

KIC 012784167

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})
012784167-01	OBS	3848.01	1.847880	132.202575	299.1	1.997	43.9	48.5	0.84	5763	1.73	844.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012784167-01	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.

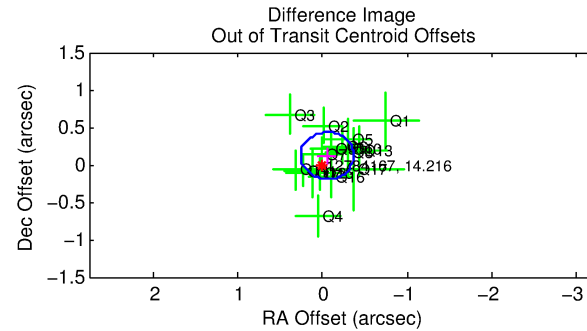
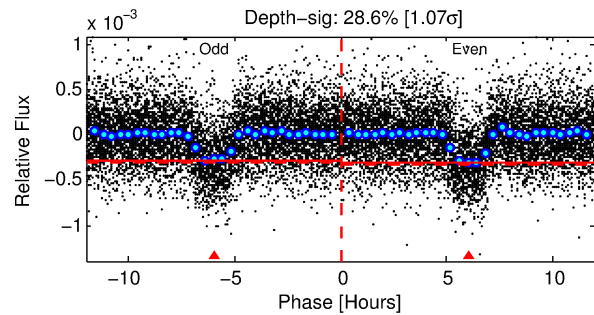
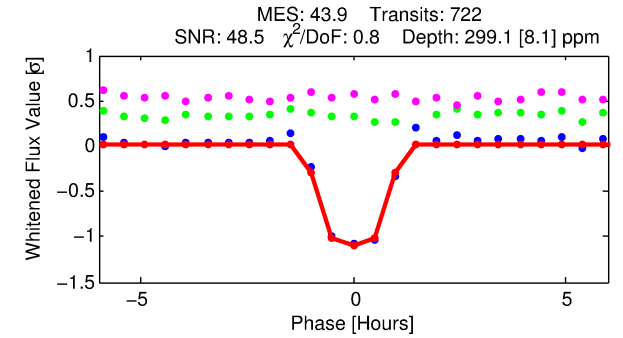
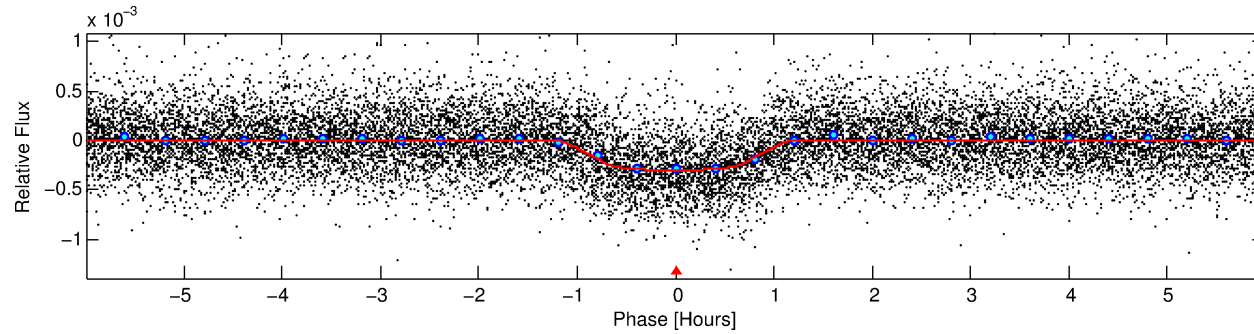
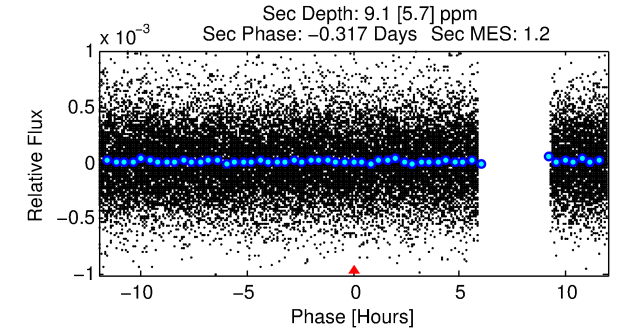
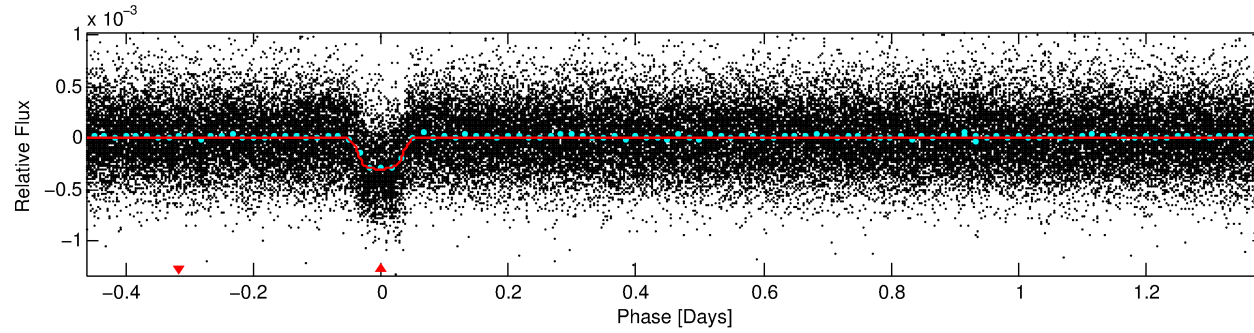
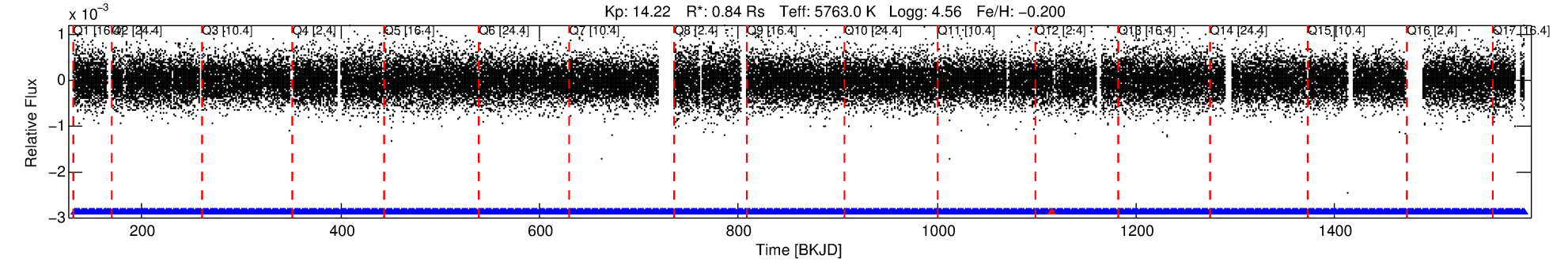
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012784167-01

No Significant Match Found

DV One-Page Summary

KIC: 12784167 Candidate: 1 of 1 Period: 1.848 d
KOI: K03848.01 Corr: 0.968



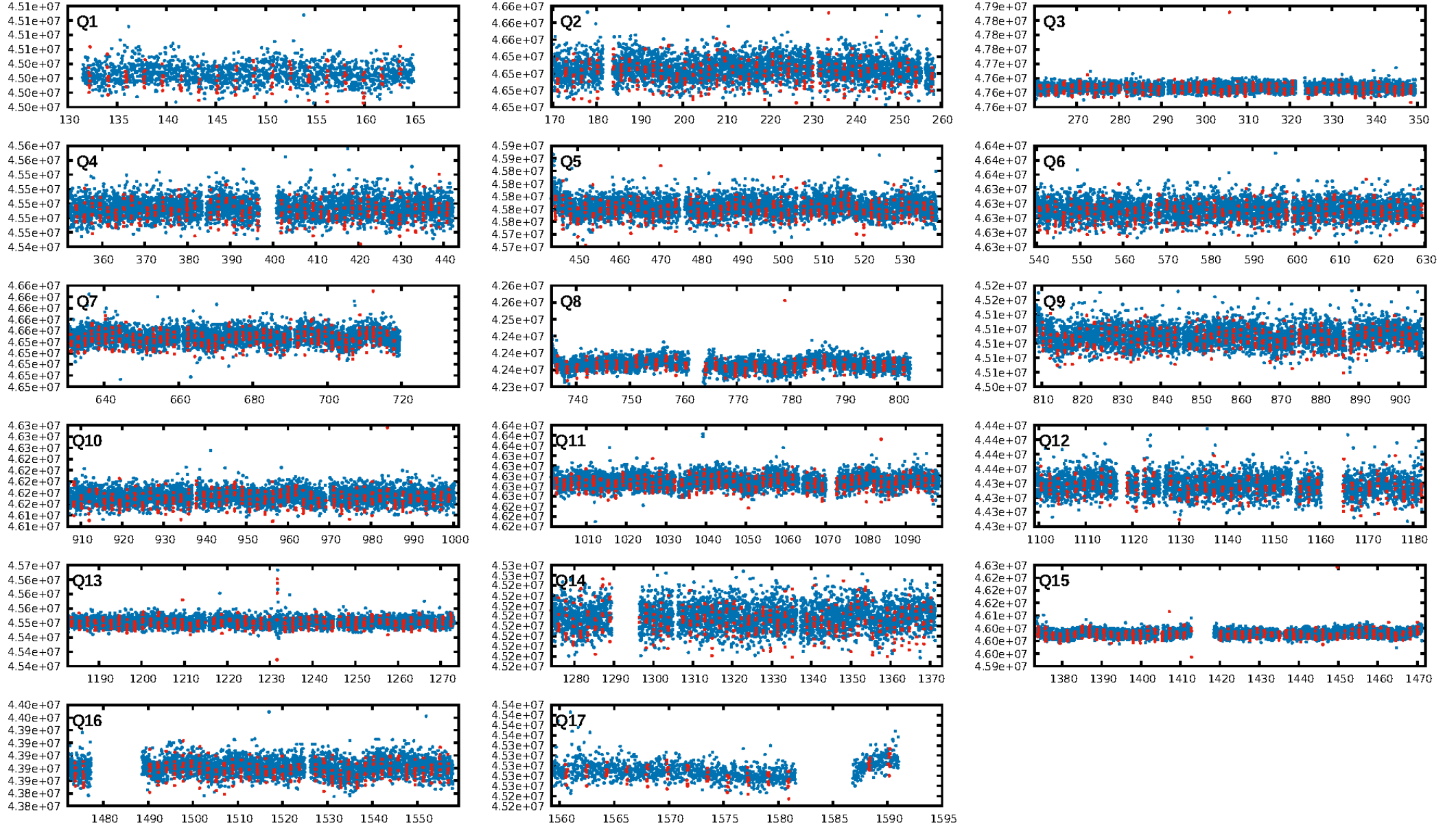
DV Fit Results:

Period = 1.84788 [0.00000] d
Epoch = 132.2026 [0.0006] BKJD
Rp/R* = 0.0188 [0.0025]
a/R* = 3.53 [2.04]
b = 0.90 [0.14]
Seff = 844.89 [271.03]
Teq = 1375 [110] K
Rp = 1.73 [0.47] Re
a = 0.0288 [0.0059] AU
Ag = 1.39 [1.03] [0.37σ]
Teffp = 2306 [397] K [2.26σ]

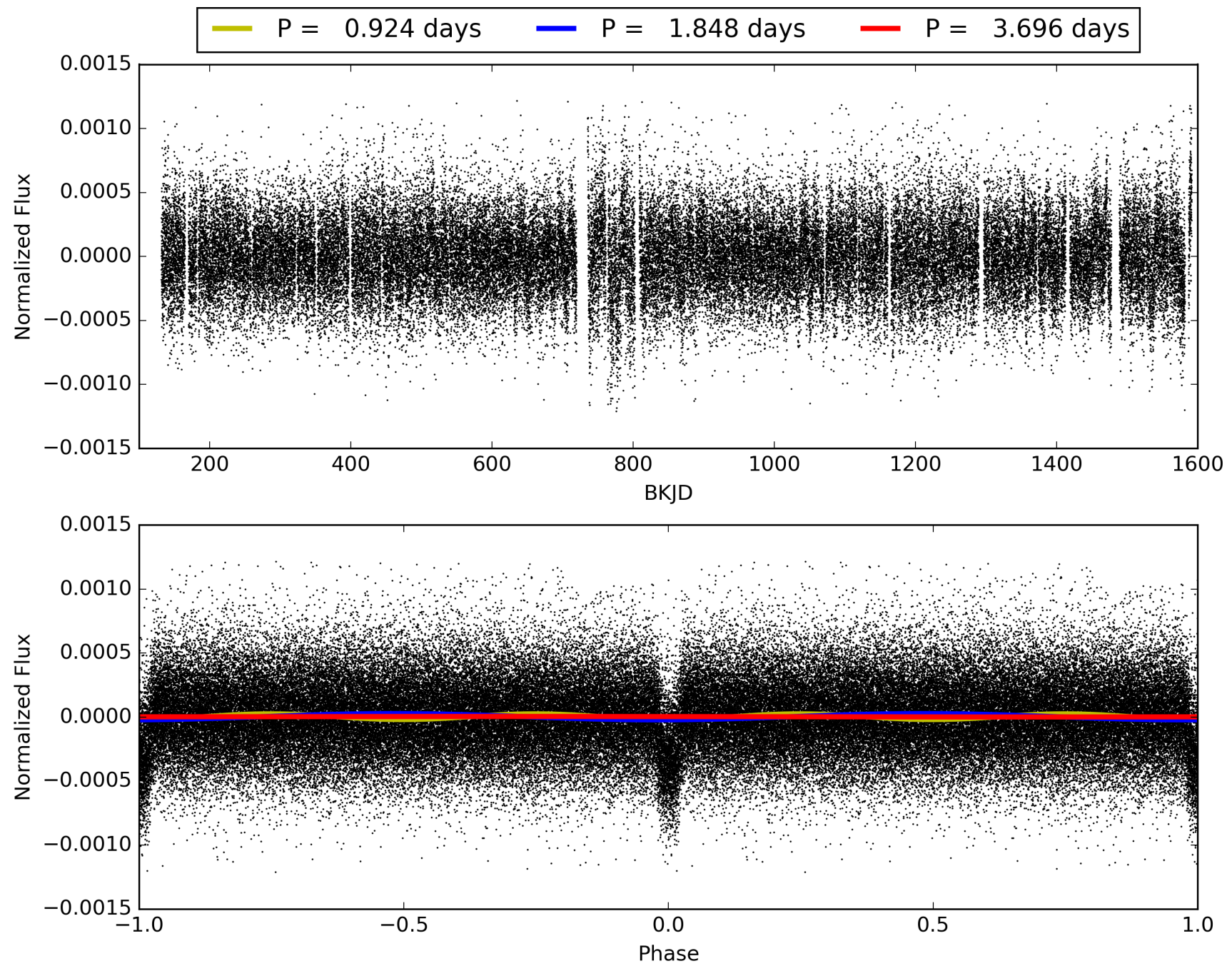
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [689/690]
GhostDiagnostic-chr: 7.076
Centroid-sig: 50.2%
Centroid-so: 1.414 arcsec [5.44σ]
OotOffset-rm: 0.132 arcsec [1.26σ]
KicOffset-rm: 0.362 arcsec [3.60σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 012784167-01, PDC Light Curves

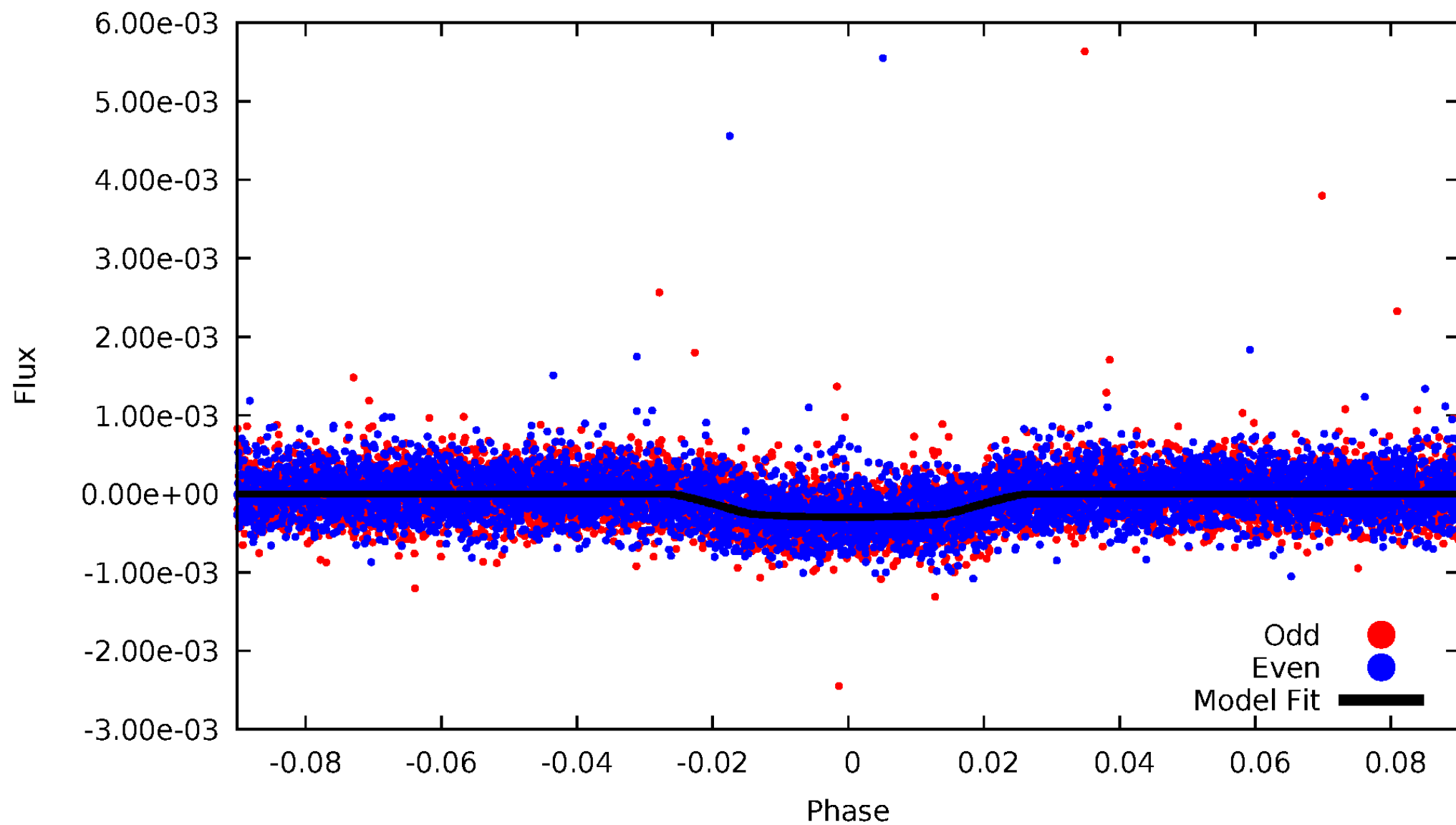


TCE 012784167-01



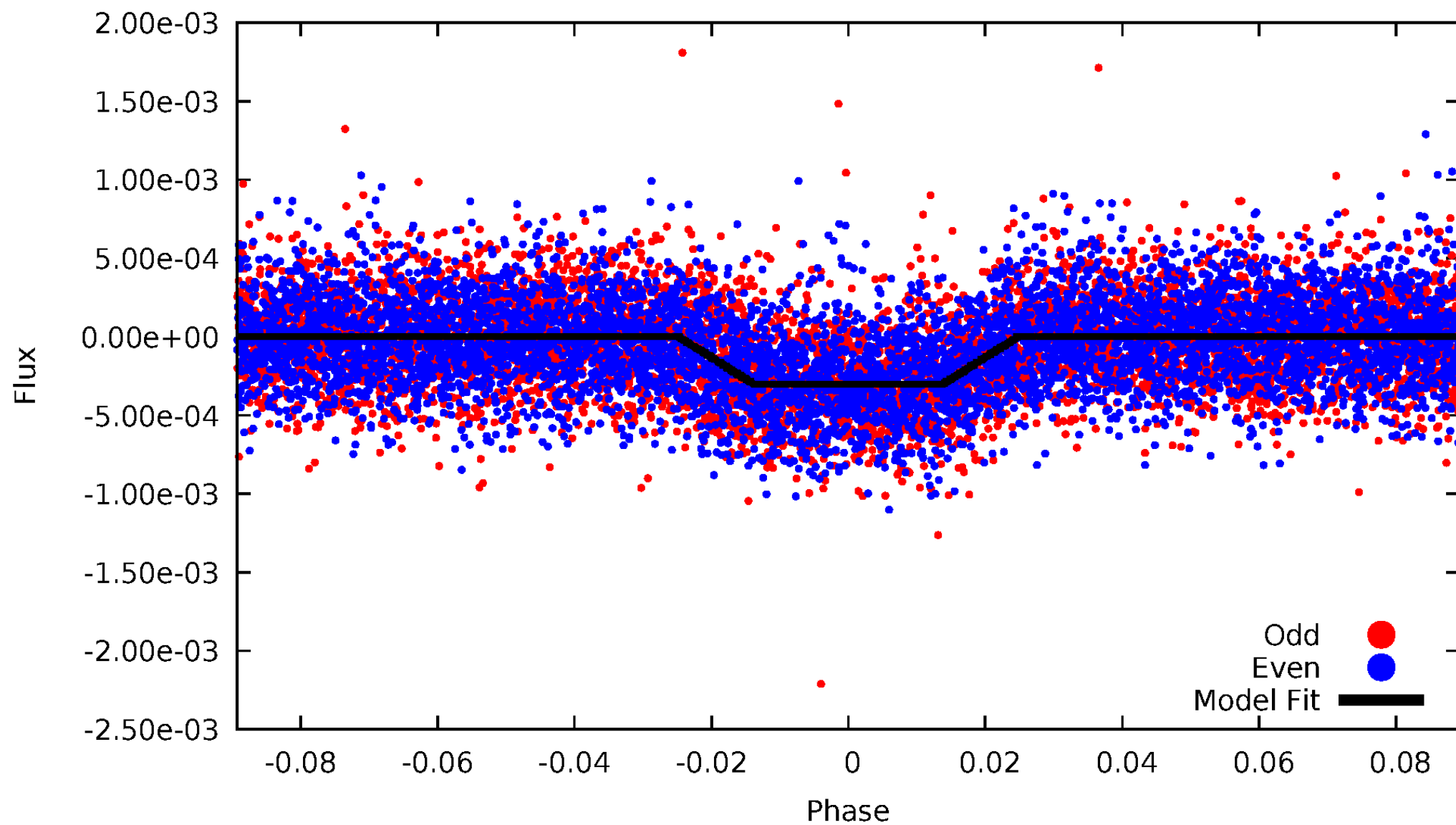
DV Odd/Even

TCE 012784167-01

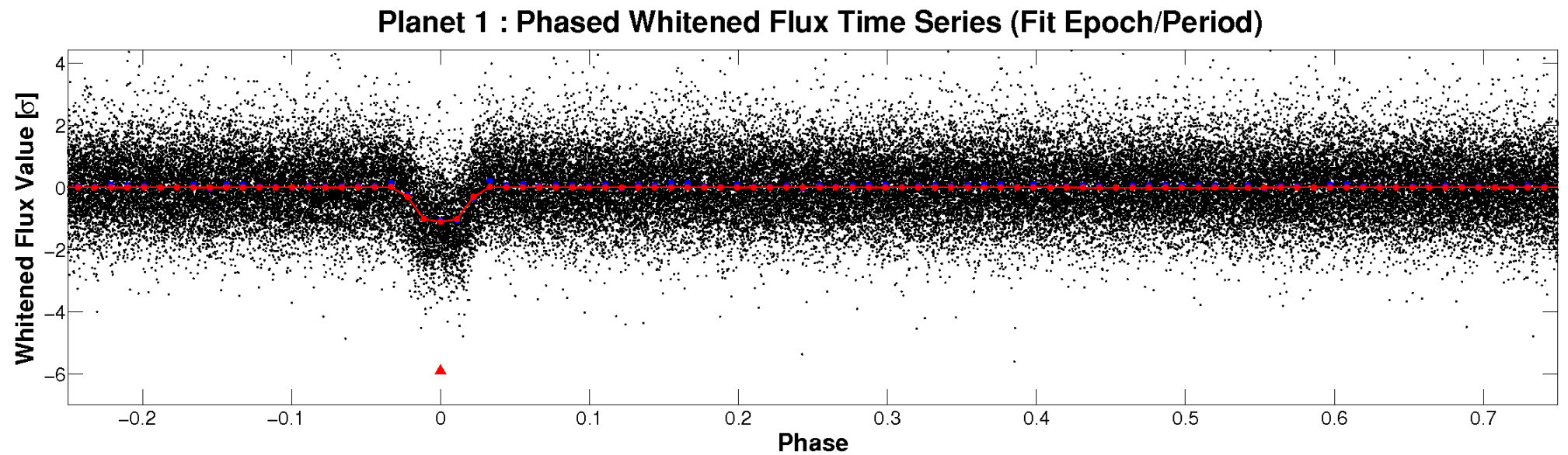
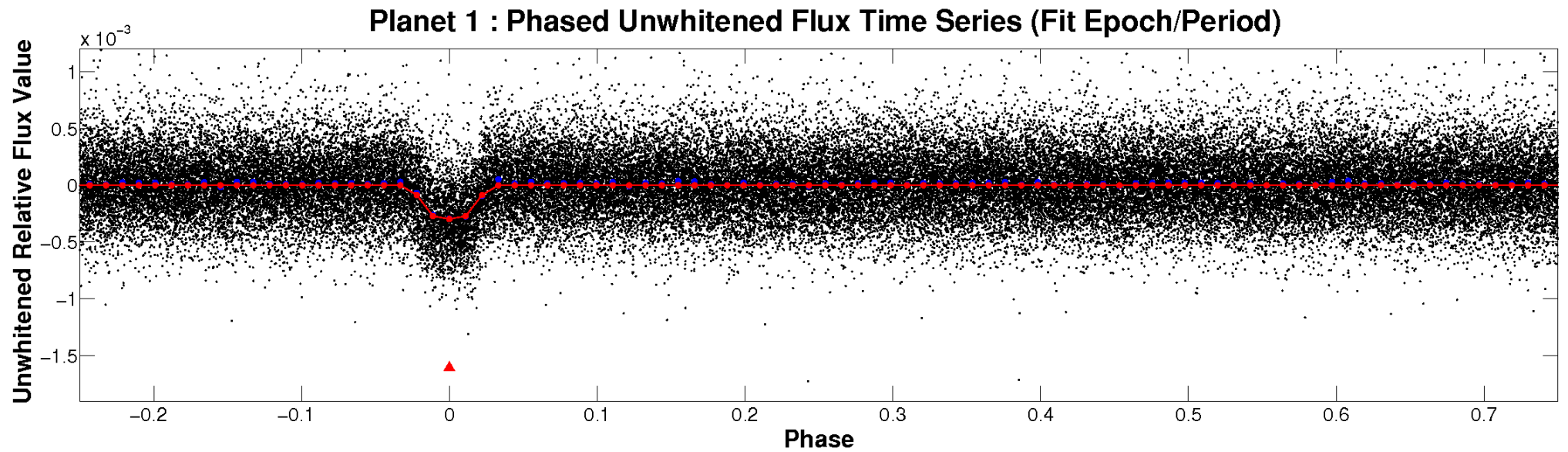


ALT Odd/Even

TCE 012784167-01

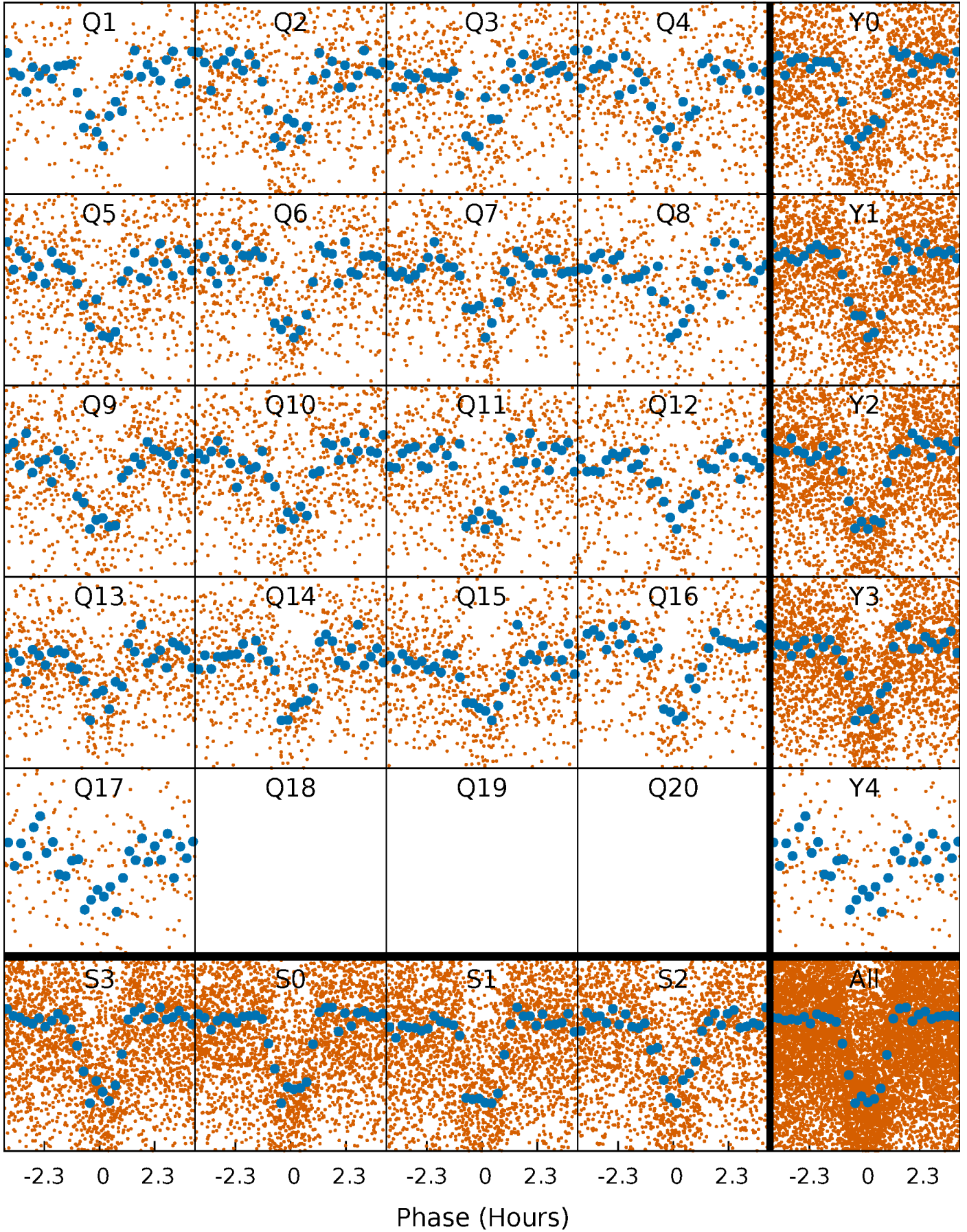


Non-Whitened Vs. Whitened Light Curve



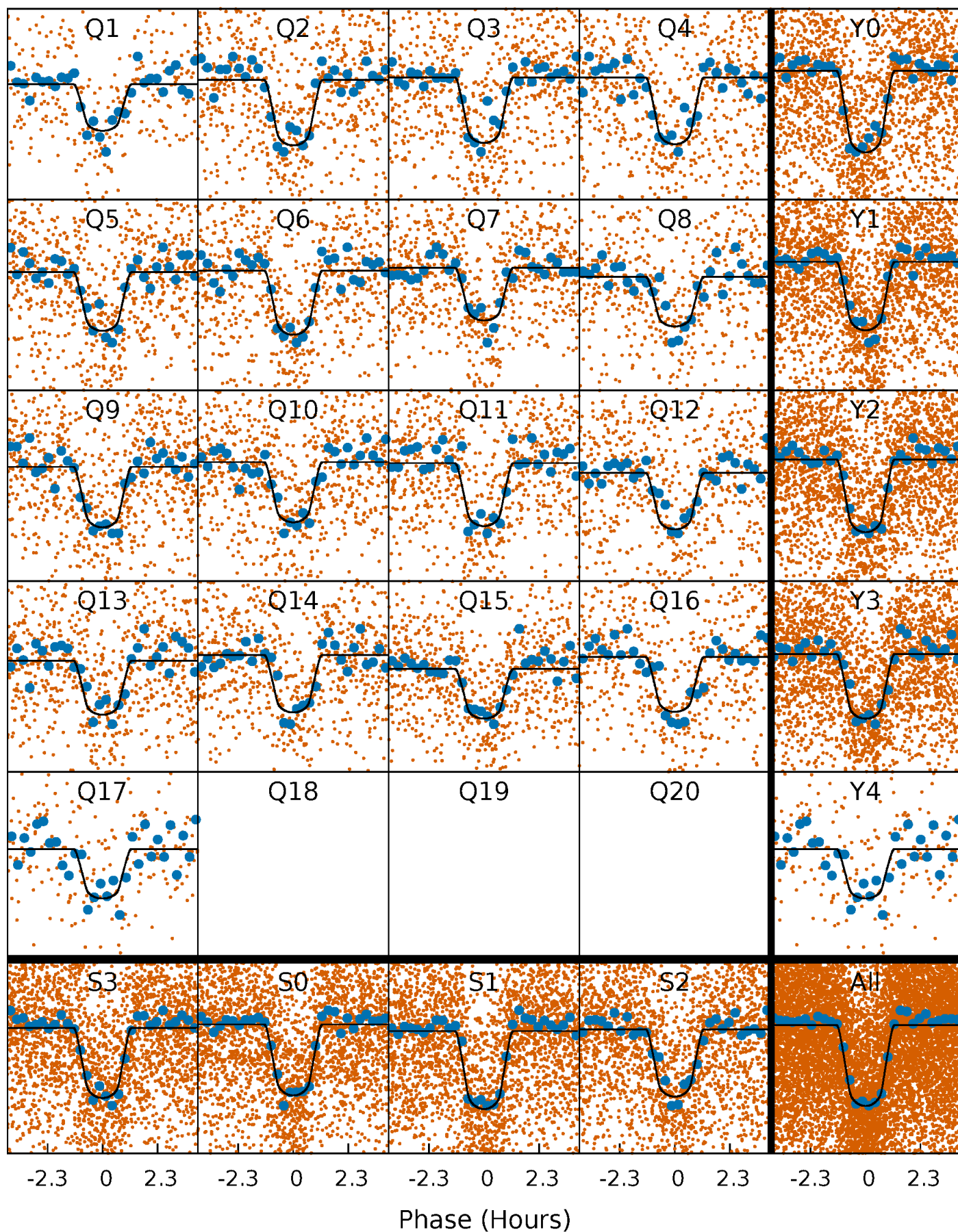
PDC Quarter-Phased Transit Curves

TCE 012784167-01 P= 1.847880 Days $T_0=132.202575$ (BKJD)



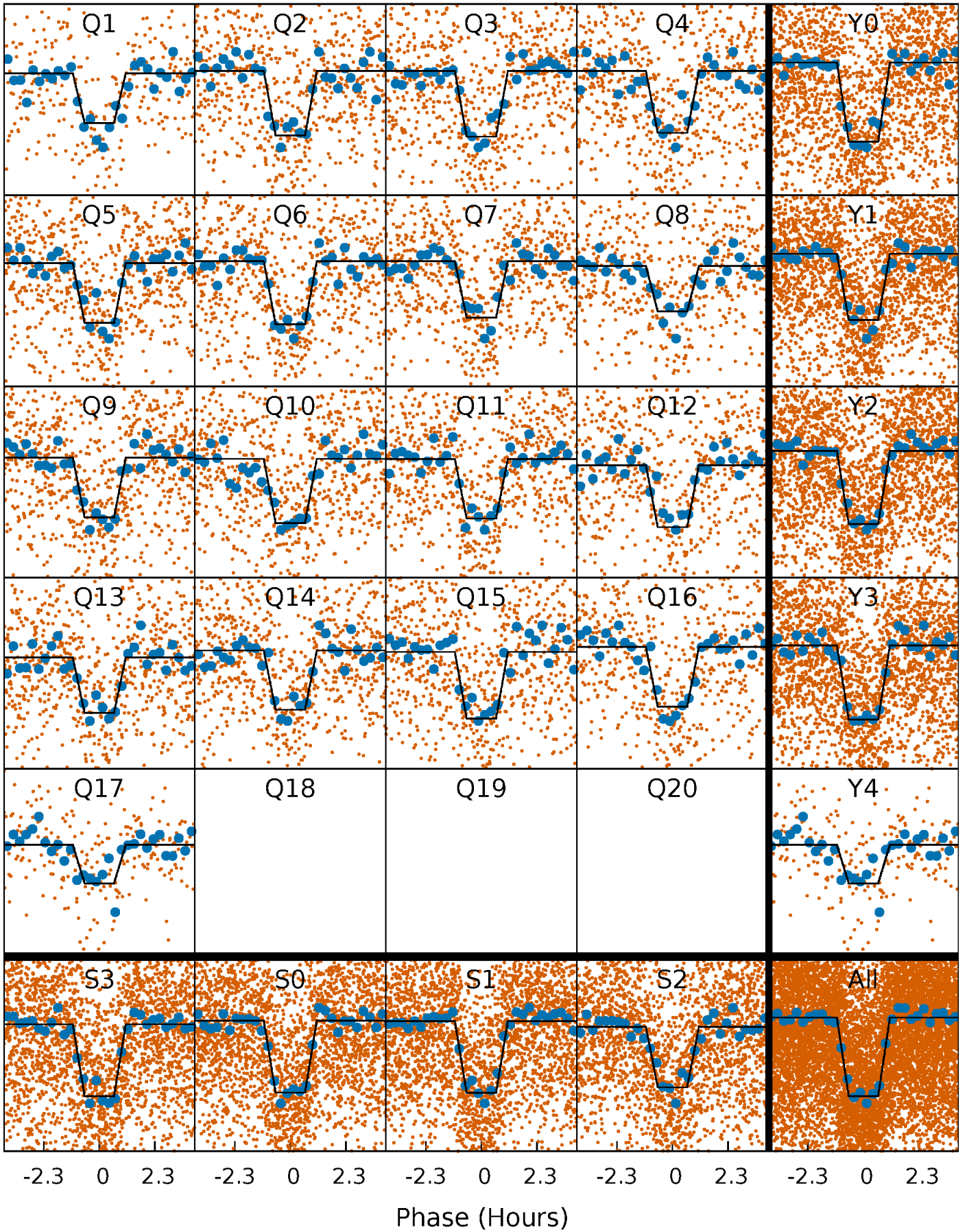
DV Quarter-Phased Transit Curves

TCE 012784167-01 P= 1.847880 Days $T_0=132.202575$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

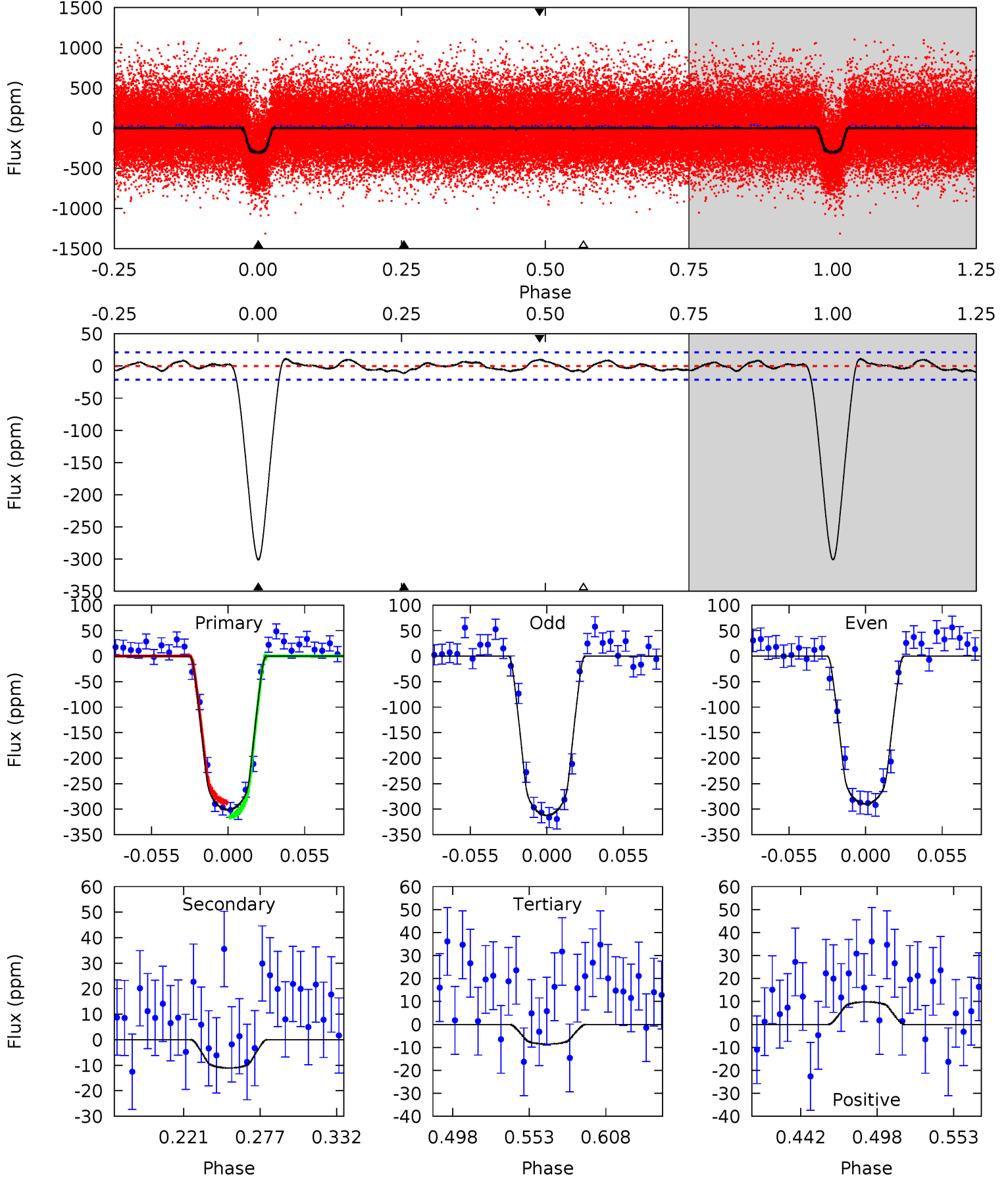
TCE 012784167-01 P= 1.847890 Days $T_0=132.200218$ (BKJD)



DV Model-Shift Uniqueness Test

012784167-01, P = 1.847880 Days, E = 130.354695 Days

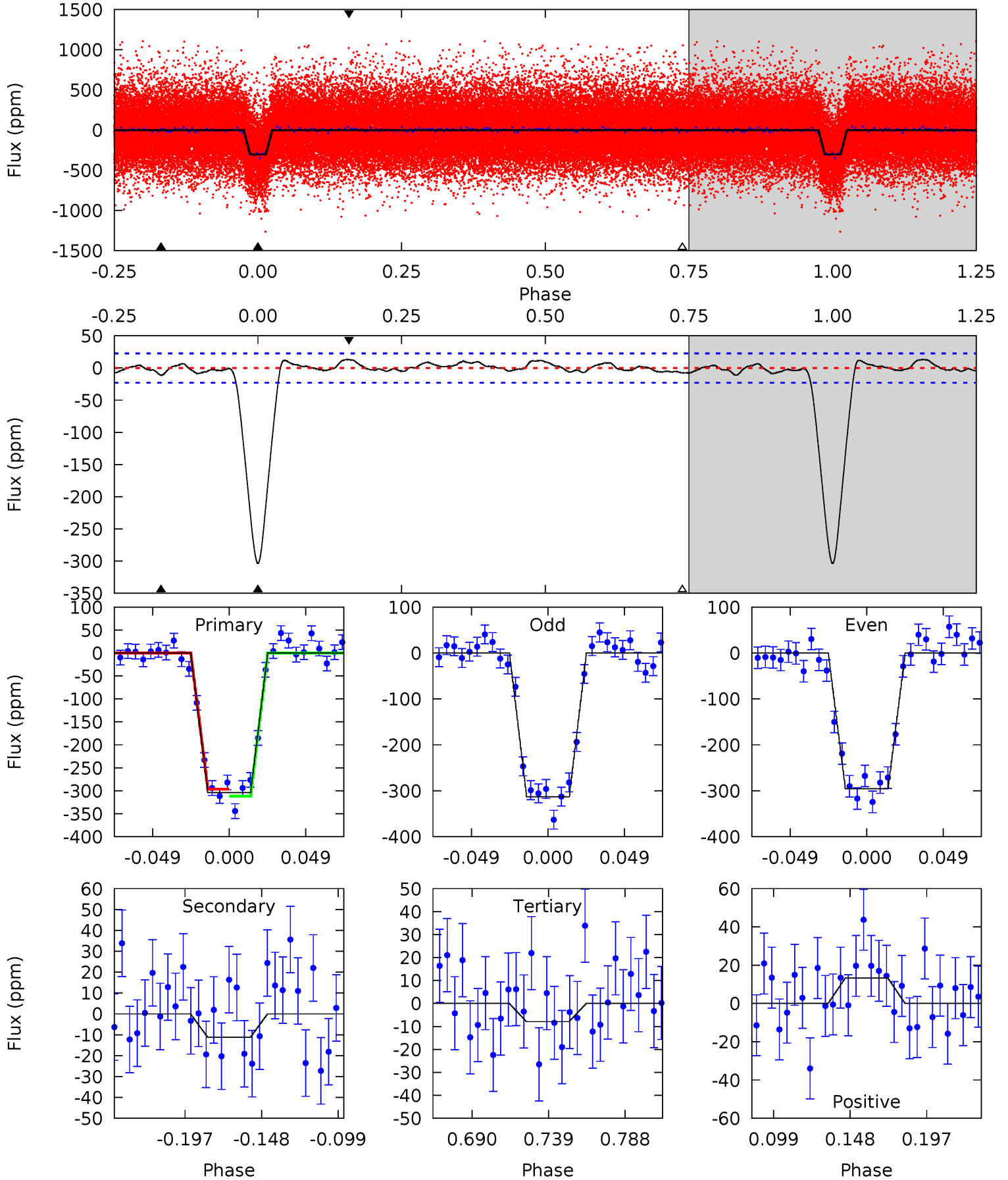
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
66.1	2.43	1.88	2.15	4.69	1.92	1.06	64.2	63.9	0.55	0.28	2.46	0.97	0.04	3.06



Alt Model-Shift Uniqueness Test

012784167-01, P = 1.847890 Days, E = 130.352328 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
62.9	2.32	1.64	2.74	4.71	1.97	1.13	61.2	60.1	0.68	-0.42	1.77	1.00	0.04	1.57



Stellar Parameters For KIC 012784167

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5763^{+138}_{-155}	$4.557^{+0.042}_{-0.168}$	$-0.200^{+0.300}_{-0.300}$	$0.842^{+0.199}_{-0.080}$	$0.937^{+0.090}_{-0.110}$	$2.209^{+0.458}_{-0.998}$
	+2%/-3%	+1%/-4%	+150%/-150%	+24%/-10%	+10%/-12%	+21%/-45%
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 012784167-01 / KOI 3848.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-11 ± 5	$1.82^{+0.32}_{-0.29}$	1958^{+114}_{-81}	2953^{+227}_{-327}	$1.462^{+0.862}_{-0.689}$
Alt.	-11 ± 5	$1.67^{+0.30}_{-0.26}$	1959^{+113}_{-79}	3042^{+263}_{-293}	$1.765^{+1.140}_{-0.769}$

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

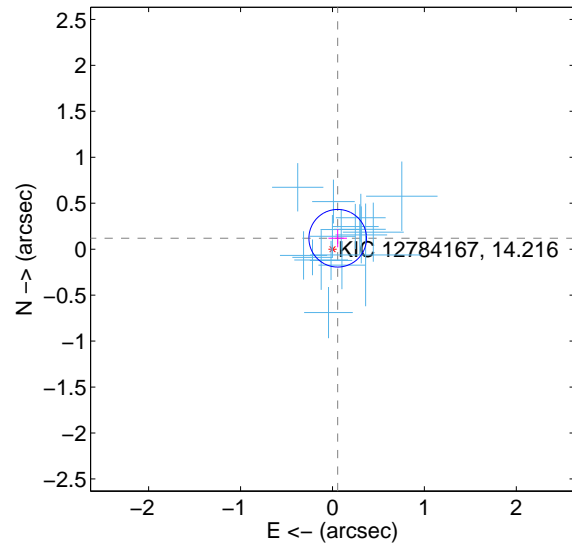
Supplemental centroid analysis for 012784167-01. Kepler magnitude: 14.22. Transit SNR 48.51

There are 17 quarters with good PRF difference image offsets

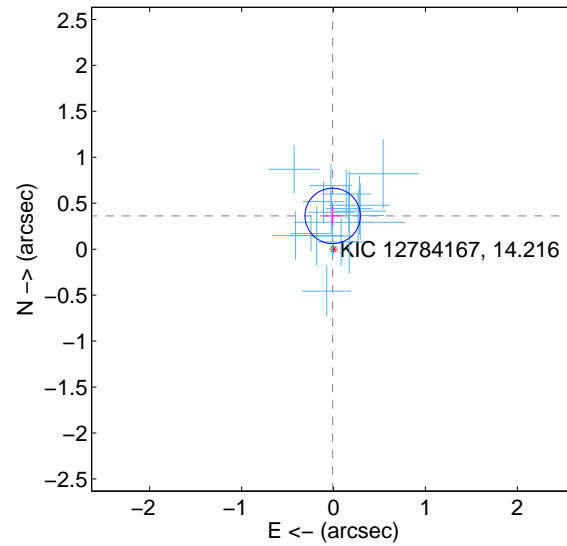
The direct PRF centroid is offset from the target star catalog position by about 0.40 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.132 ± 0.104	1.26	-0.057 ± 0.101	0.119 ± 0.098
PRF-fit source offset from KIC position	0.362 ± 0.100	3.60	0.009 ± 0.090	0.362 ± 0.101
photometric centroid source offset	1.41 ± 0.26	5.44	0.02 ± 0.29	1.41 ± 0.26

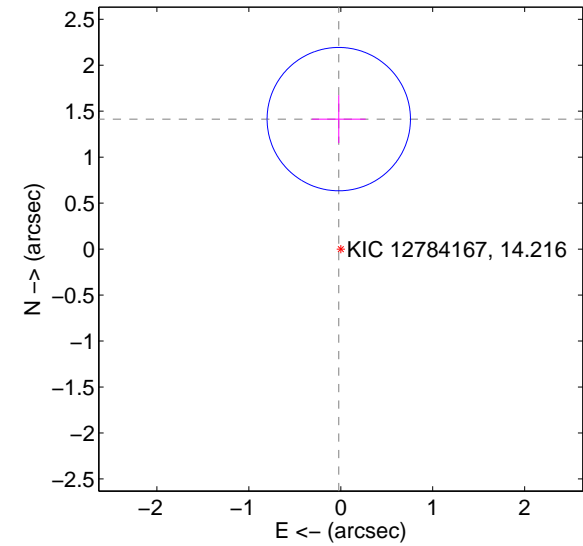
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

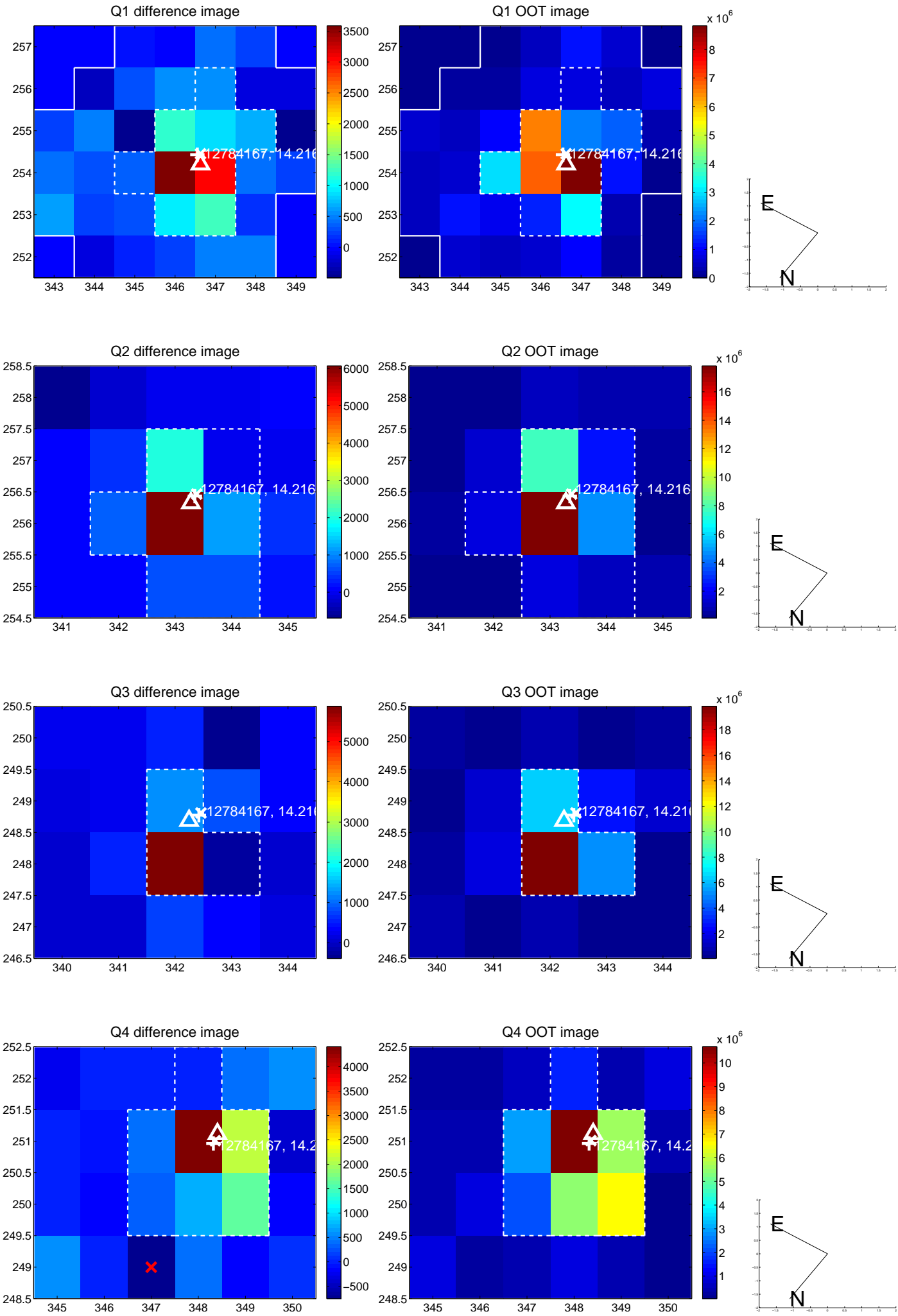


offset from photometric centroids

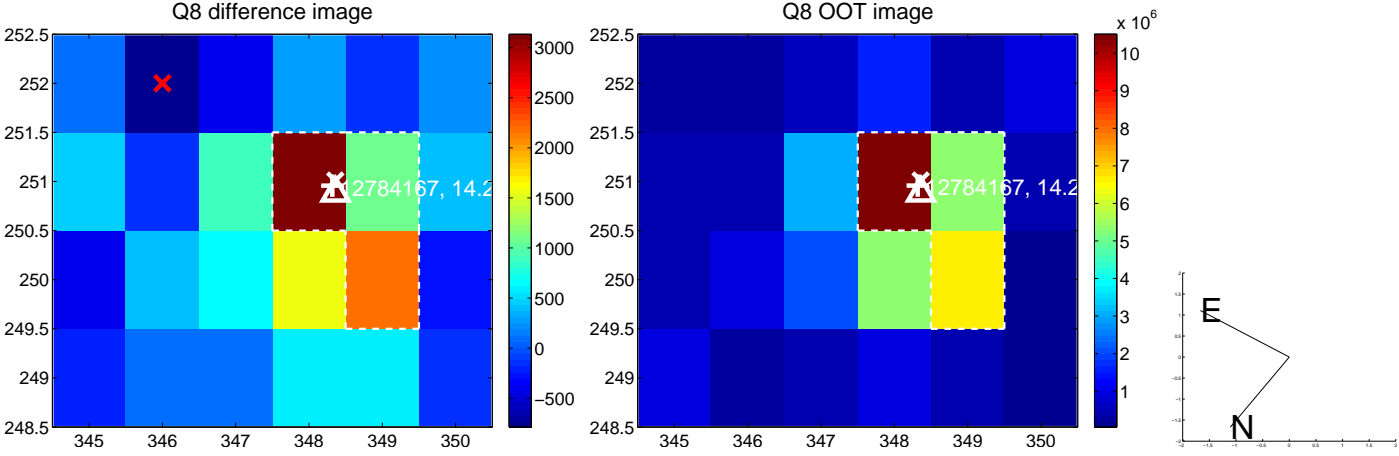
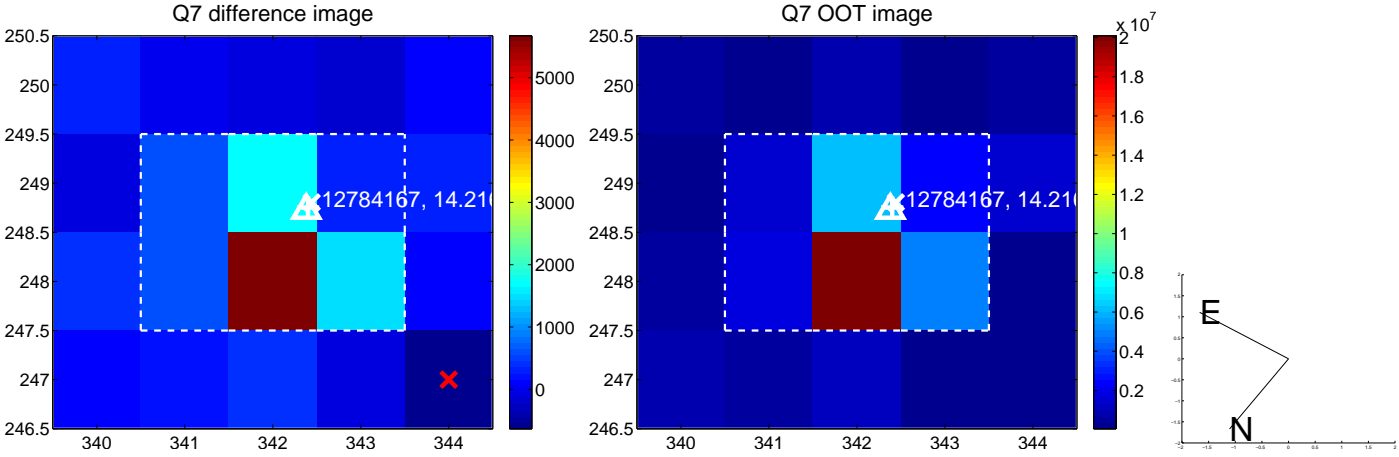
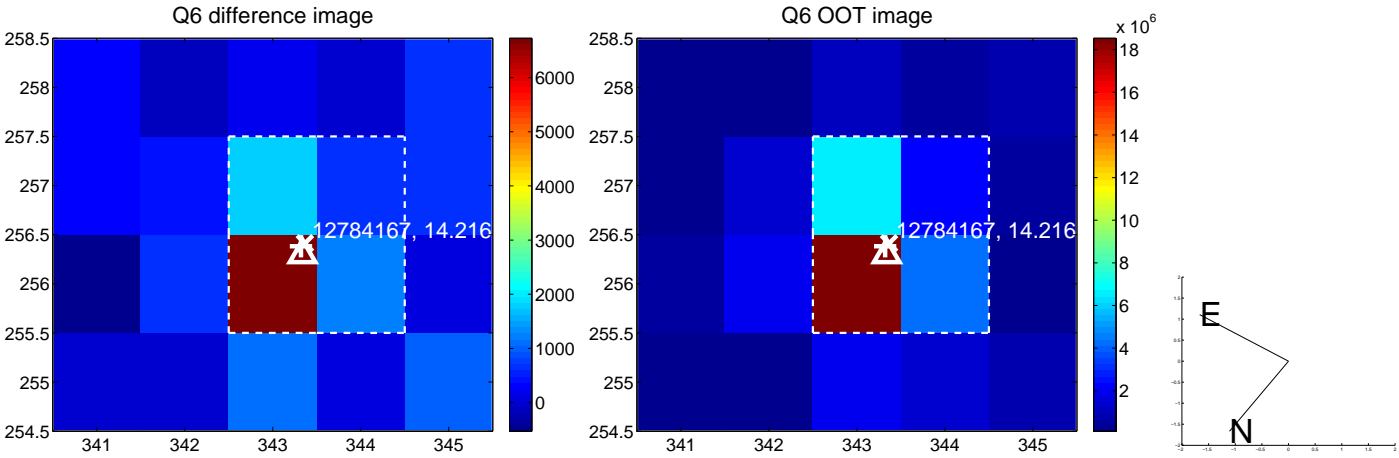
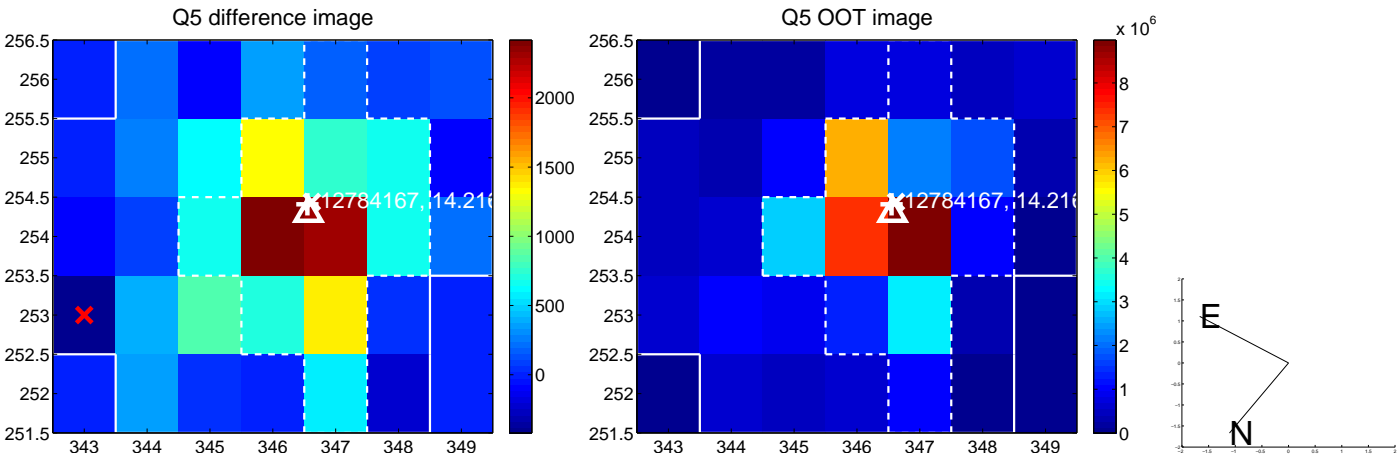


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

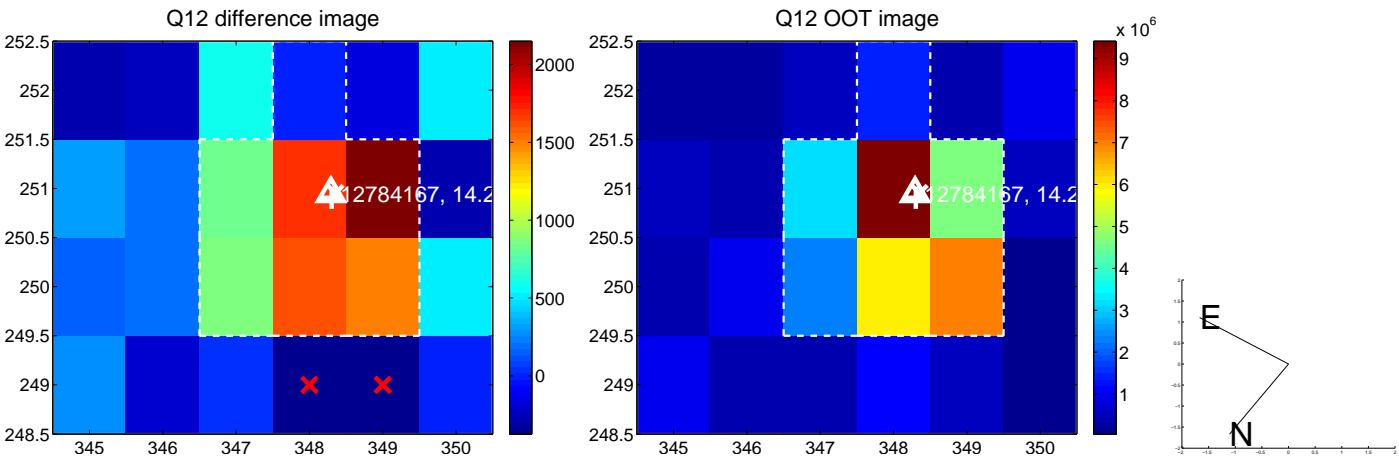
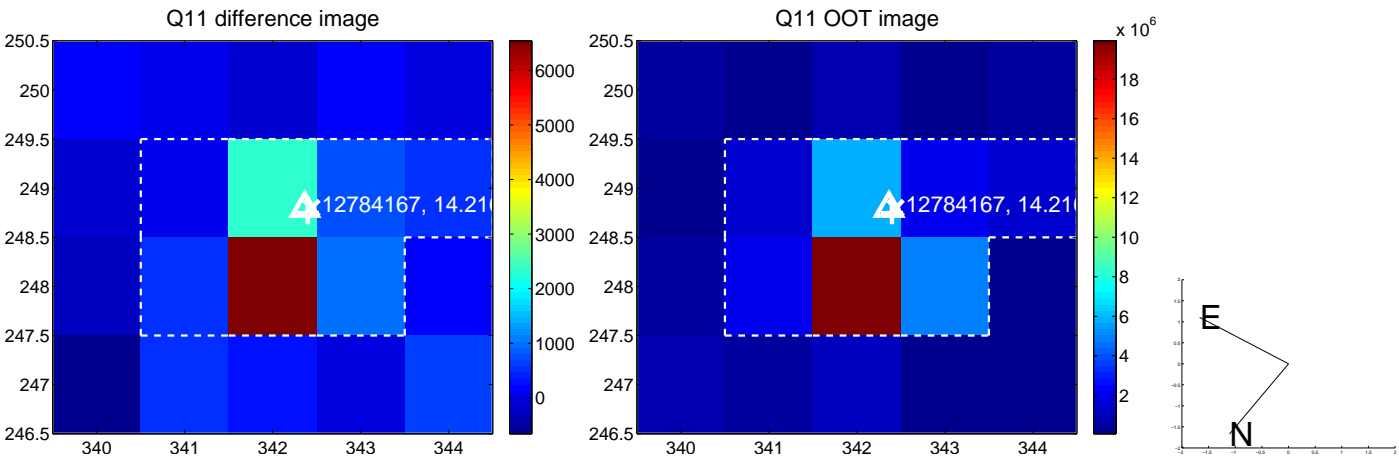
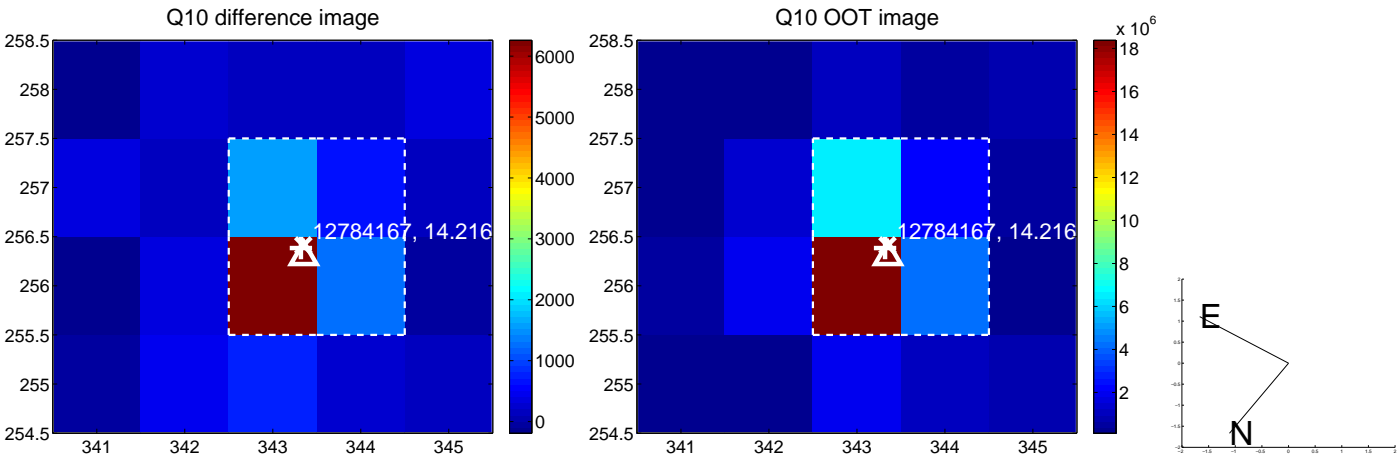
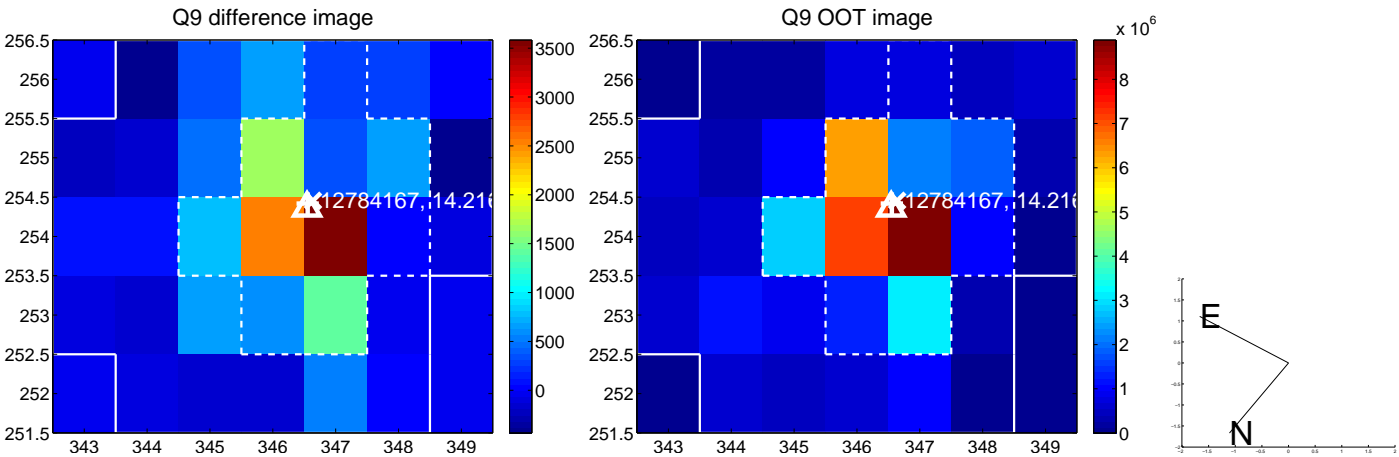
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



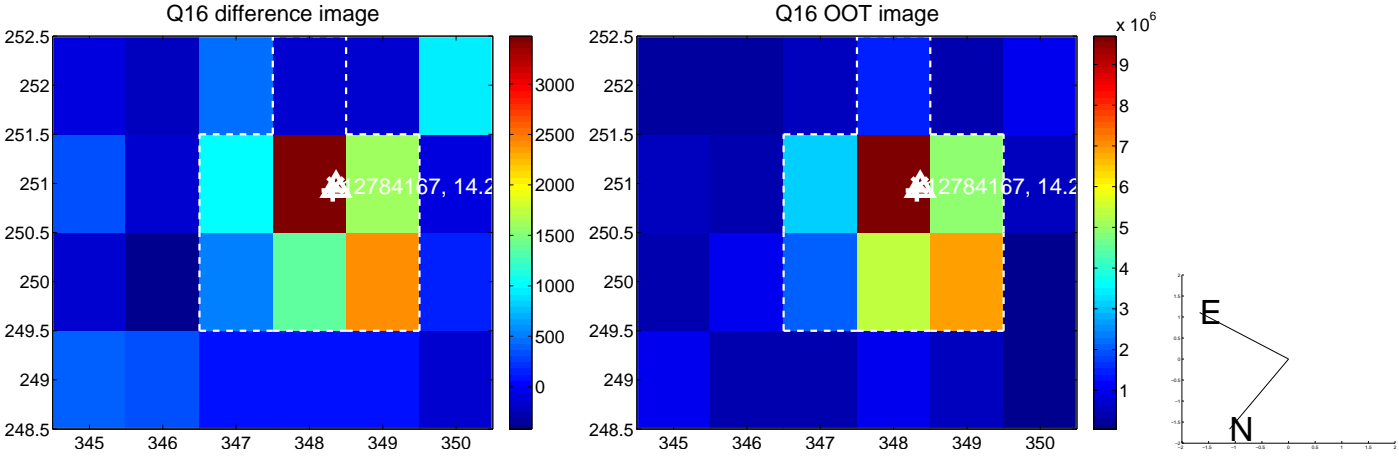
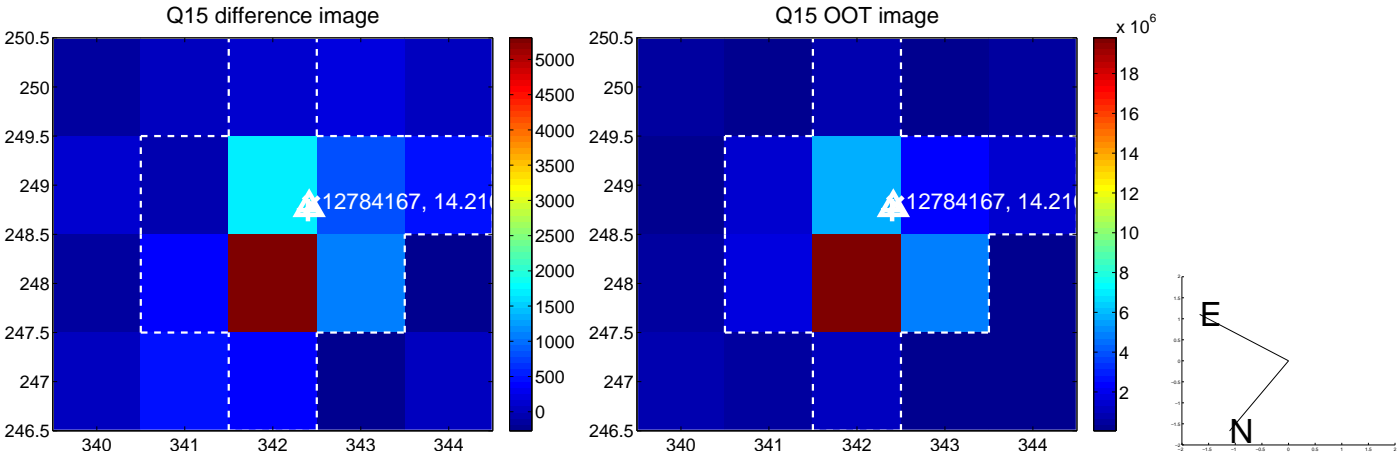
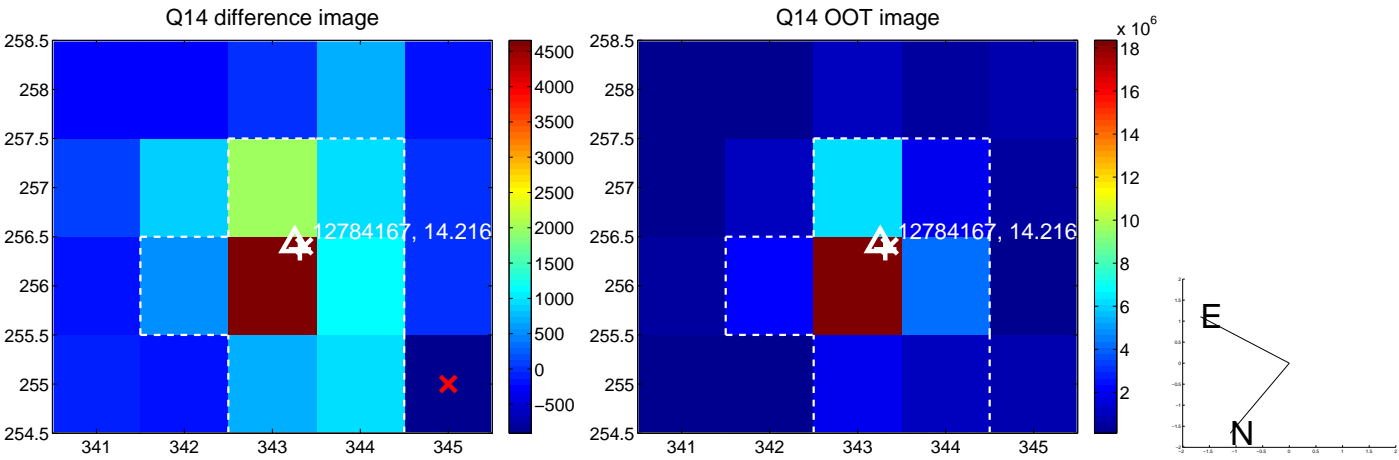
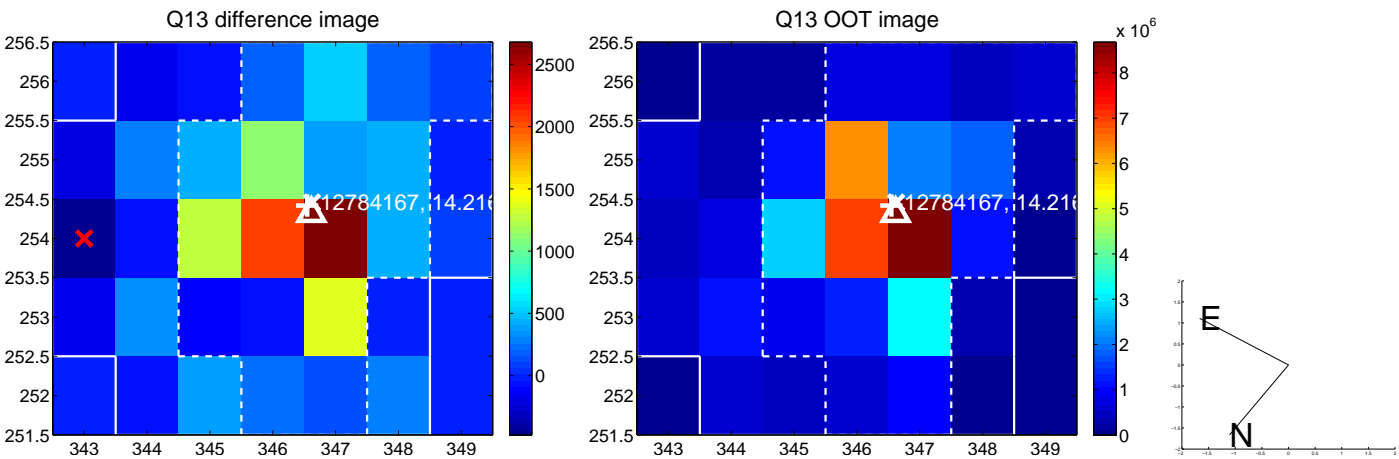
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



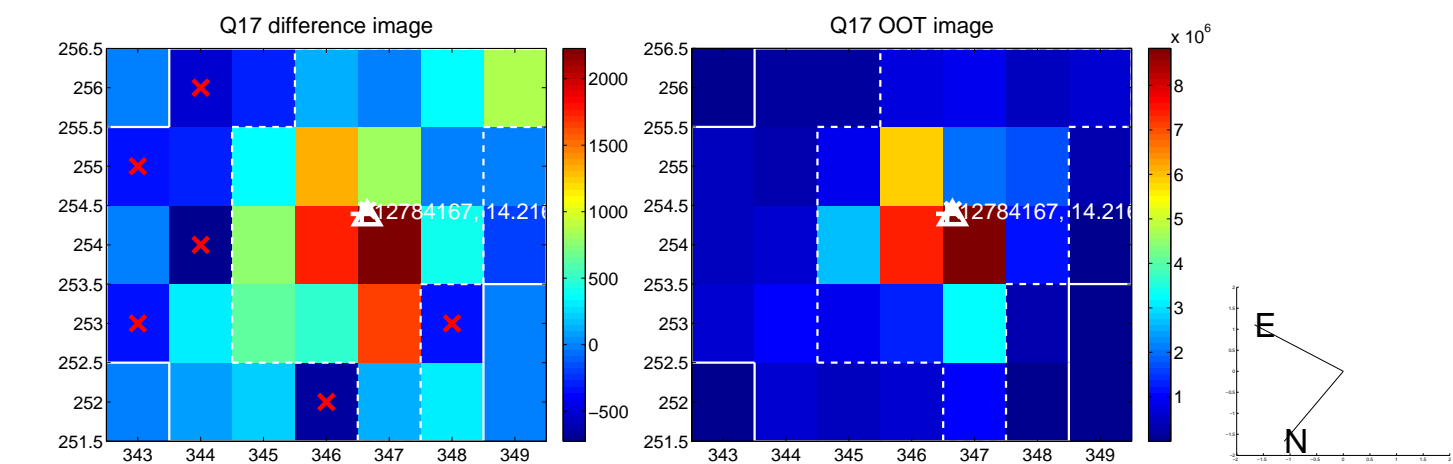
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



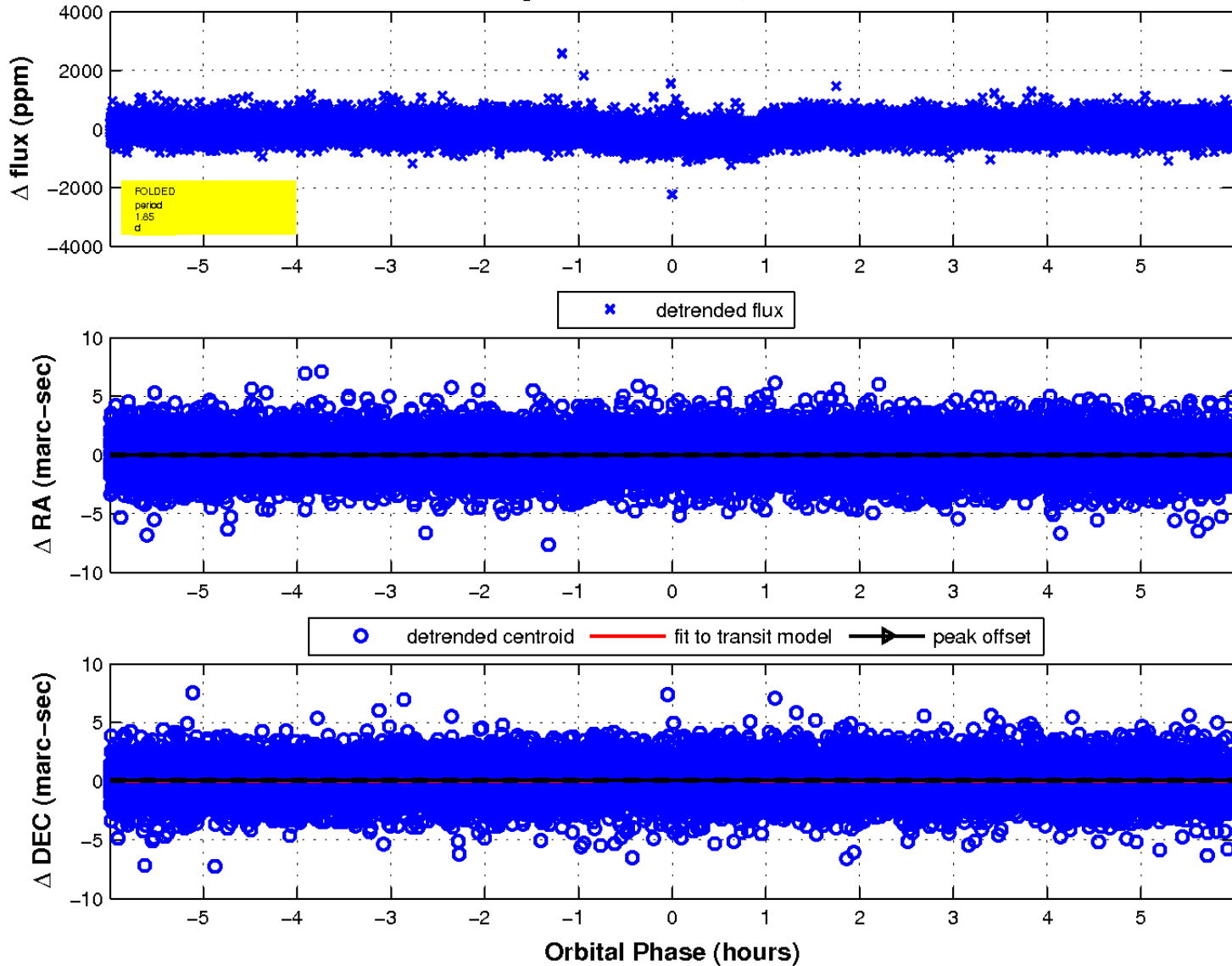
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

