

KIC 012505654

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})
012505654-01	OBS	2353.01	5.186720	134.997720	625.0	0.884	17.1	23.4	0.78	5230	2.39	129.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012505654-01	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.

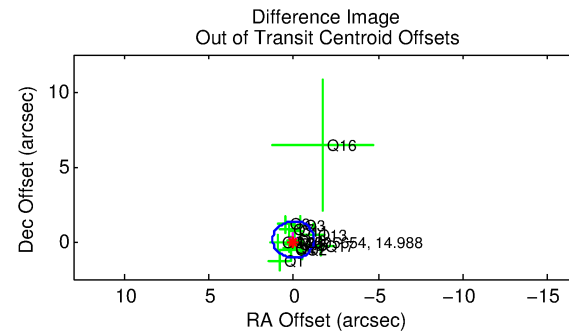
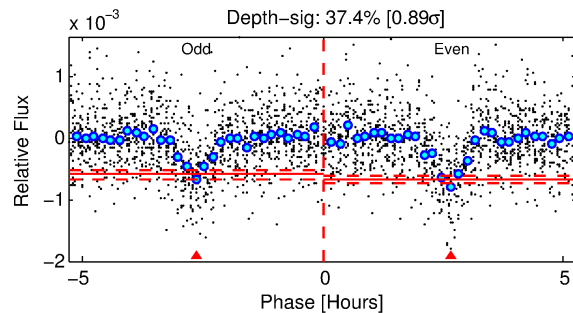
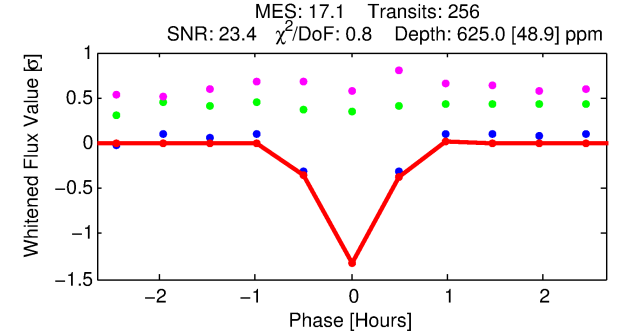
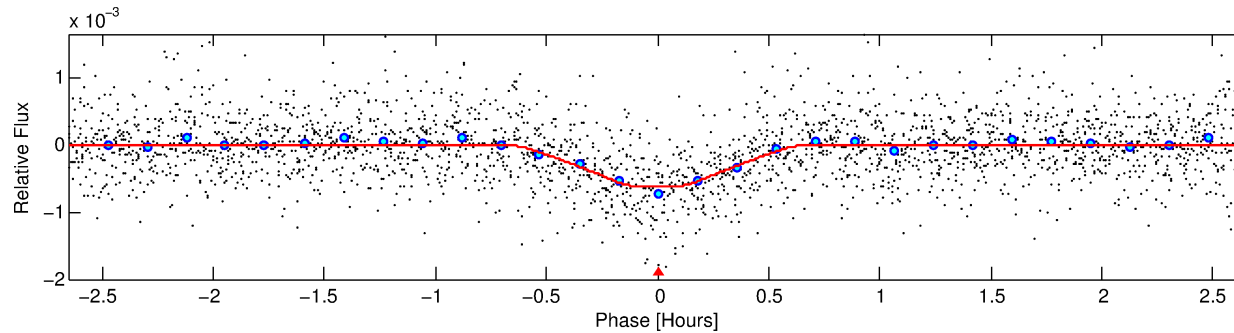
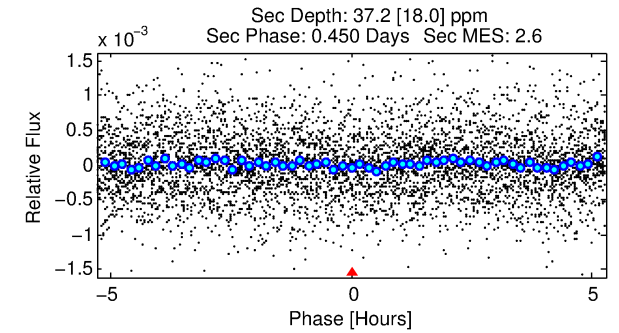
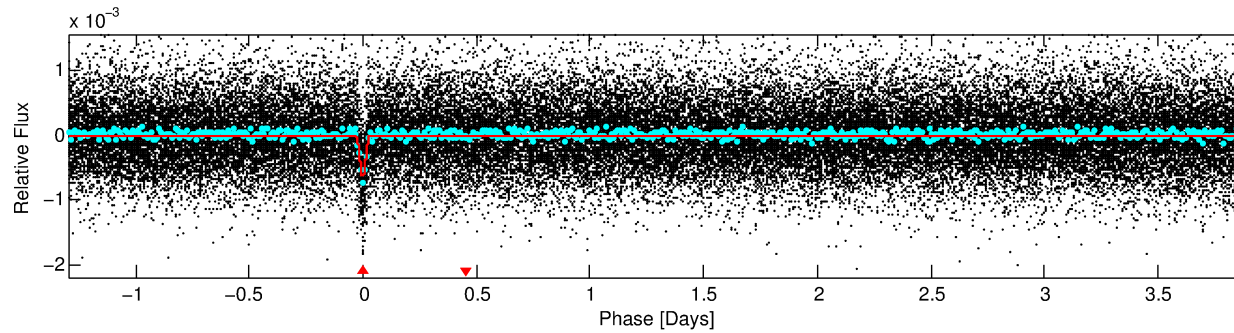
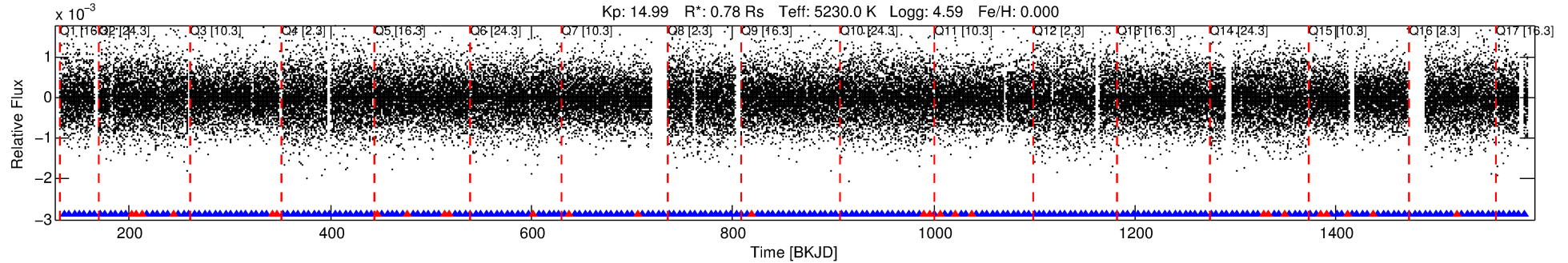
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012505654-01

No Significant Match Found

DV One-Page Summary

KIC: 12505654 Candidate: 1 of 1 Period: 5.187 d
KOI: K02353.01 Corr: 0.902



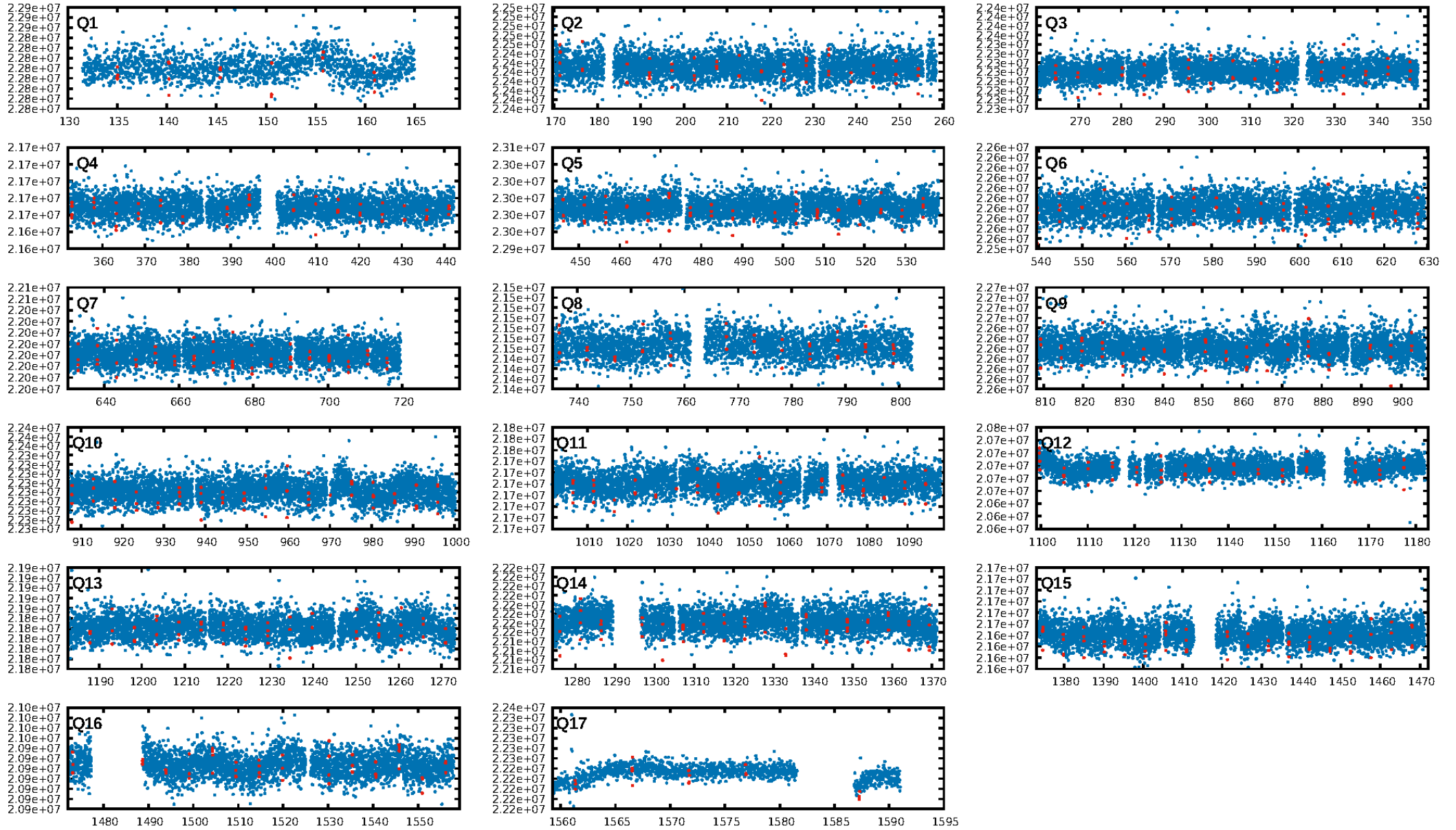
DV Fit Results:

Period = 5.18672 [0.00001] d
Epoch = 134.9977 [0.0009] BKJD
Rp/R* = 0.0281 [0.0116]
a/R* = 22.41 [36.68]
b = 0.90 [0.37]
Seff = 129.62 [29.28]
Teq = 860 [49] K
Rp = 2.39 [1.05] Re
a = 0.0559 [0.0074] AU
Ag = 11.22 [10.94] [0.93σ]
Teffp = 2435 [587] K [2.67σ]

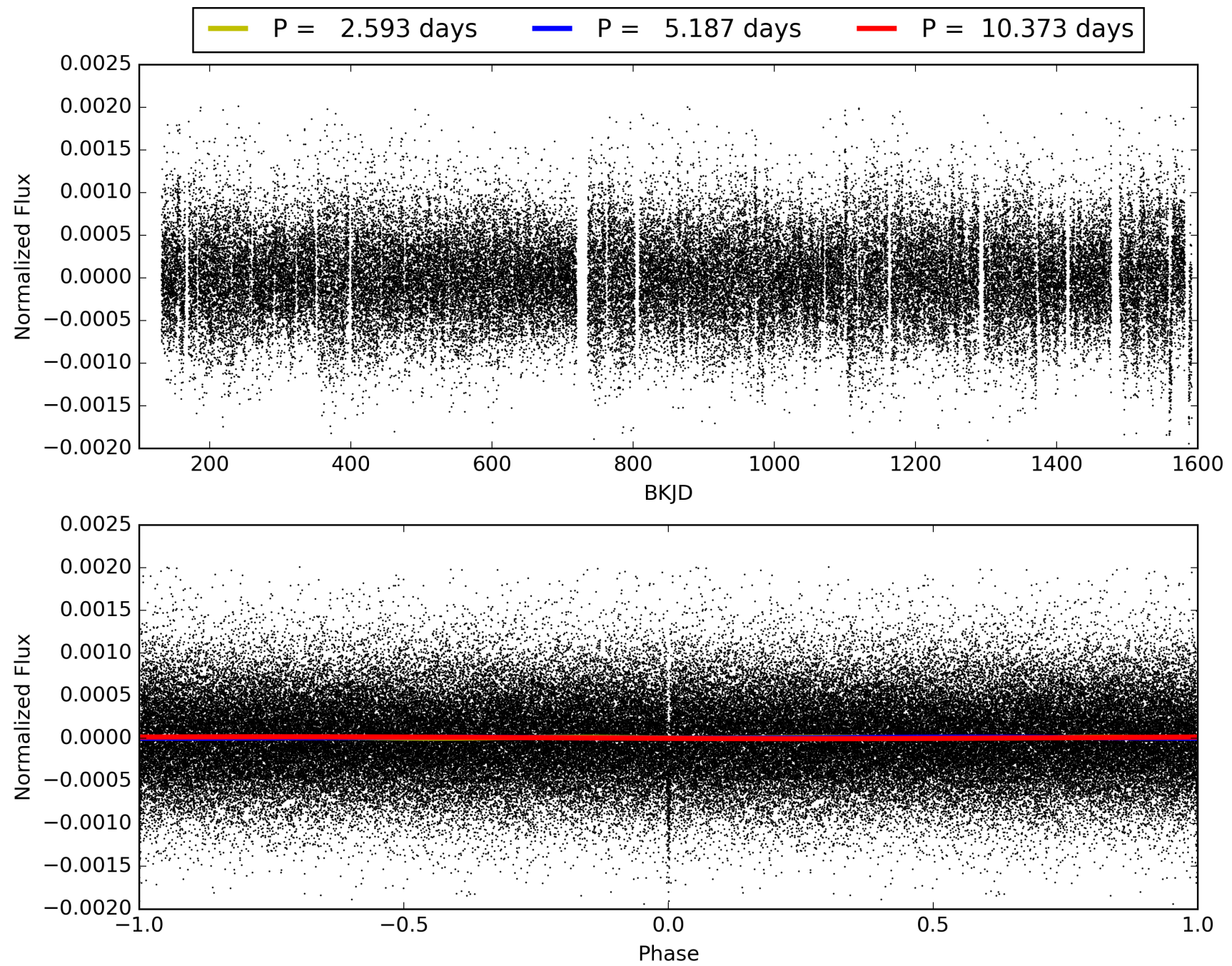
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.45e-64
RollingBand-fgt: 0.89 [218/245]
GhostDiagnostic-chr: -3.685
Centroid-sig: 0.1%
Centroid-so: 0.565 arcsec [0.87σ]
OotOffset-rm: 0.129 arcsec [0.31σ]
KicOffset-rm: 0.118 arcsec [0.31σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.88 [14/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 012505654-01, PDC Light Curves

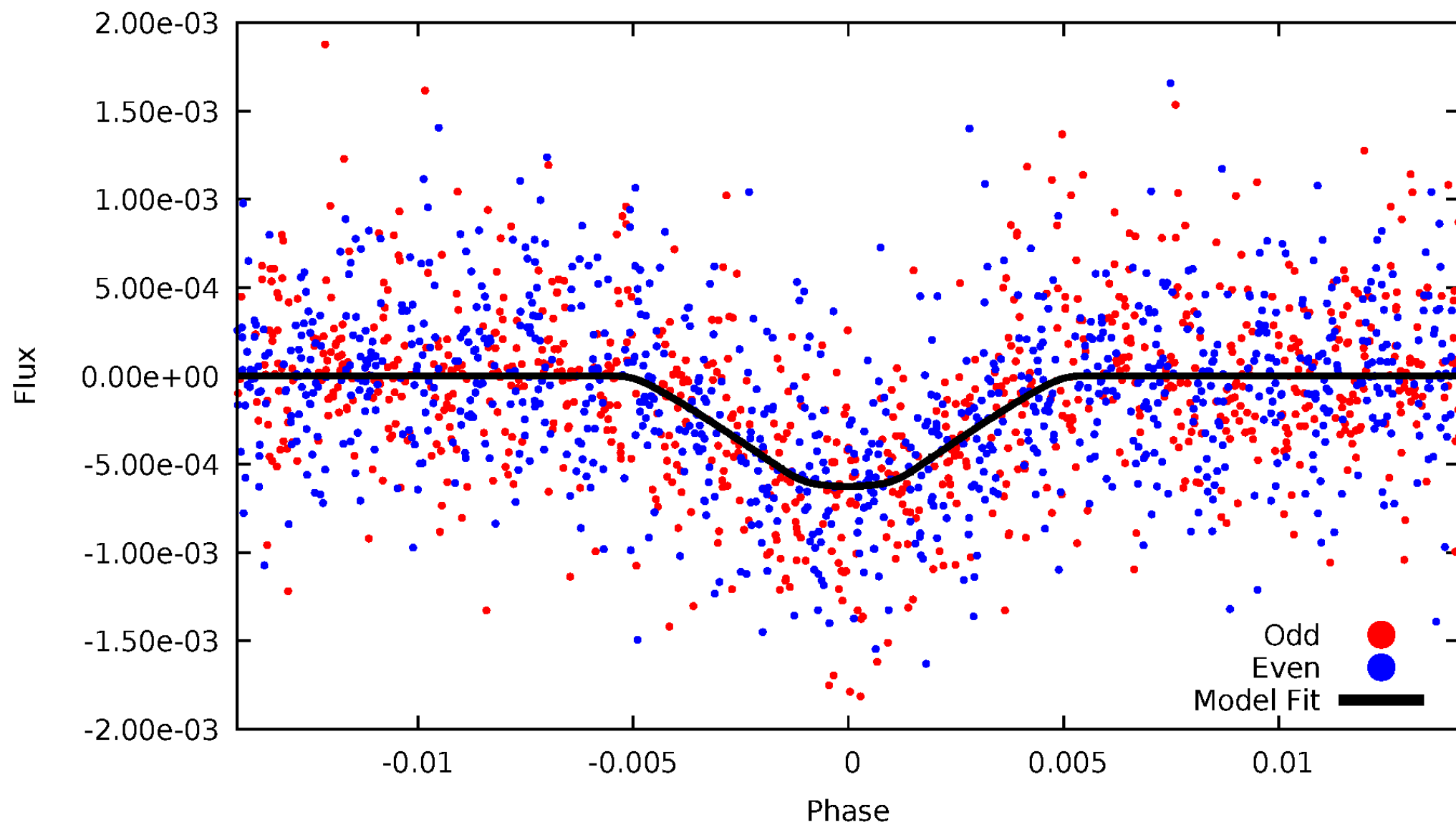


TCE 012505654-01



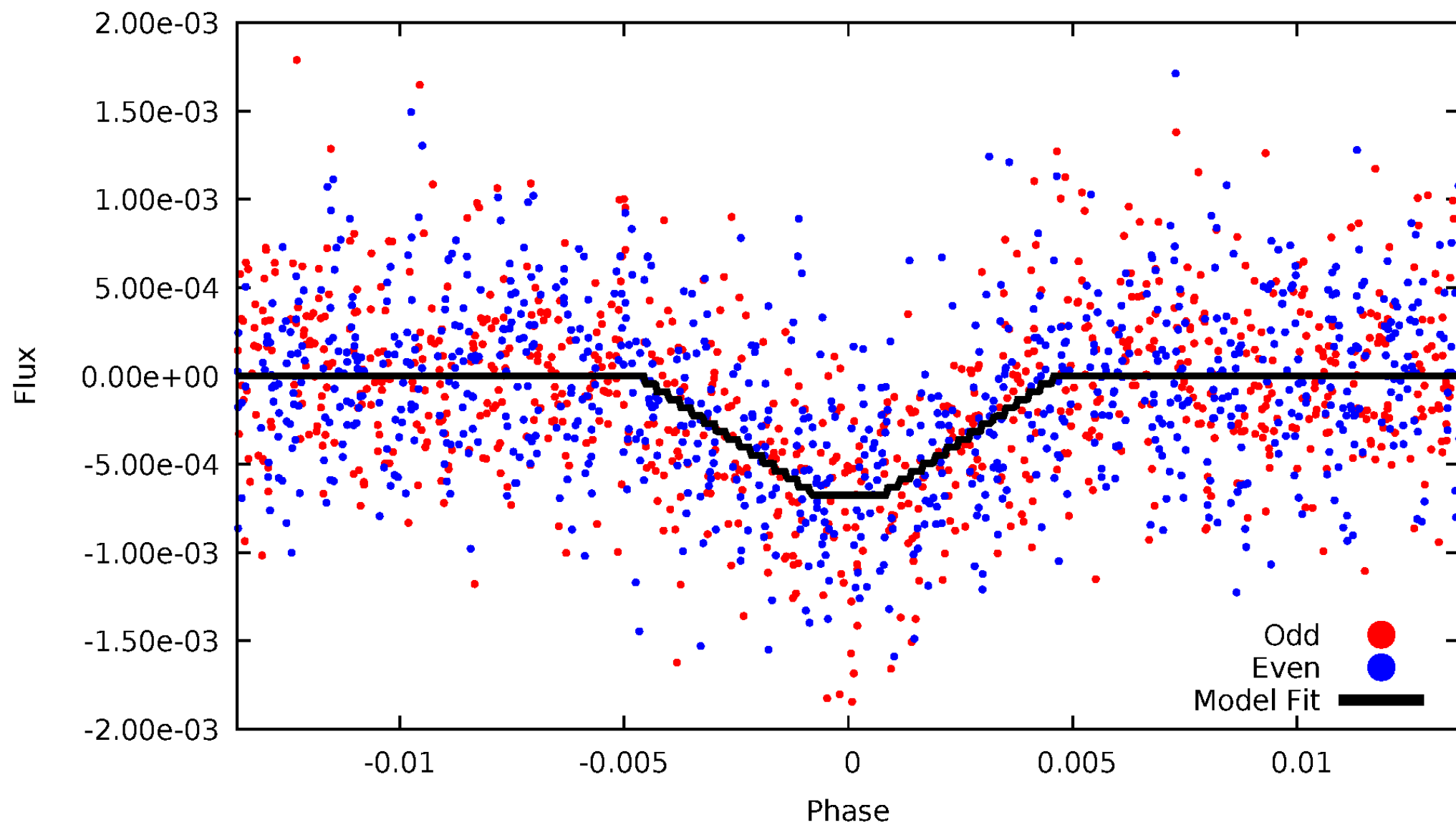
DV Odd/Even

TCE 012505654-01

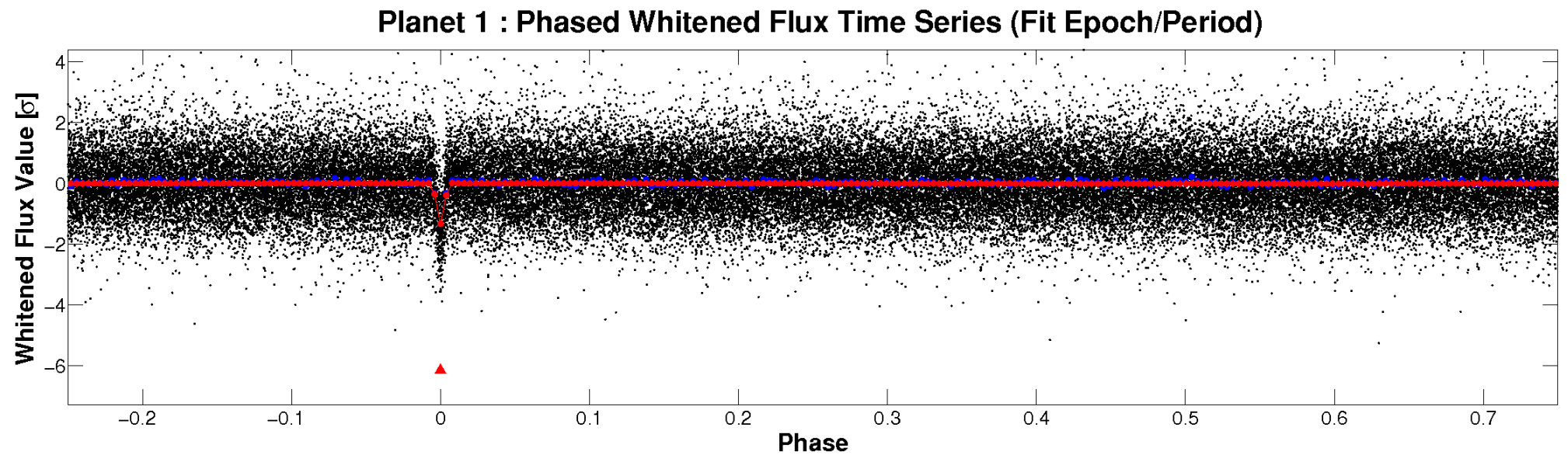
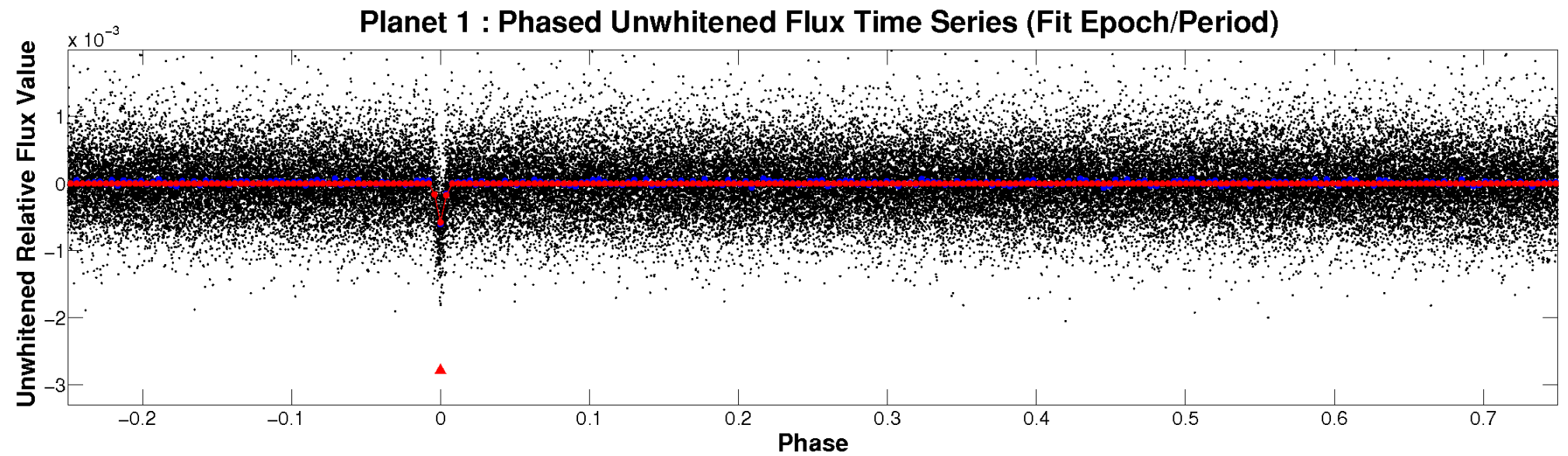


ALT Odd/Even

TCE 012505654-01

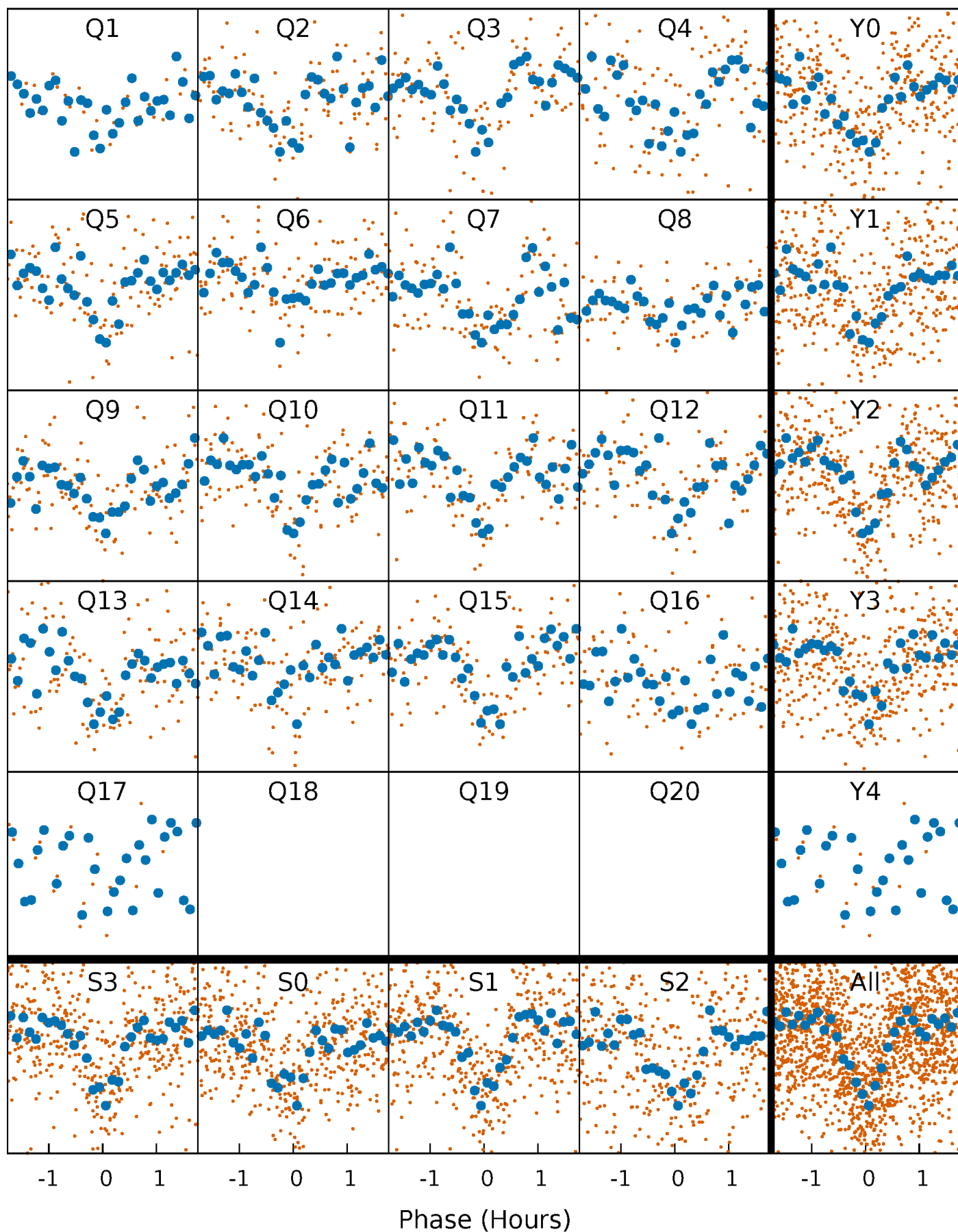


Non-Whitened Vs. Whitened Light Curve



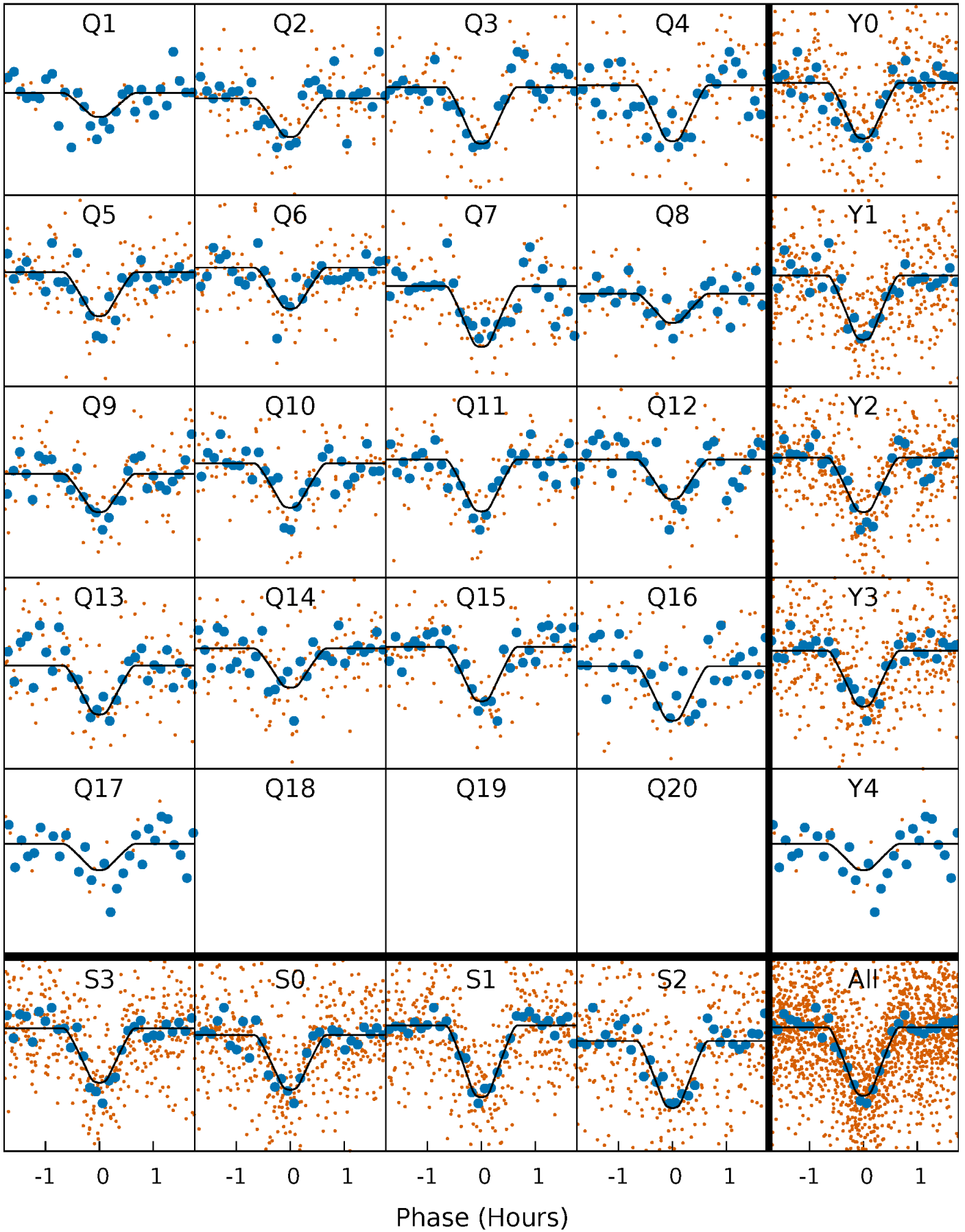
PDC Quarter-Phased Transit Curves

TCE 012505654-01 P= 5.186720 Days $T_0=134.997719$ (BKJD)



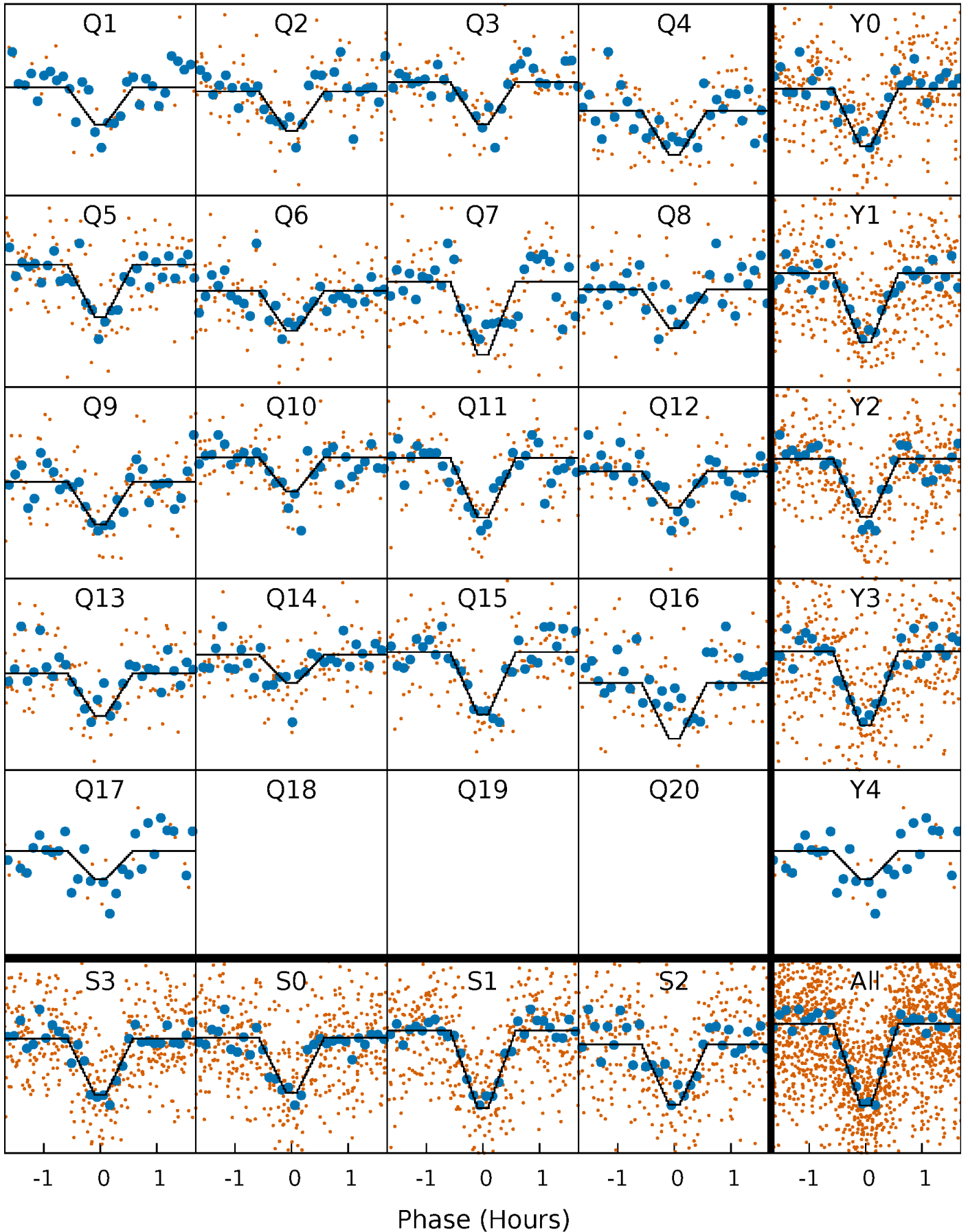
DV Quarter-Phased Transit Curves

TCE 012505654-01 P= 5.186720 Days $T_0=134.997719$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

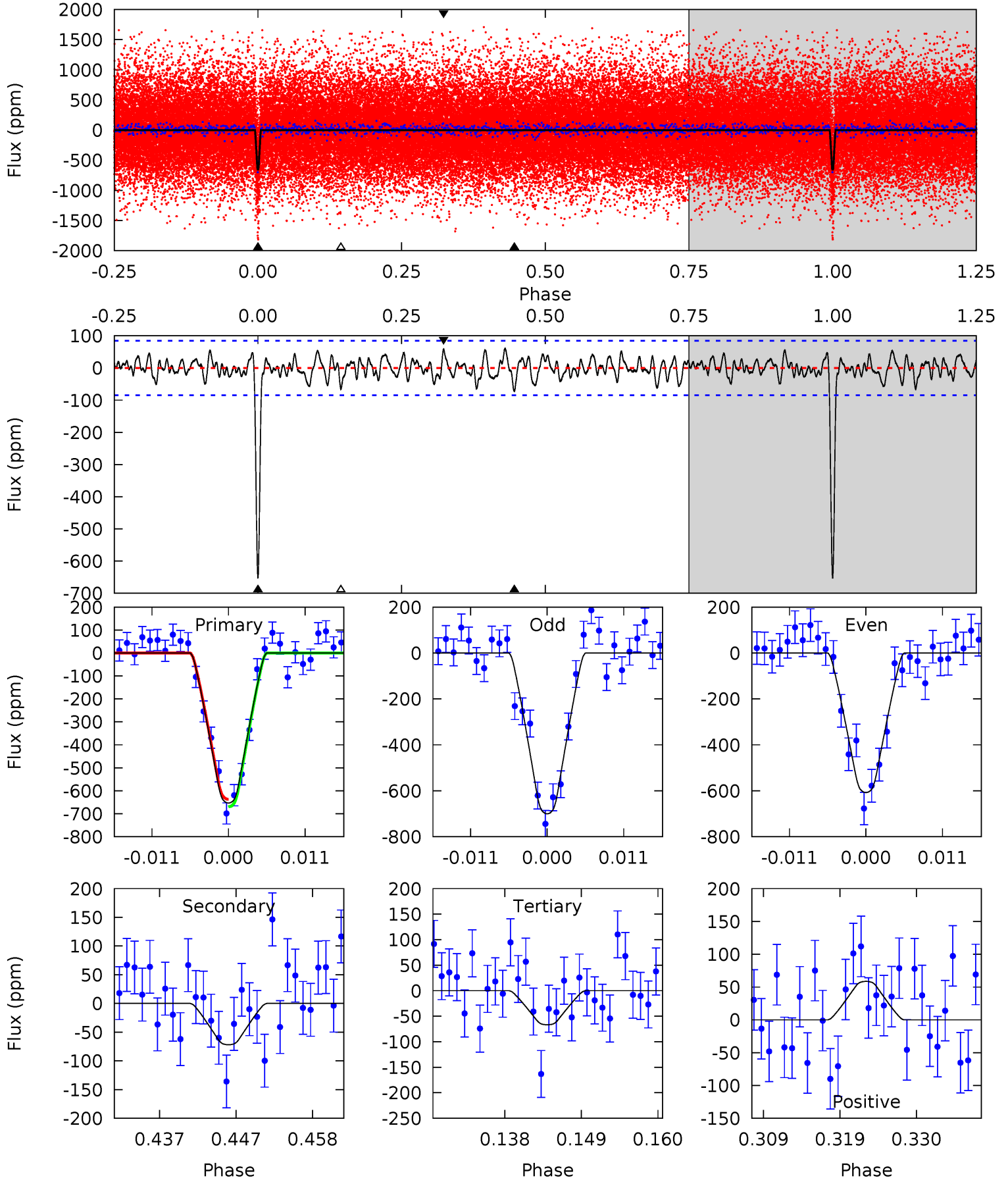
TCE 012505654-01 P= 5.186734 Days $T_0=134.995488$ (BKJD)



DV Model-Shift Uniqueness Test

012505654-01, P = 5.186720 Days, E = 129.810999 Days

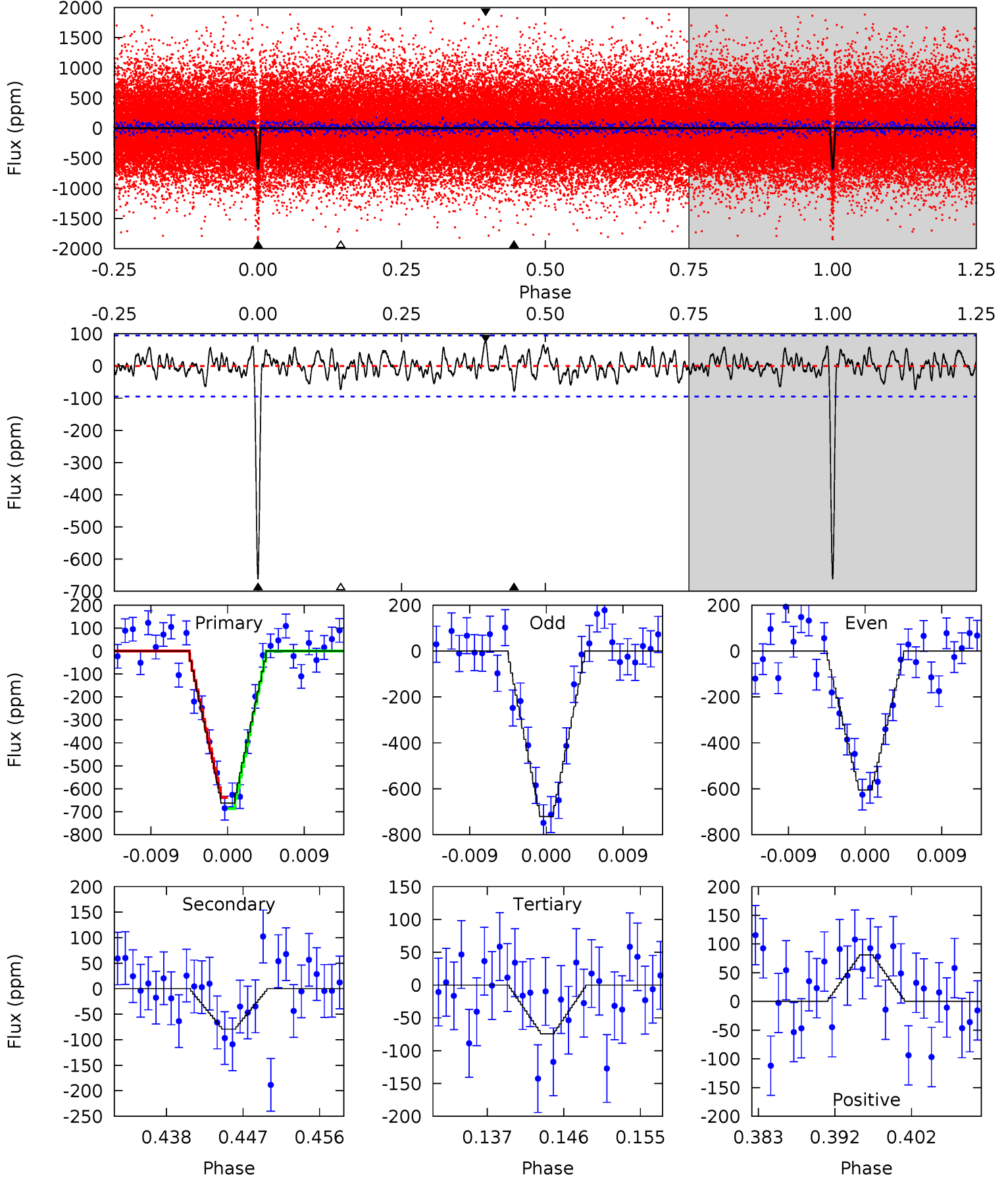
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.7	4.26	3.96	3.47	5.01	2.55	1.42	34.8	35.2	0.30	0.79	2.75	0.99	0.08	0.95



Alt Model-Shift Uniqueness Test

012505654-01, P = 5.186734 Days, E = 129.808754 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.3	4.22	3.95	4.32	5.04	2.61	1.38	31.3	30.9	0.28	-0.10	3.07	1.05	0.11	1.31



Stellar Parameters For KIC 012505654

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5230^{+158}_{-158}	$4.594^{+0.032}_{-0.104}$	$0.000^{+0.300}_{-0.300}$	$0.777^{+0.122}_{-0.056}$	$0.873^{+0.062}_{-0.101}$	$2.620^{+0.427}_{-0.823}$
	+3%/-3%	+1%/-2%	+inf%/-inf%	+16%/-7%	+7%/-12%	+16%/-31%
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 012505654-01 / KOI 2353.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-72 ± 17	$2.54^{+1.05}_{-1.03}$	1220^{+52}_{-47}	3323^{+650}_{-344}	19^{+38}_{-10}
Alt.	-79 ± 19	$2.28^{+1.08}_{-0.93}$	1217^{+52}_{-46}	3484^{+690}_{-405}	26^{+48}_{-14}

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

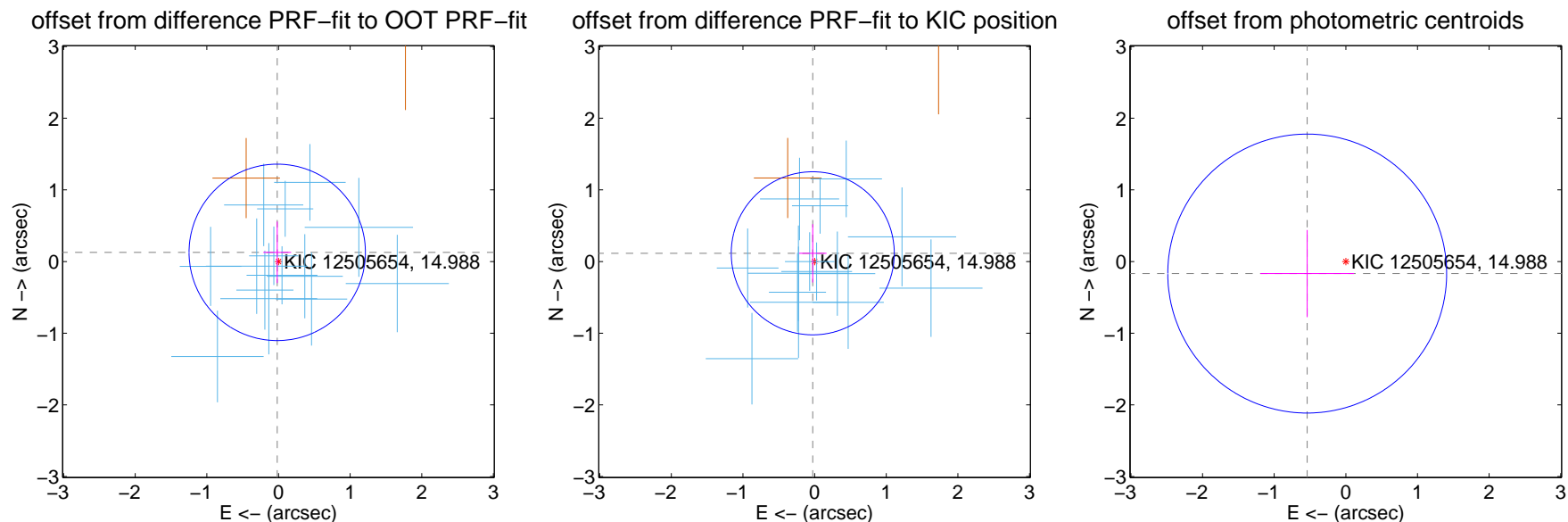
DV Centroid Data

Supplemental centroid analysis for 012505654-01. Kepler magnitude: 14.99. Transit SNR 23.42

There are 14 quarters with good PRF difference image offsets

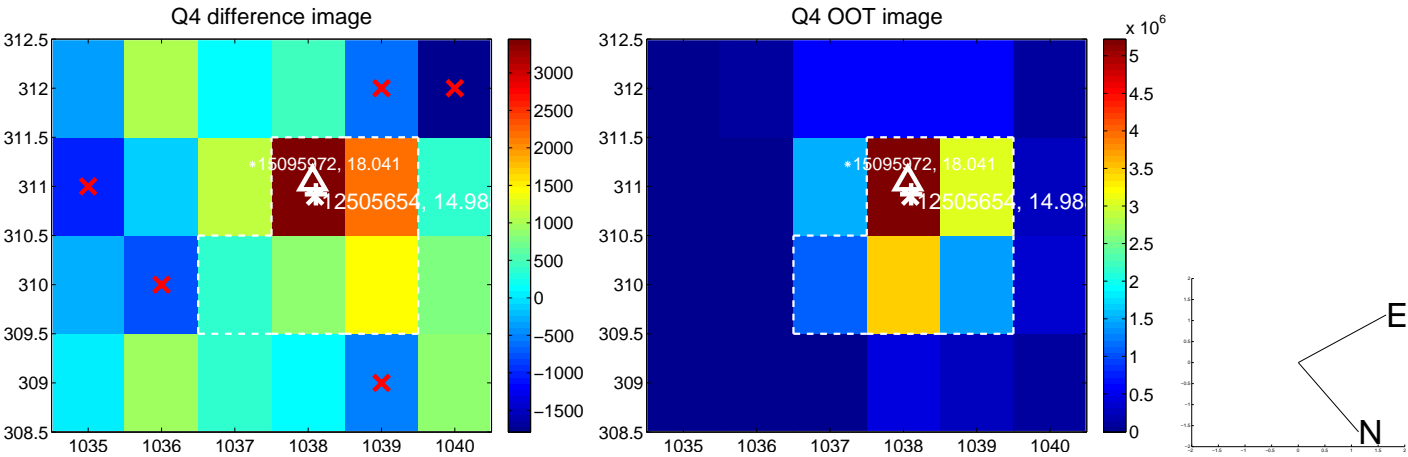
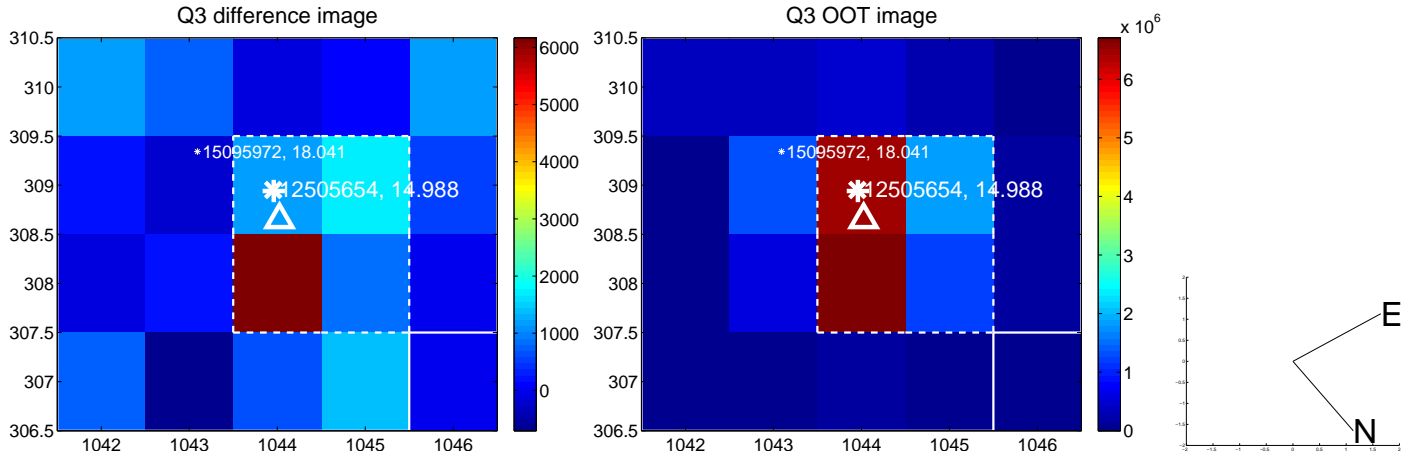
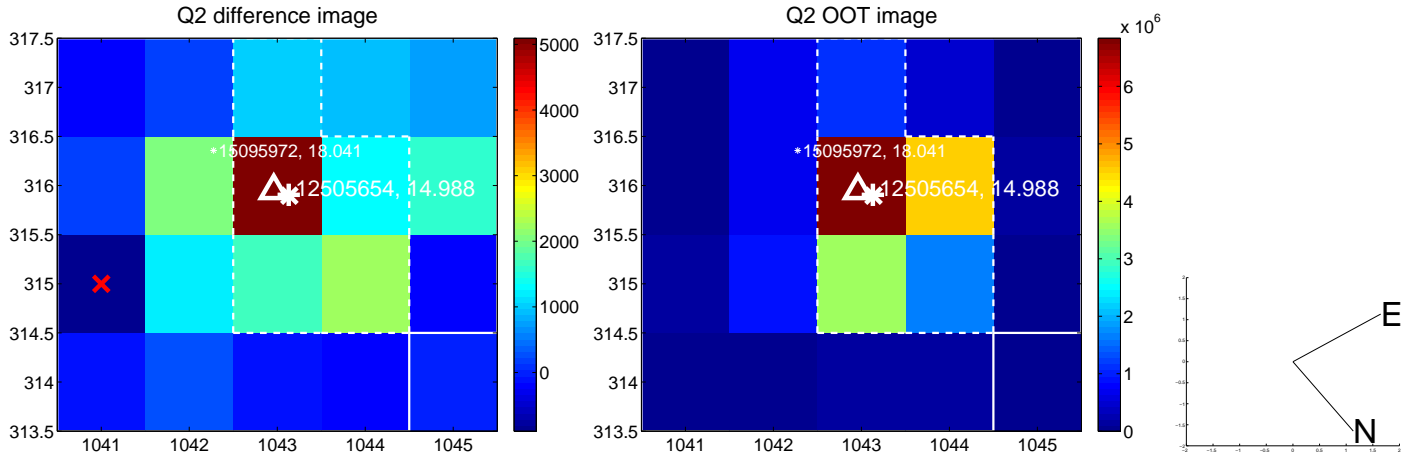
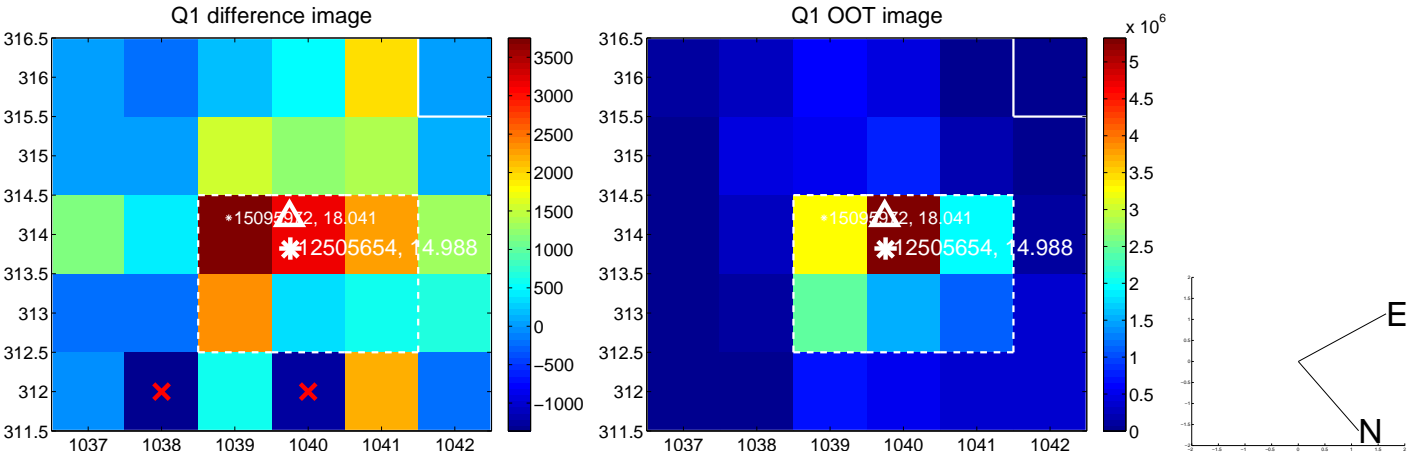
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.129 ± 0.410	0.31	0.018 ± 0.193	0.128 ± 0.428
PRF-fit source offset from KIC position	0.118 ± 0.379	0.31	0.026 ± 0.192	0.115 ± 0.406
photometric centroid source offset	0.56 ± 0.65	0.87	0.54 ± 0.65	-0.17 ± 0.61

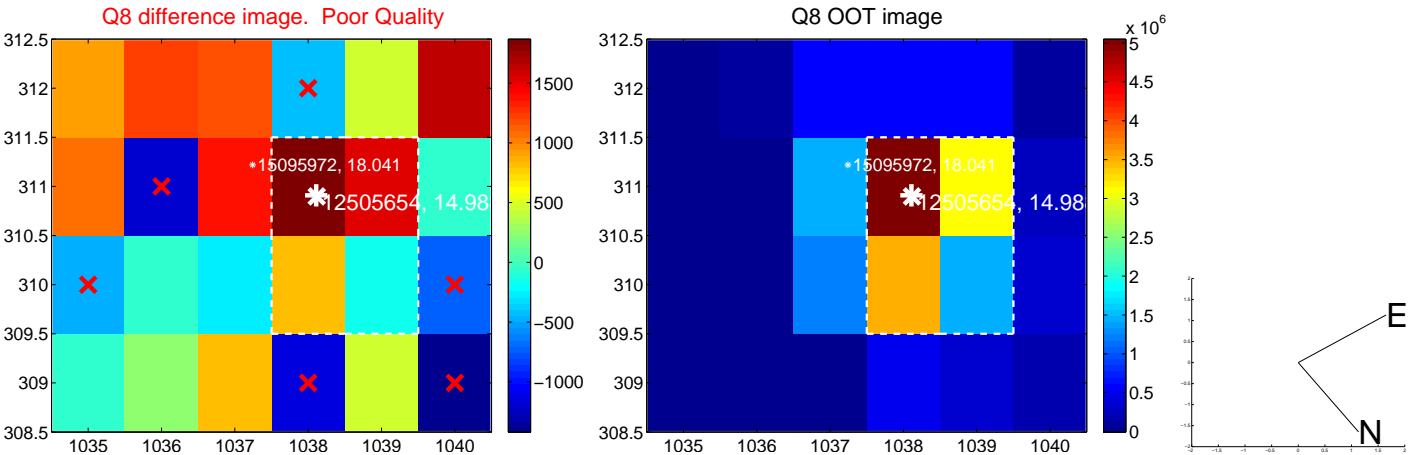
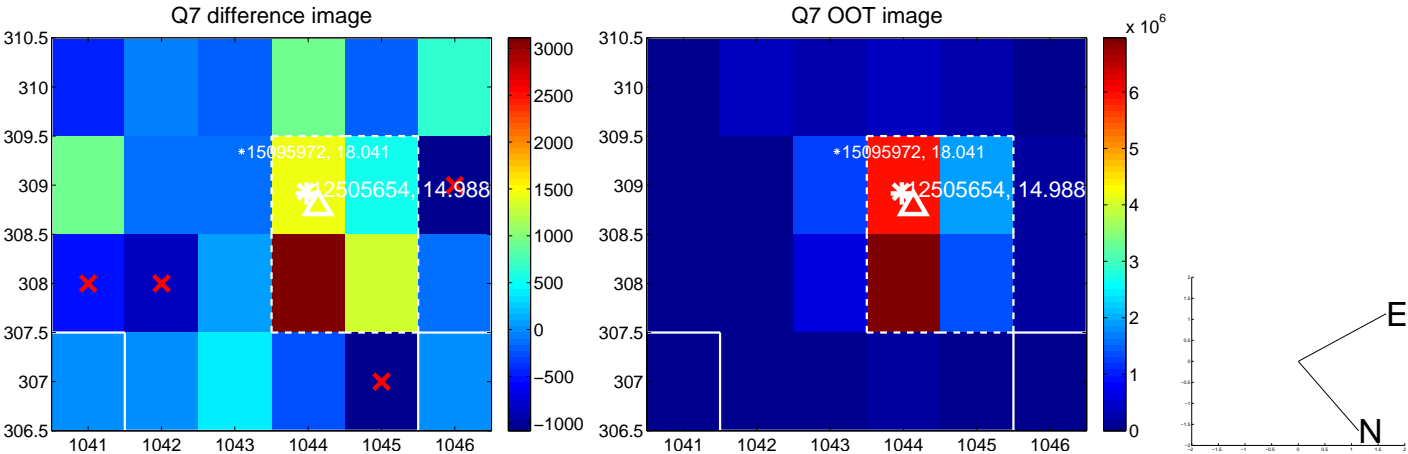
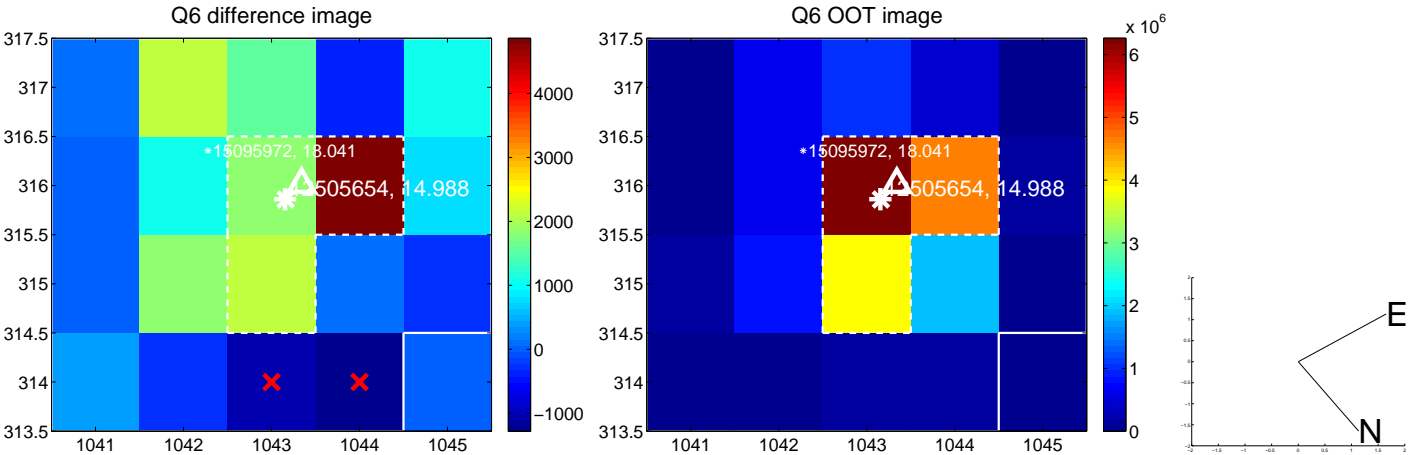
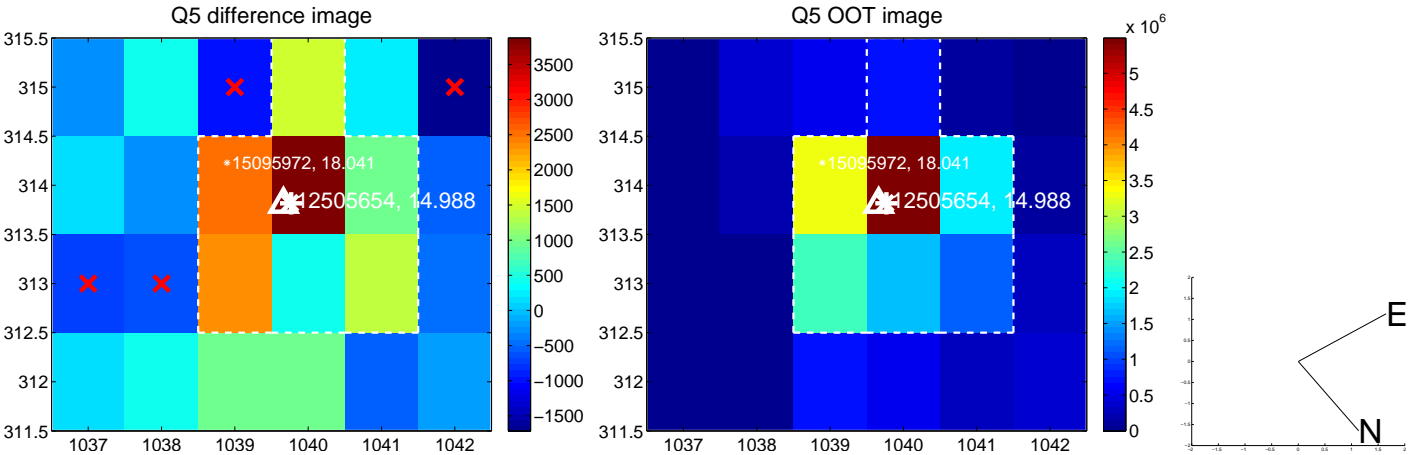


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

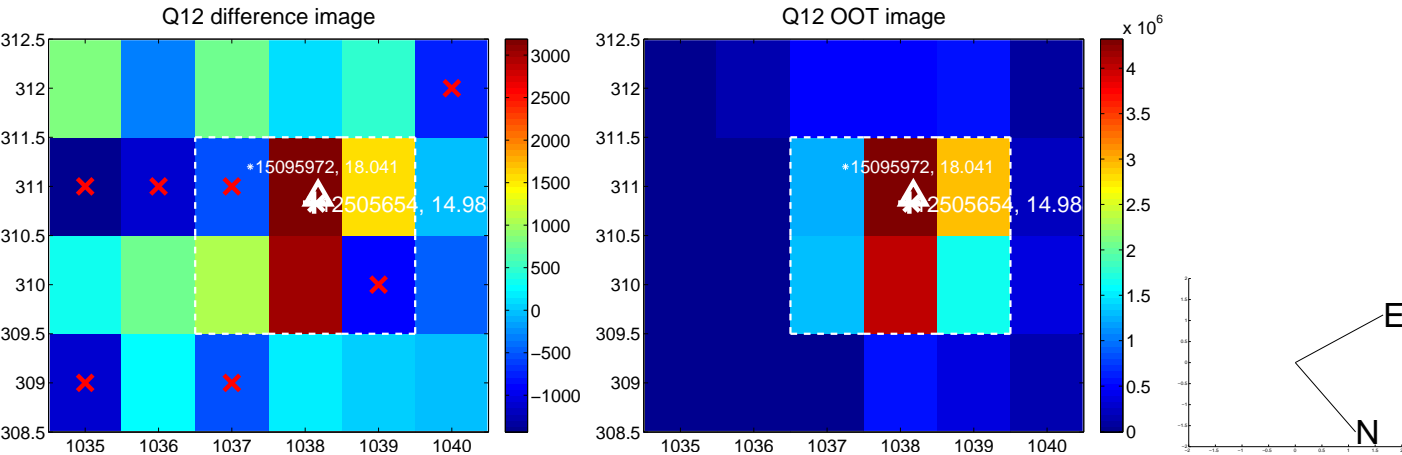
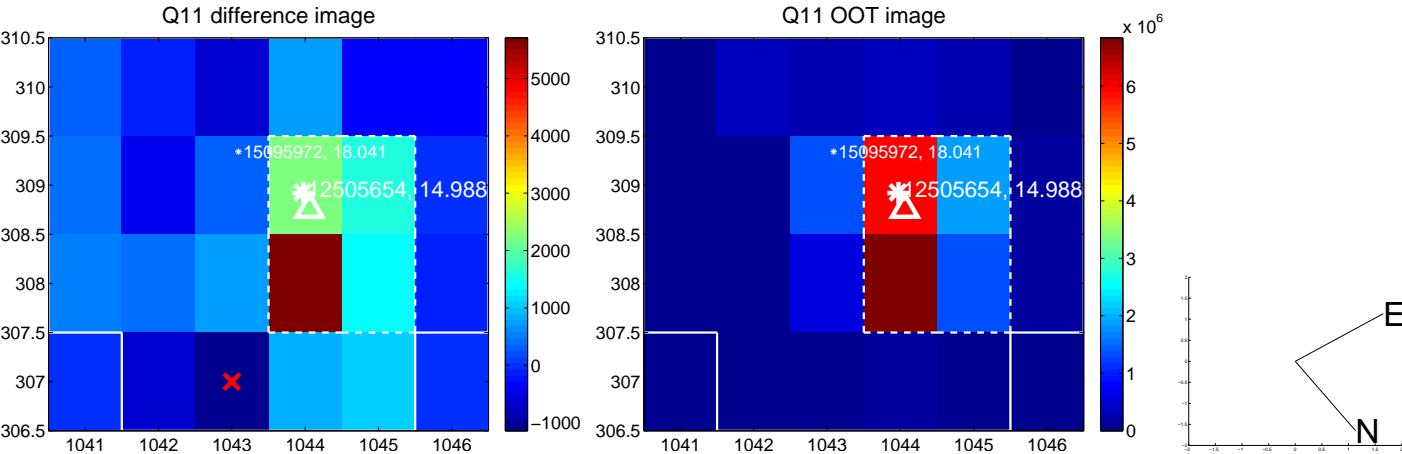
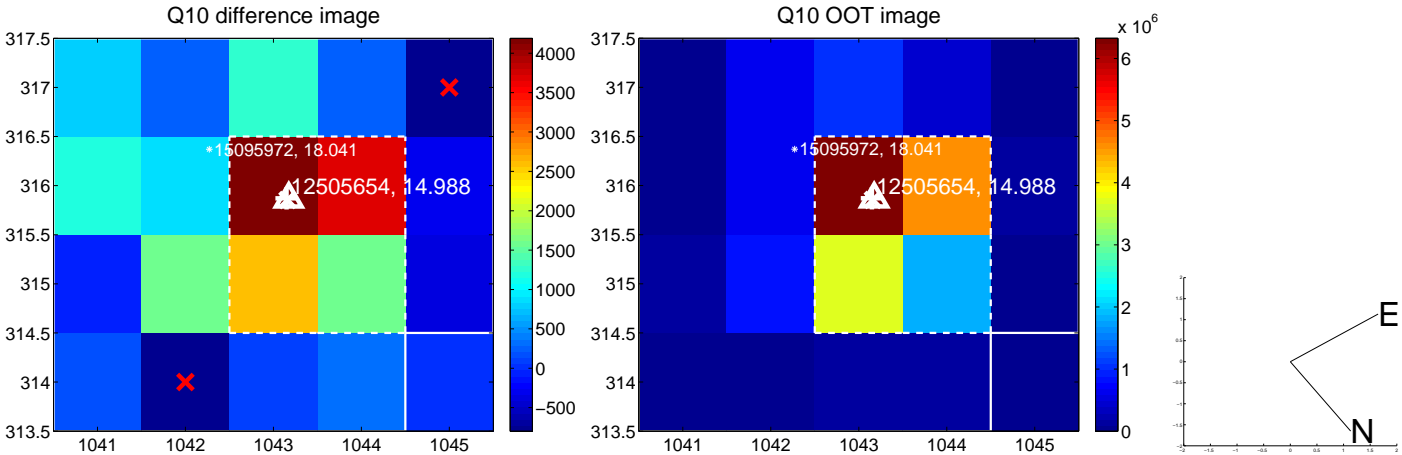
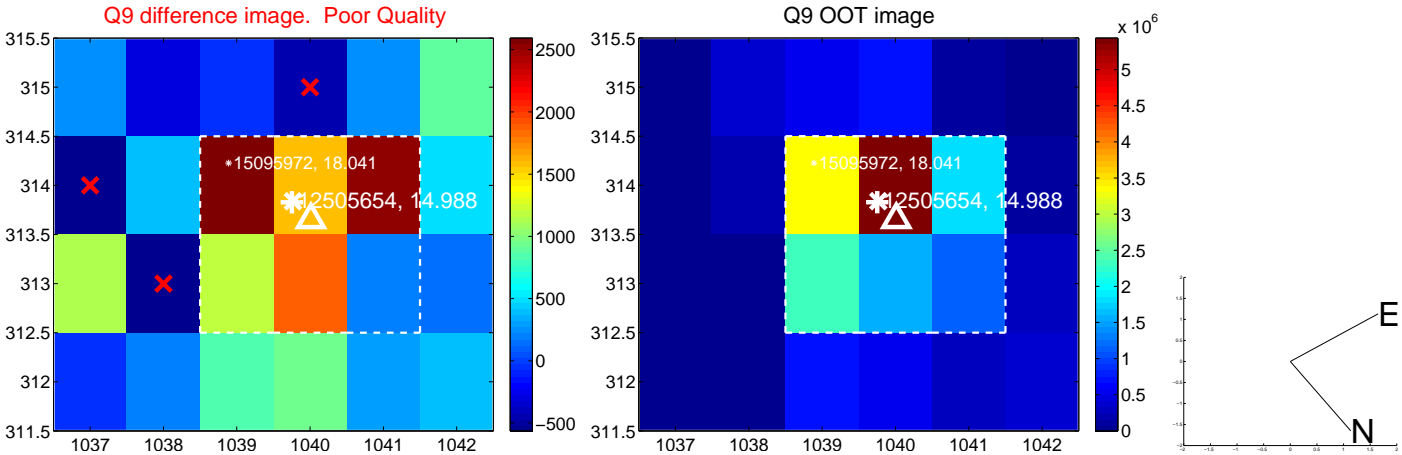
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



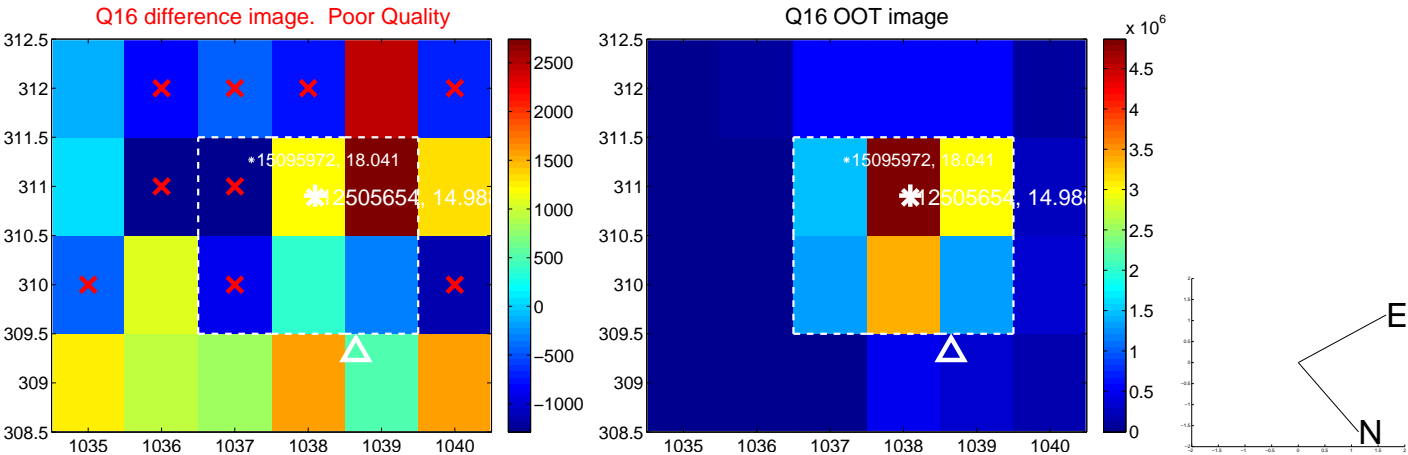
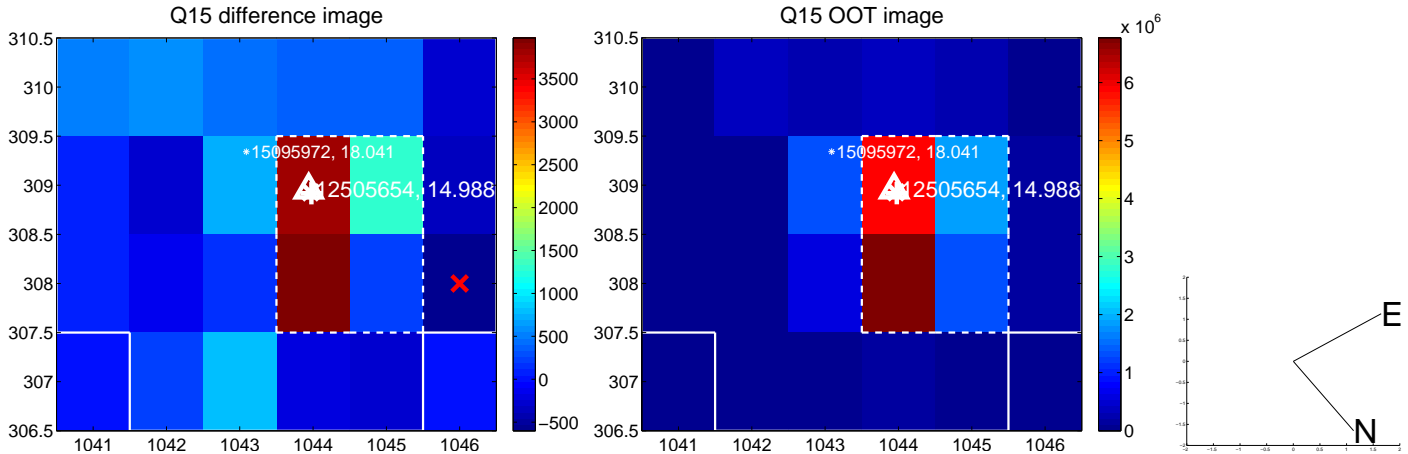
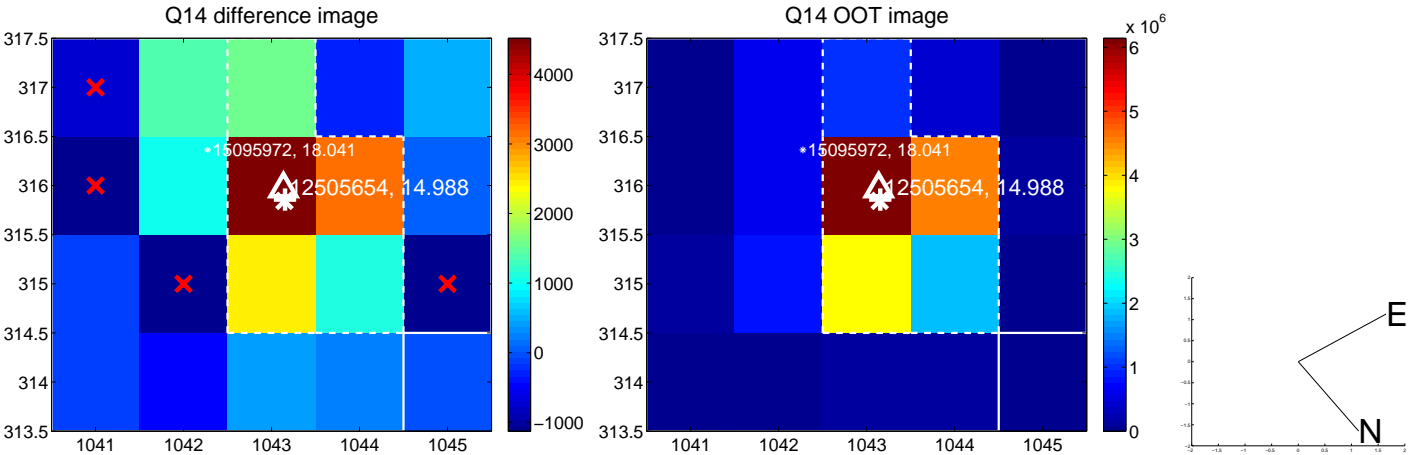
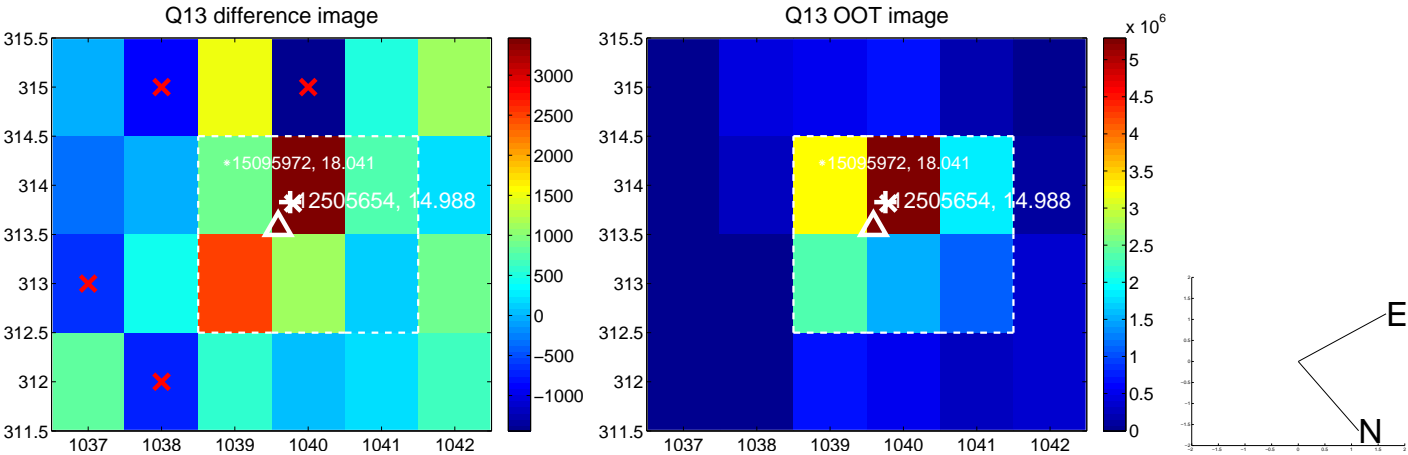
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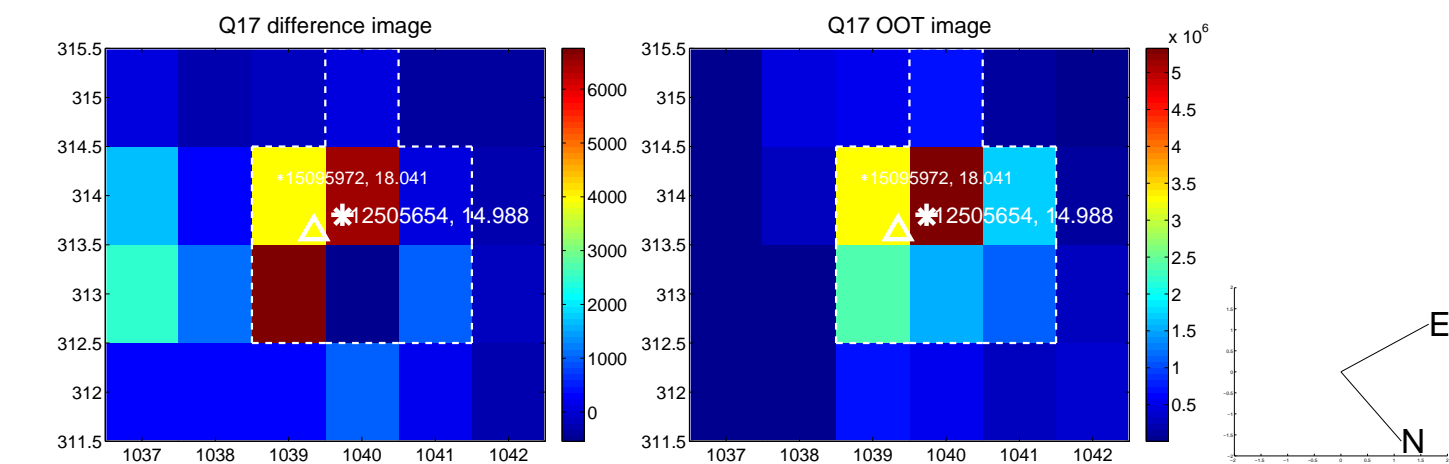
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



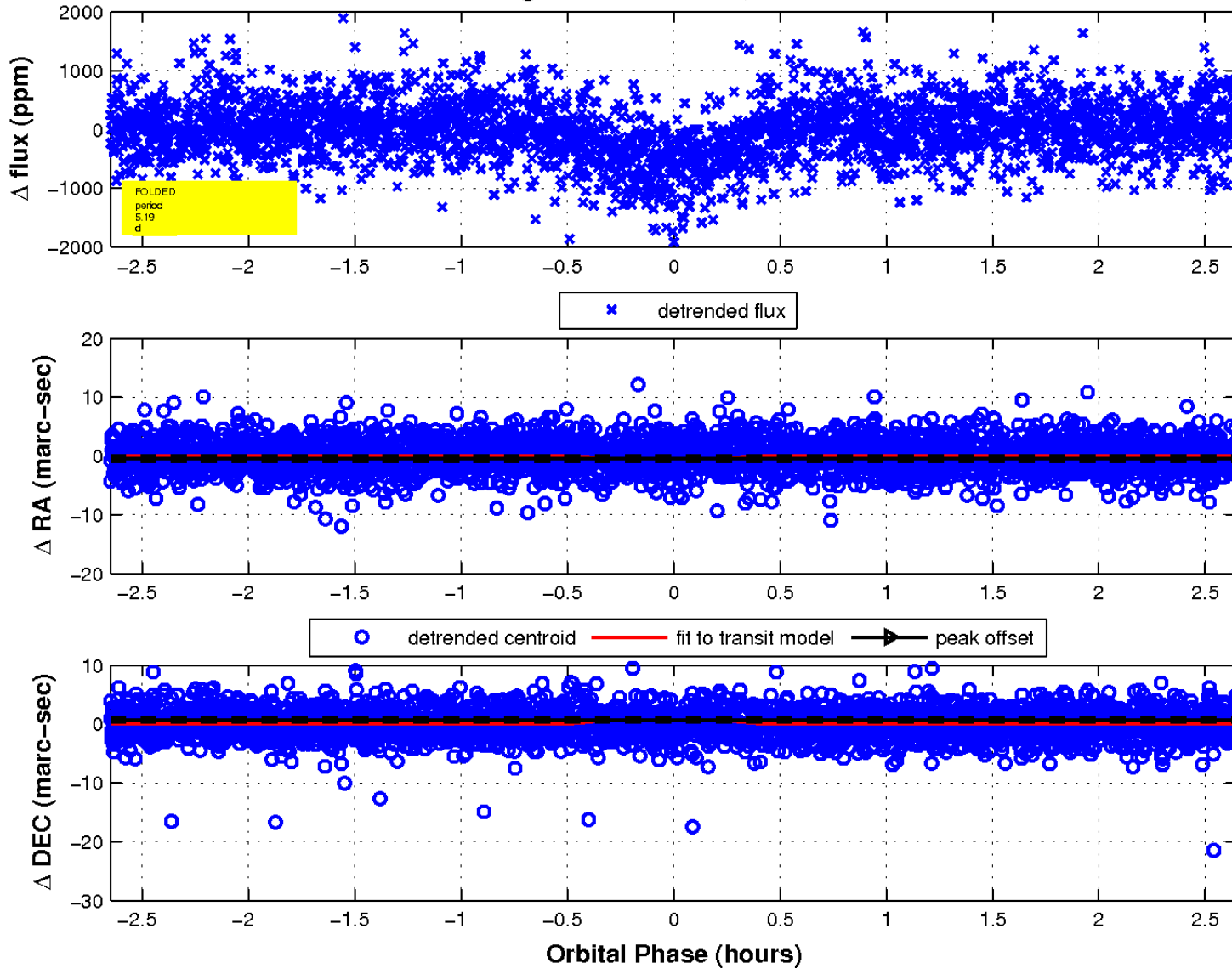
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

