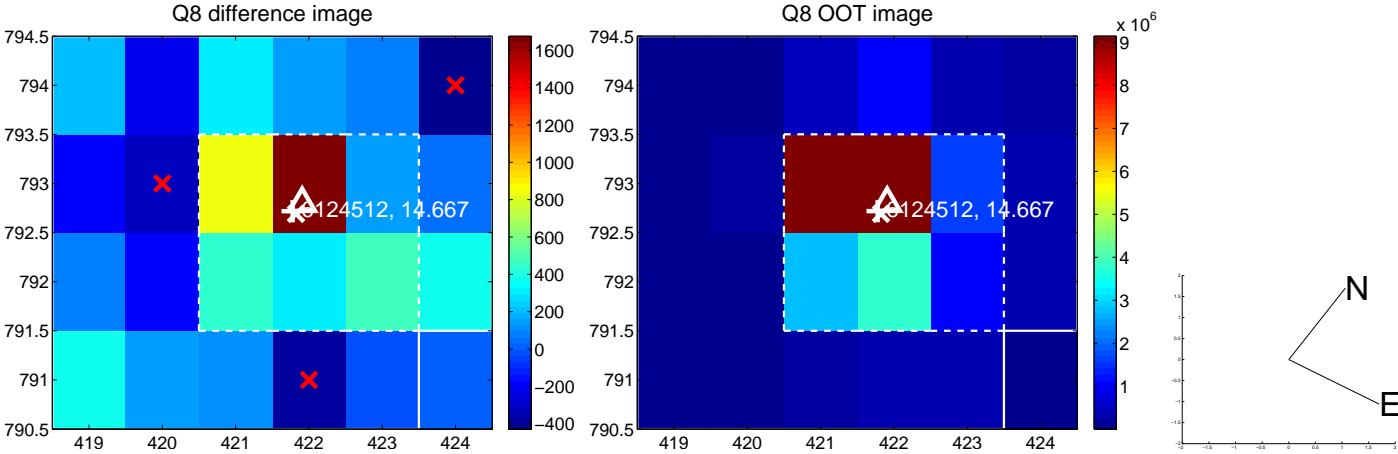
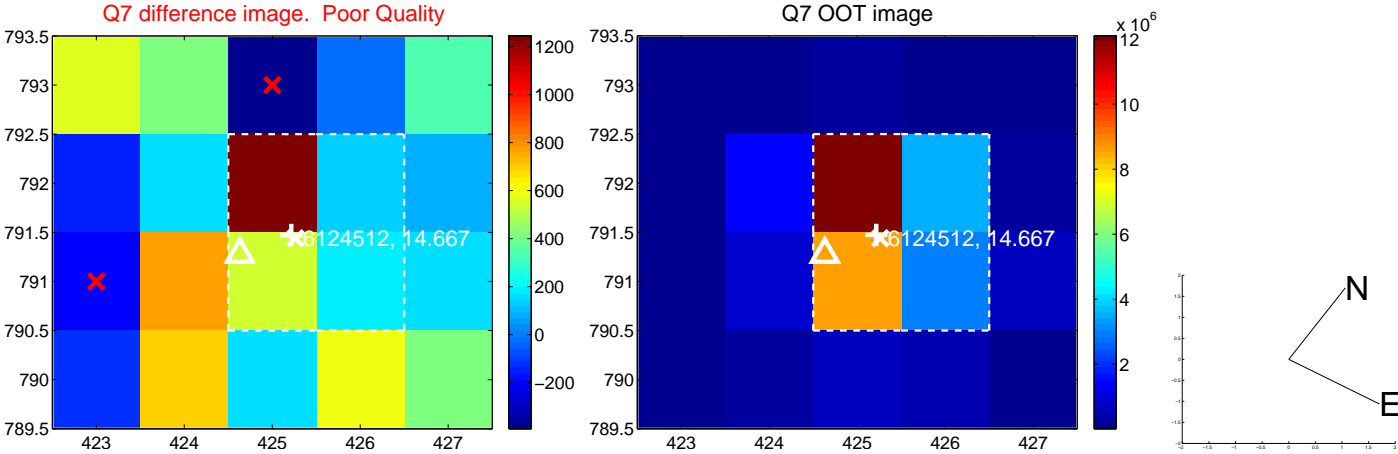
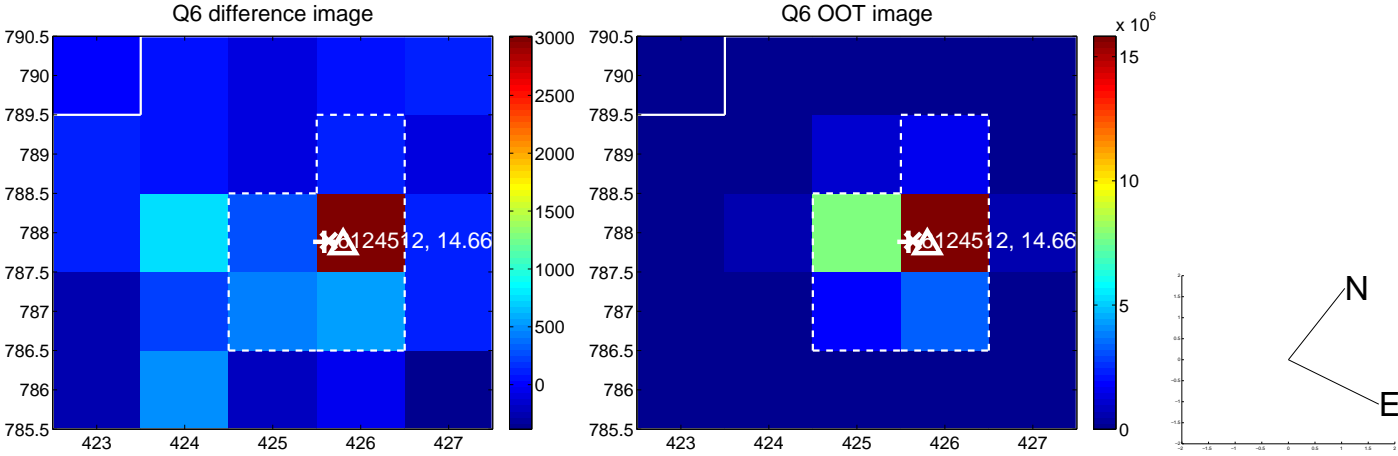
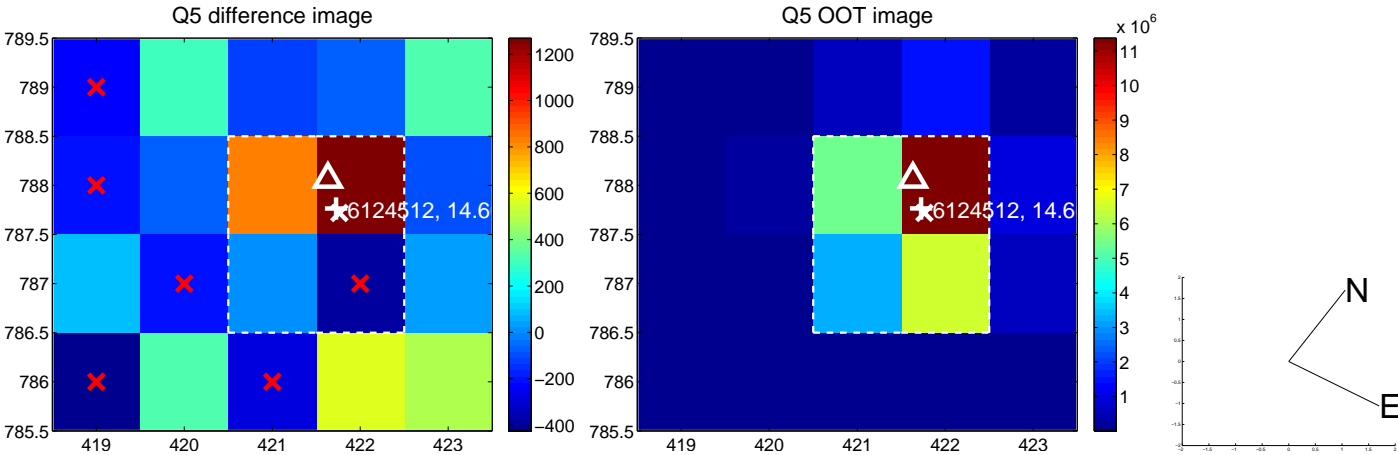


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

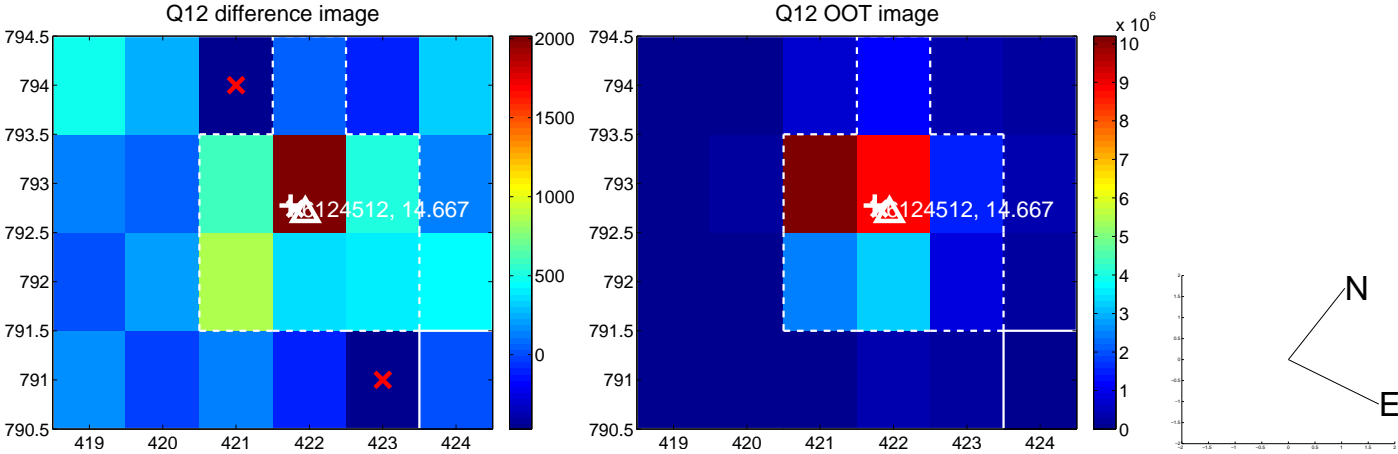
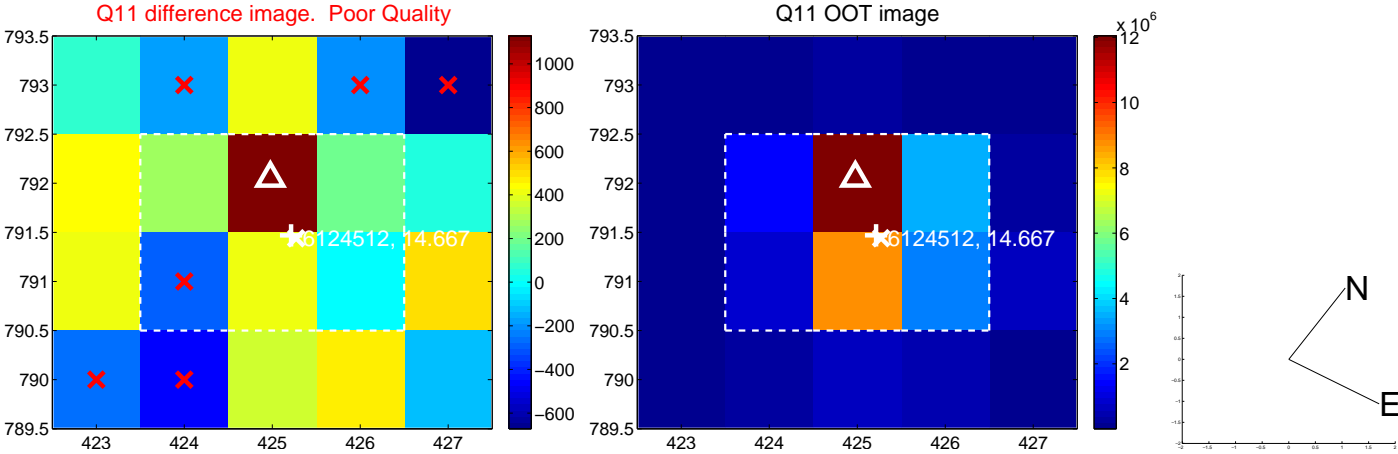
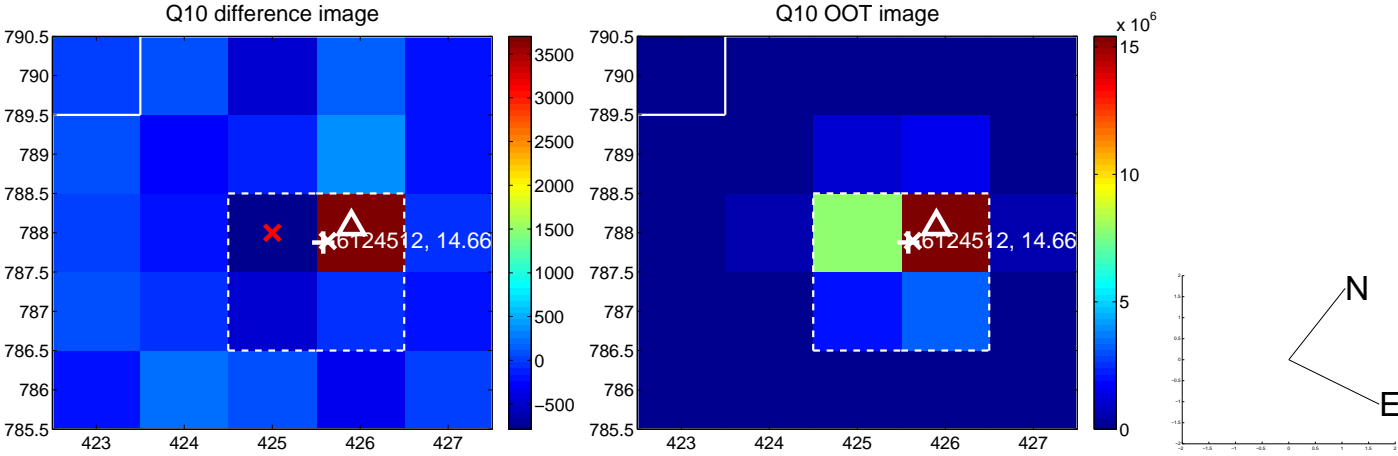
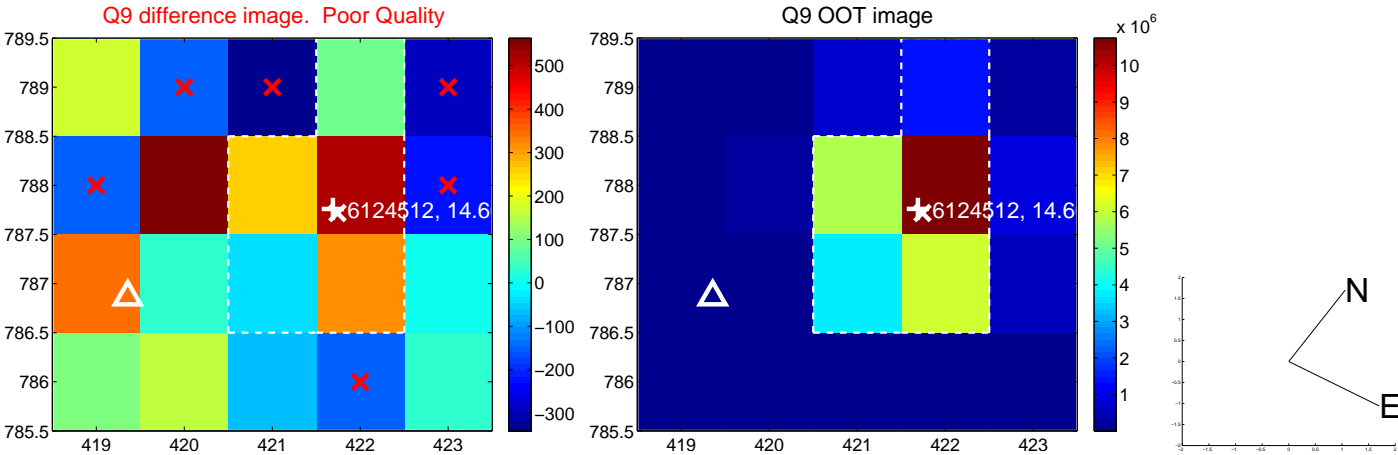
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



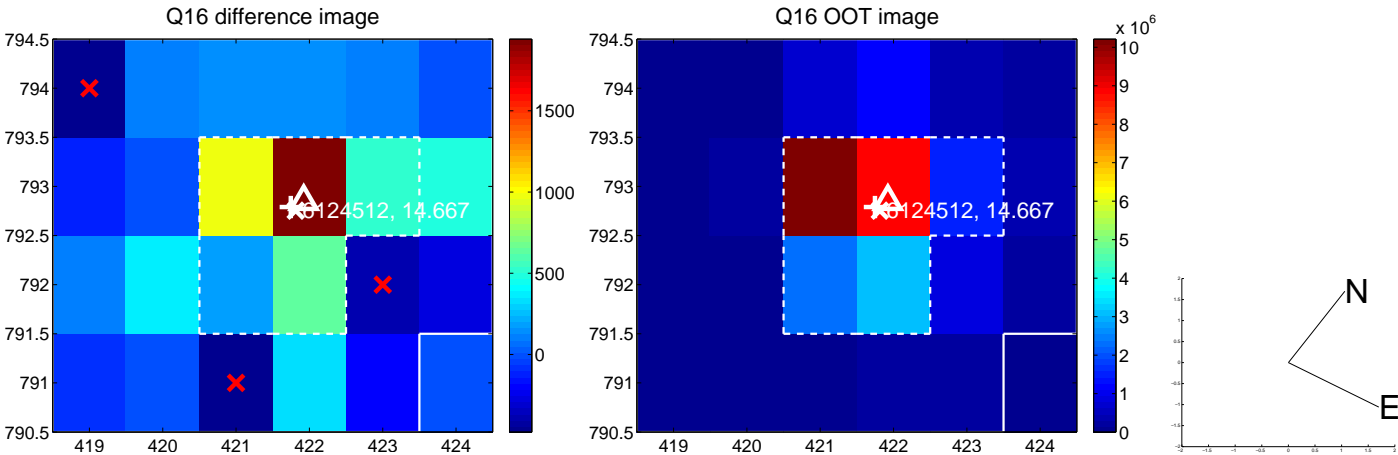
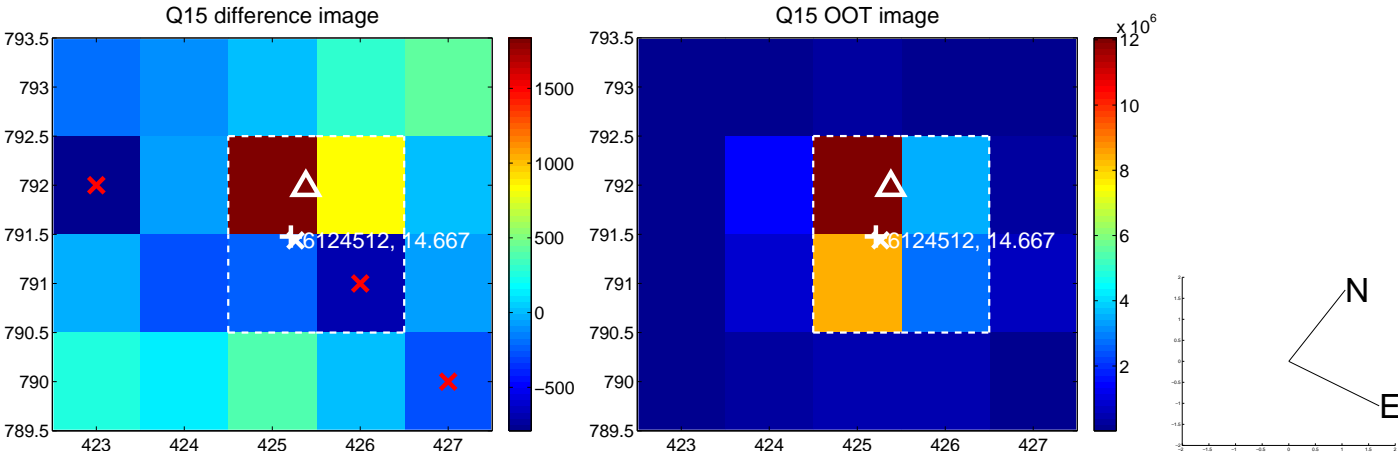
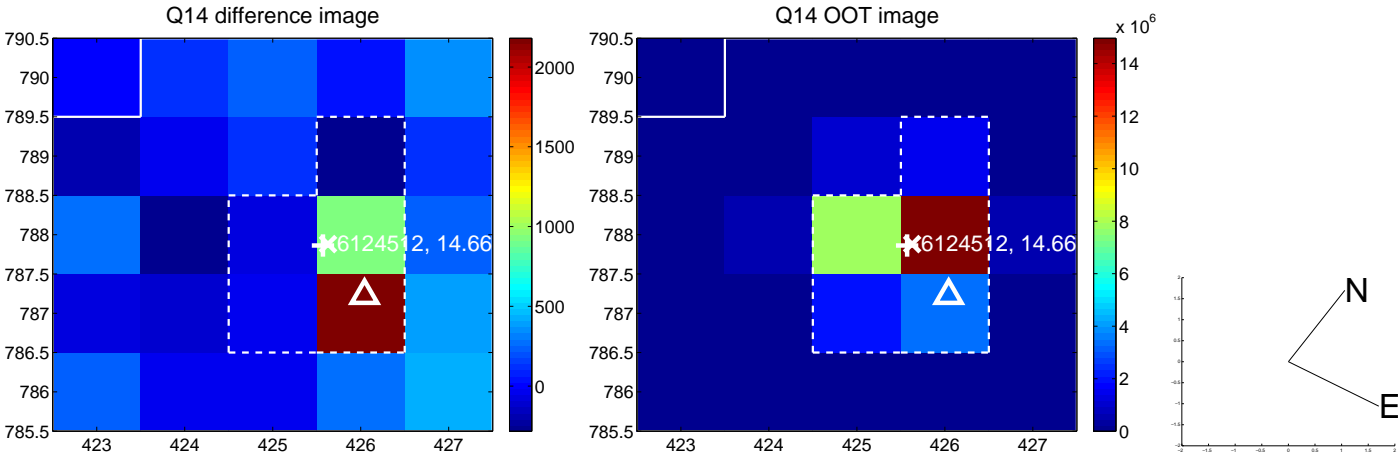
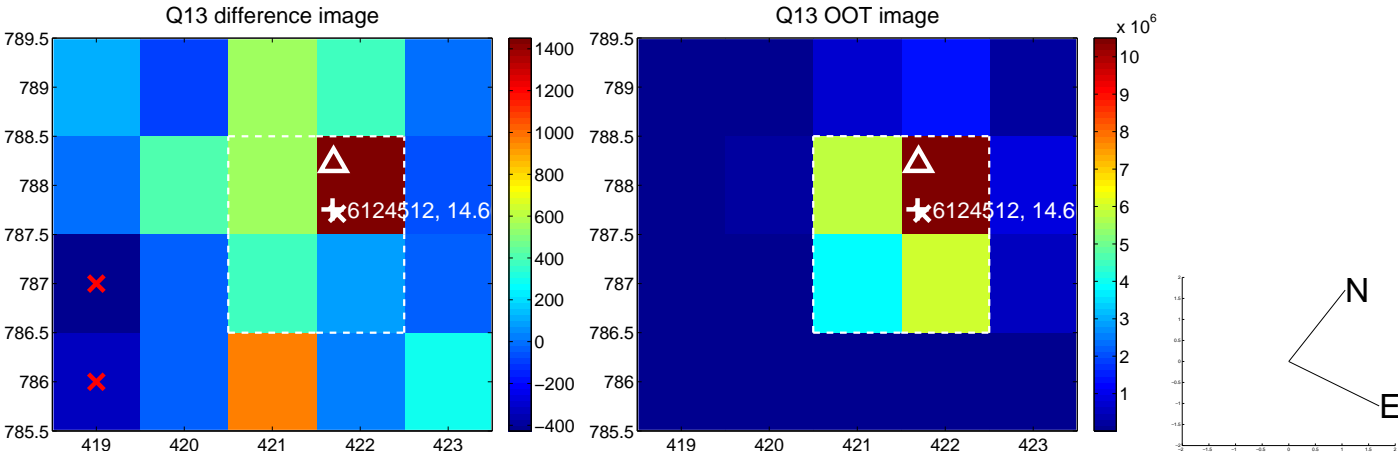
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



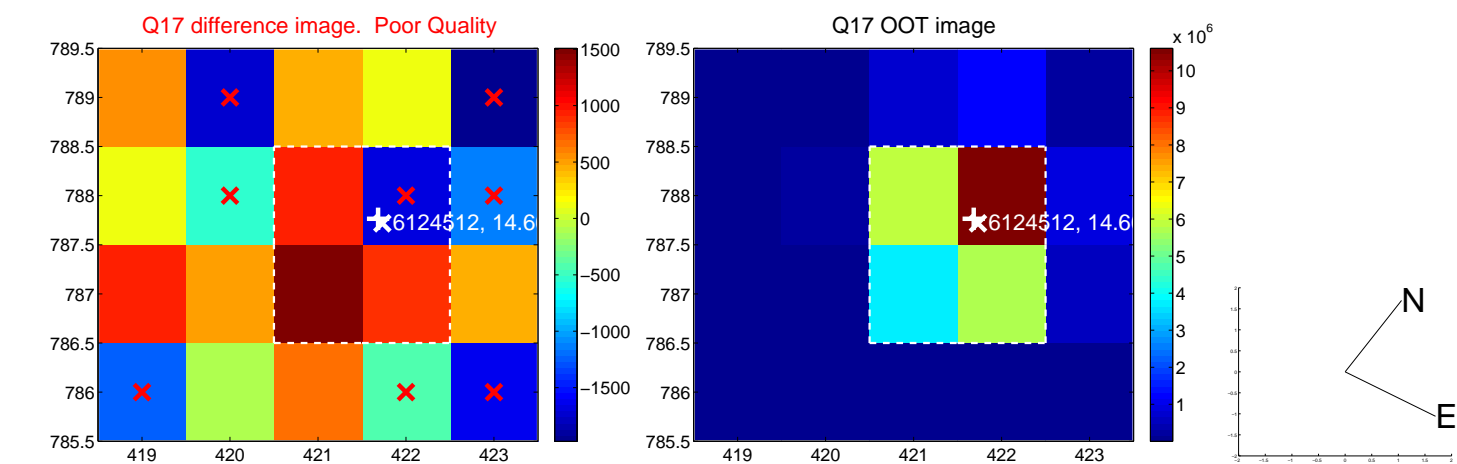
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



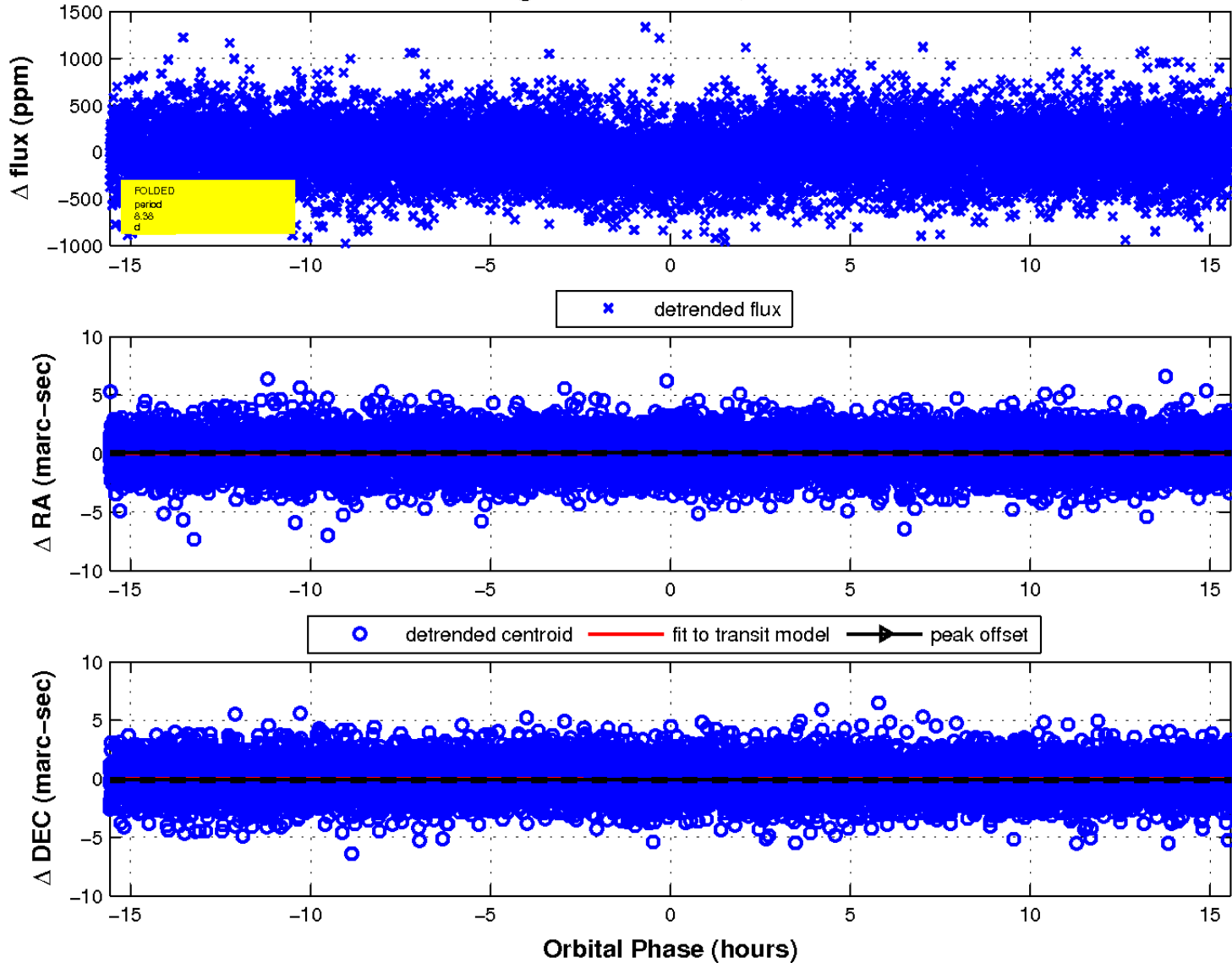
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

