

KIC 010356124

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})
010356124-01	OBS	4832.01	12.374787	137.856315	116.8	24.981	7.3	9.2	3.60	5165	4.51	584.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010356124-01	OBS	FP	0.00	1	0	0	0	LPP_DV

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

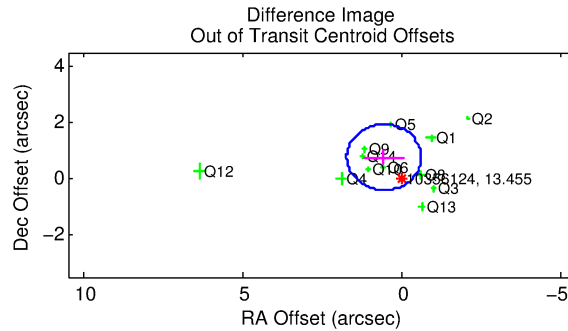
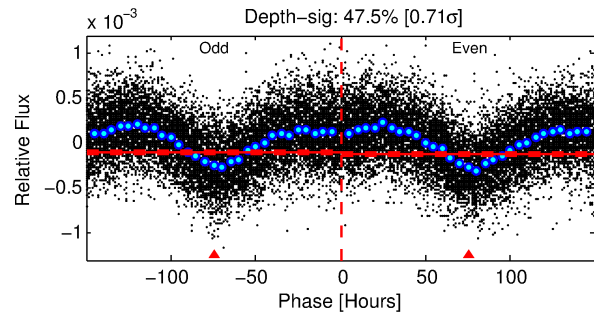
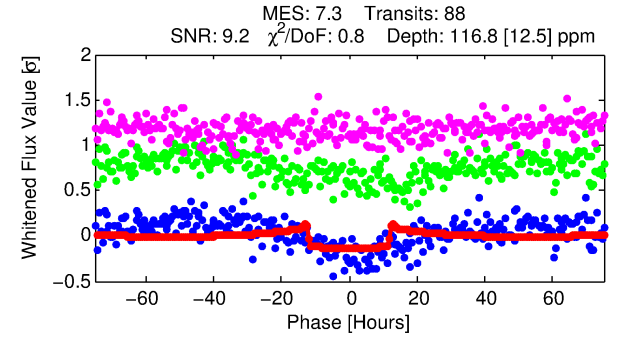
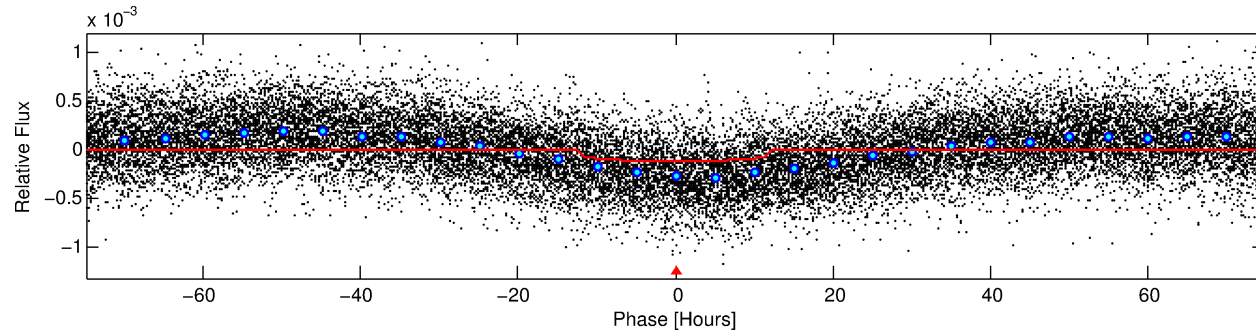
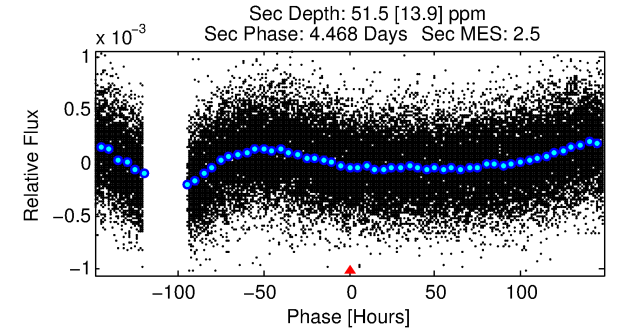
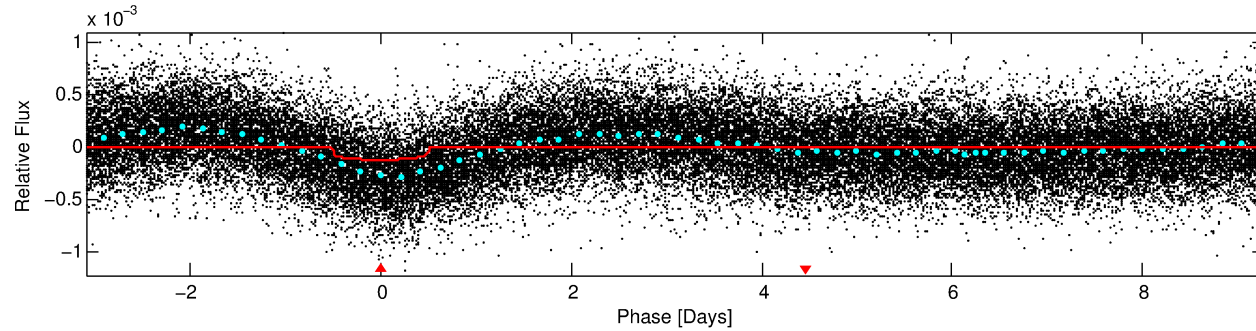
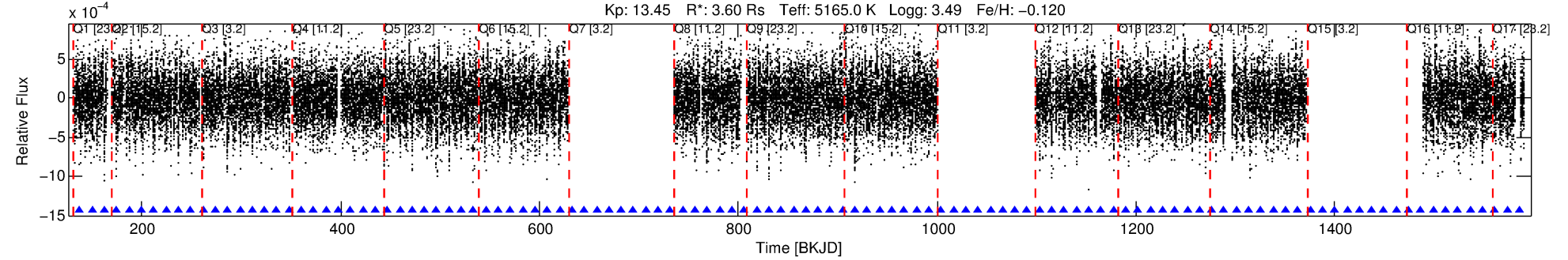
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010356124-01

No Significant Match Found

DV One-Page Summary

KIC: 10356124 Candidate: 1 of 1 Period: 12.375 d
KOI: K04832.01 Corr: 0.835



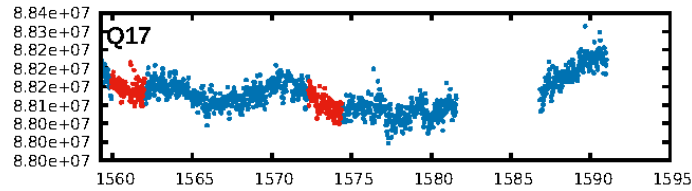
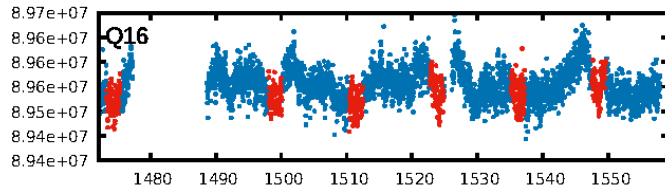
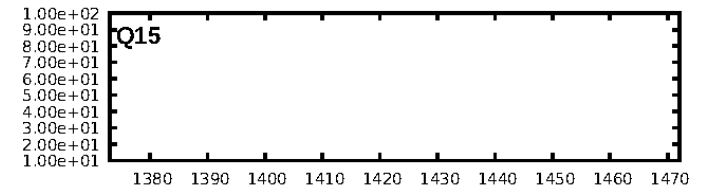
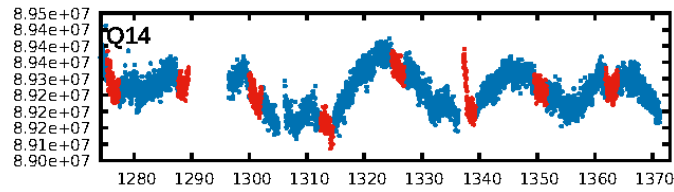
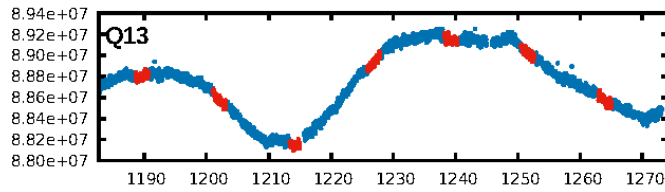
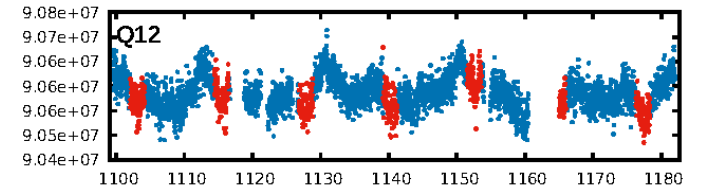
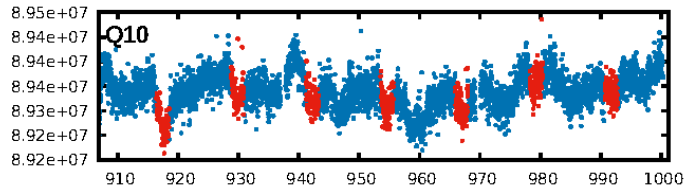
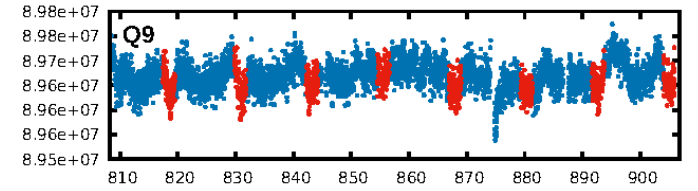
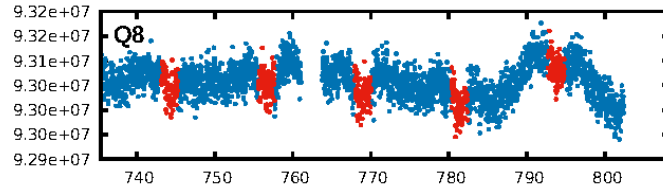
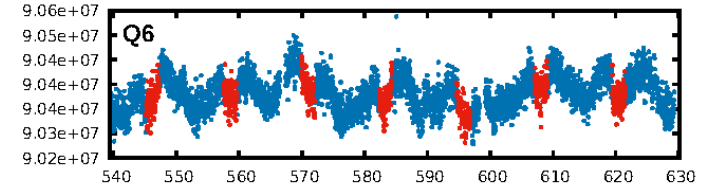
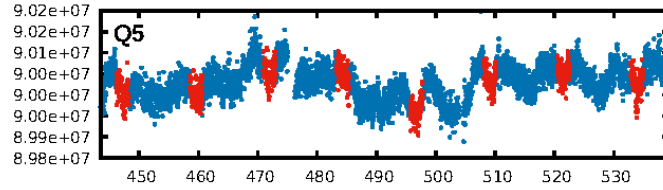
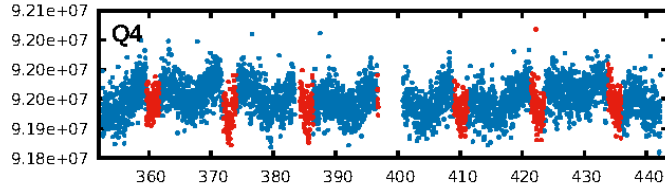
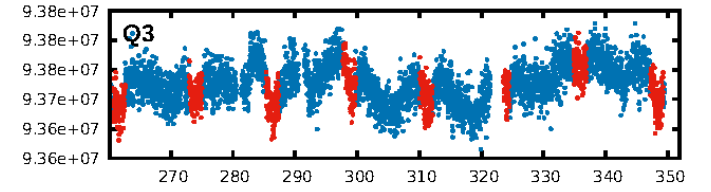
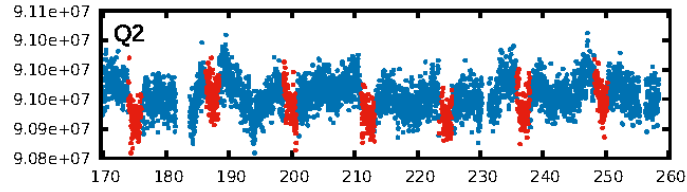
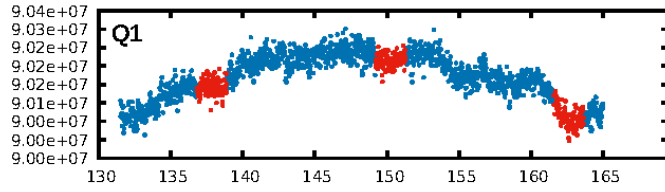
DV Fit Results:

Period = 12.37479 [0.00025] d
Epoch = 137.8563 [0.0156] BKJD
Rp/R* = 0.0115 [0.0010]
a/R* = 2.22 [0.50]
b = 0.86 [0.09]
Seff = 584.12 [578.75]
Teff = 1254 [311] K
Rp = 4.51 [2.32] Re
a = 0.1189 [0.0680] AU
Ag = 19.65 [20.35] [0.92σ]
Teffp = 4081 [353] K [6.01σ]

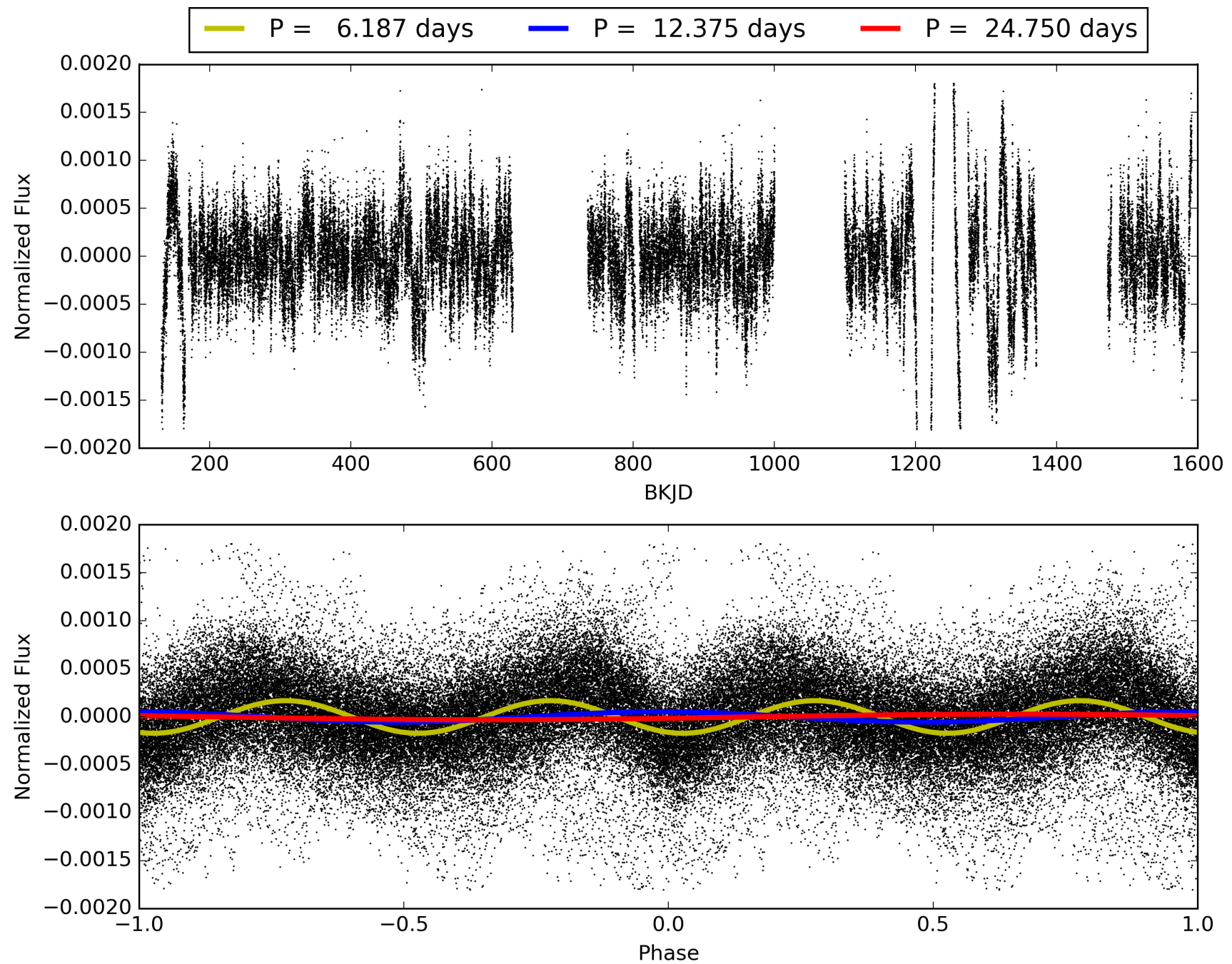
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.57e-14
RollingBand-fgt: 1.00 [83/83]
GhostDiagnostic-chr: 1.167
Centroid-sig: 0.0%
Centroid-so: 1.351 arcsec [2.92σ]
OotOffset-rm: 0.954 arcsec [2.45σ]
KicOffset-rm: 0.876 arcsec [2.15σ]
OotOffset-st: 4/1/3/4 [12]
KicOffset-st: 4/1/3/4 [12]
DiffImageQuality-fgm: 0.92 [11/12]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010356124-01, PDC Light Curves

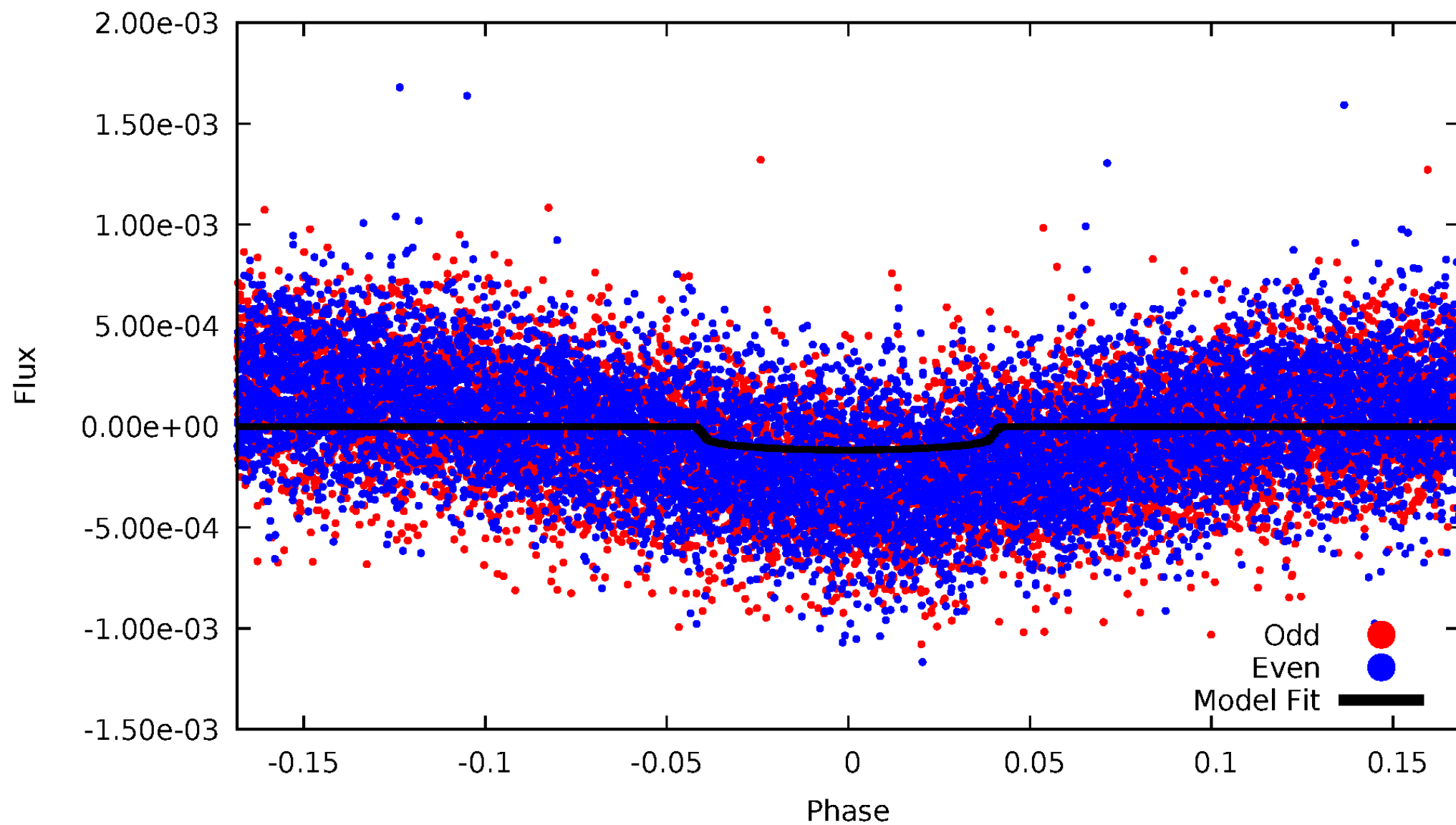


TCE 010356124-01



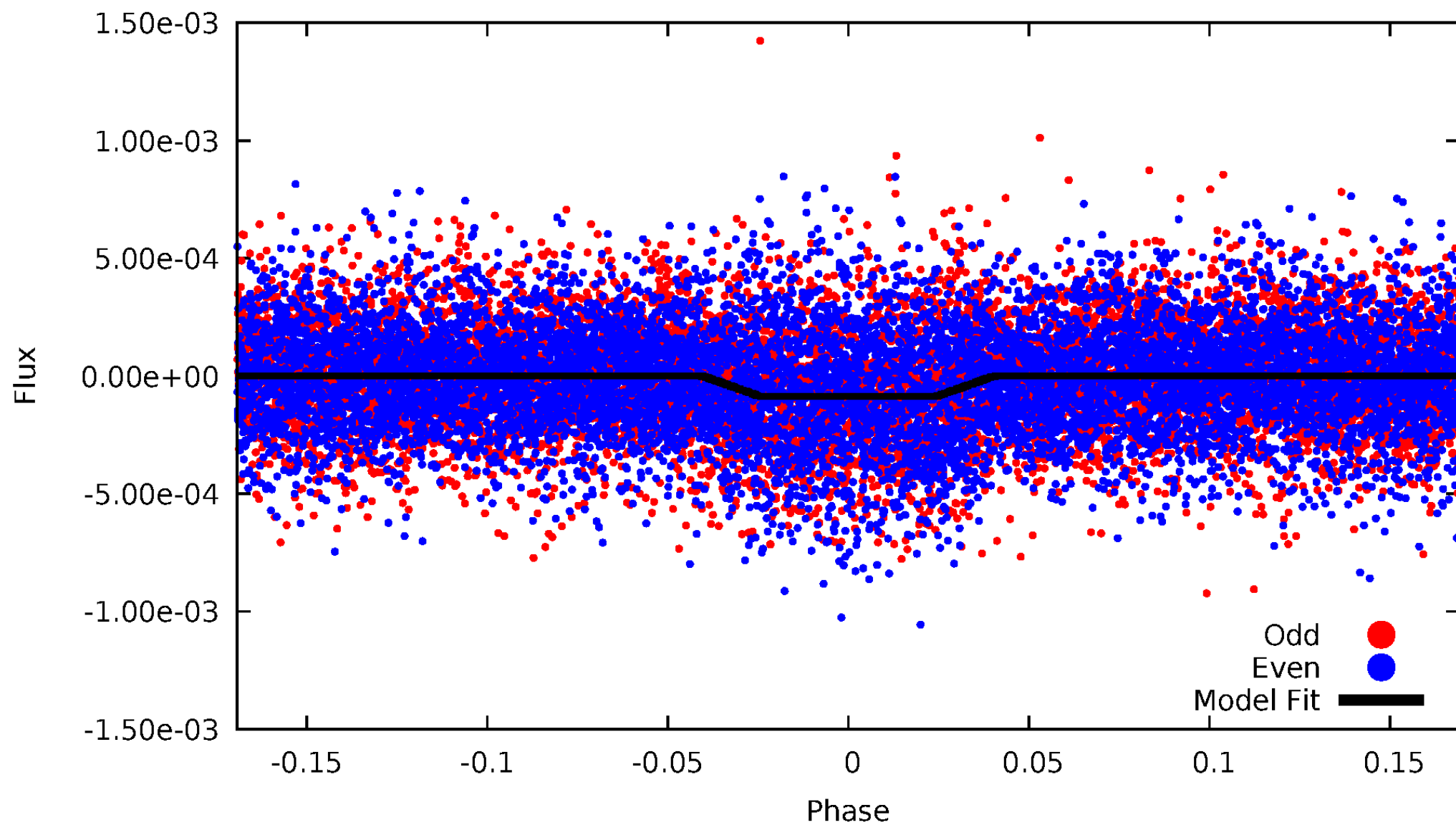
DV Odd/Even

TCE 010356124-01

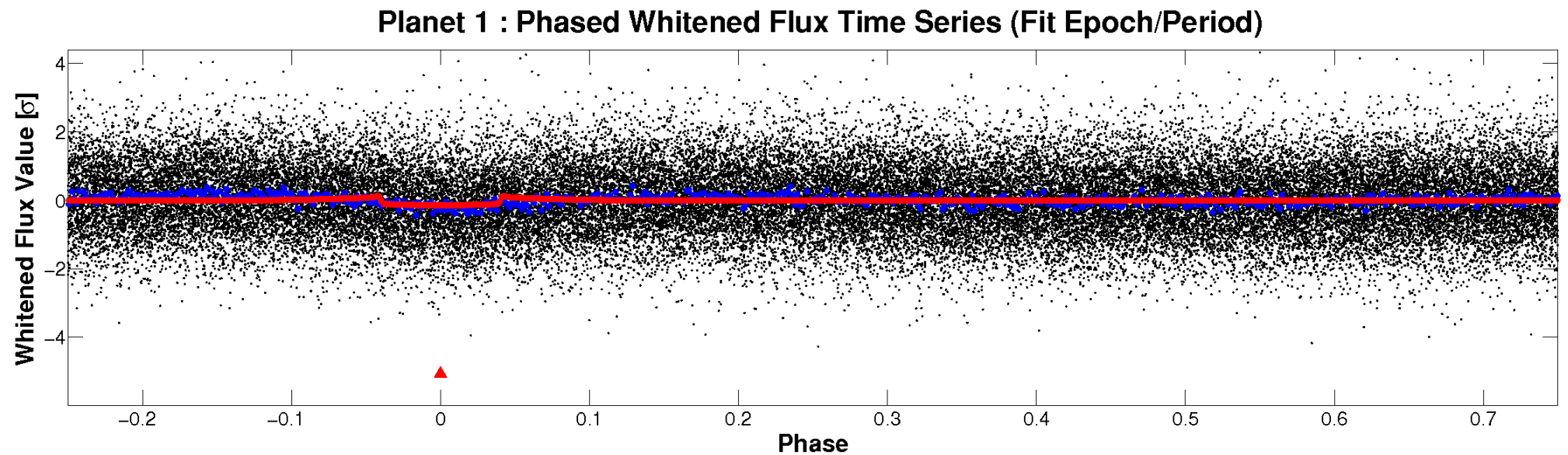
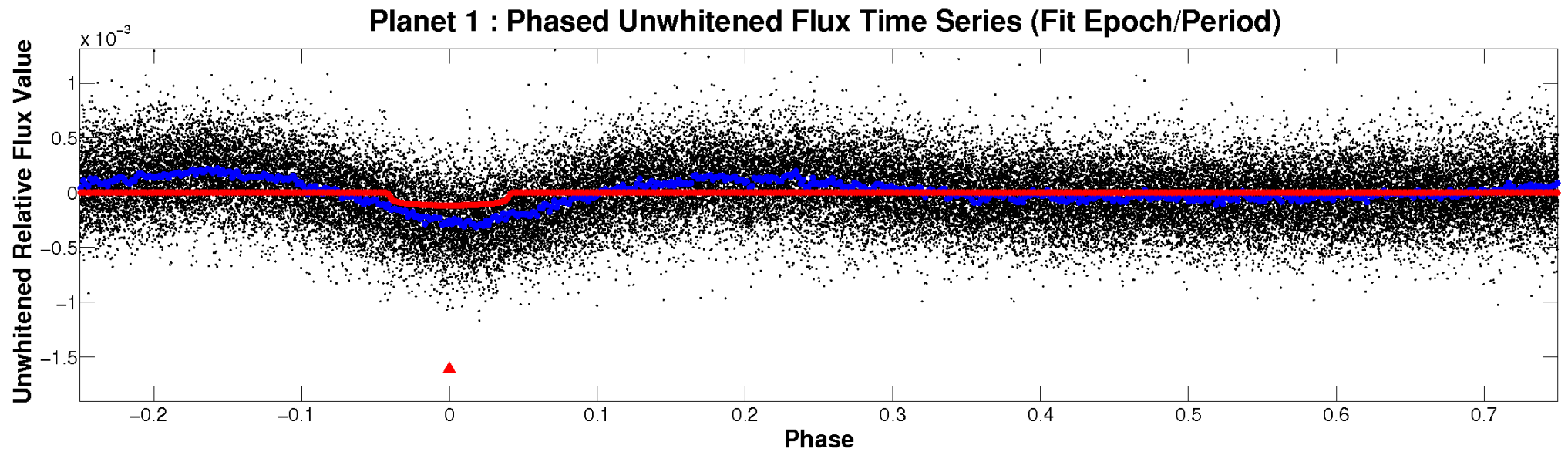


ALT Odd/Even

TCE 010356124-01

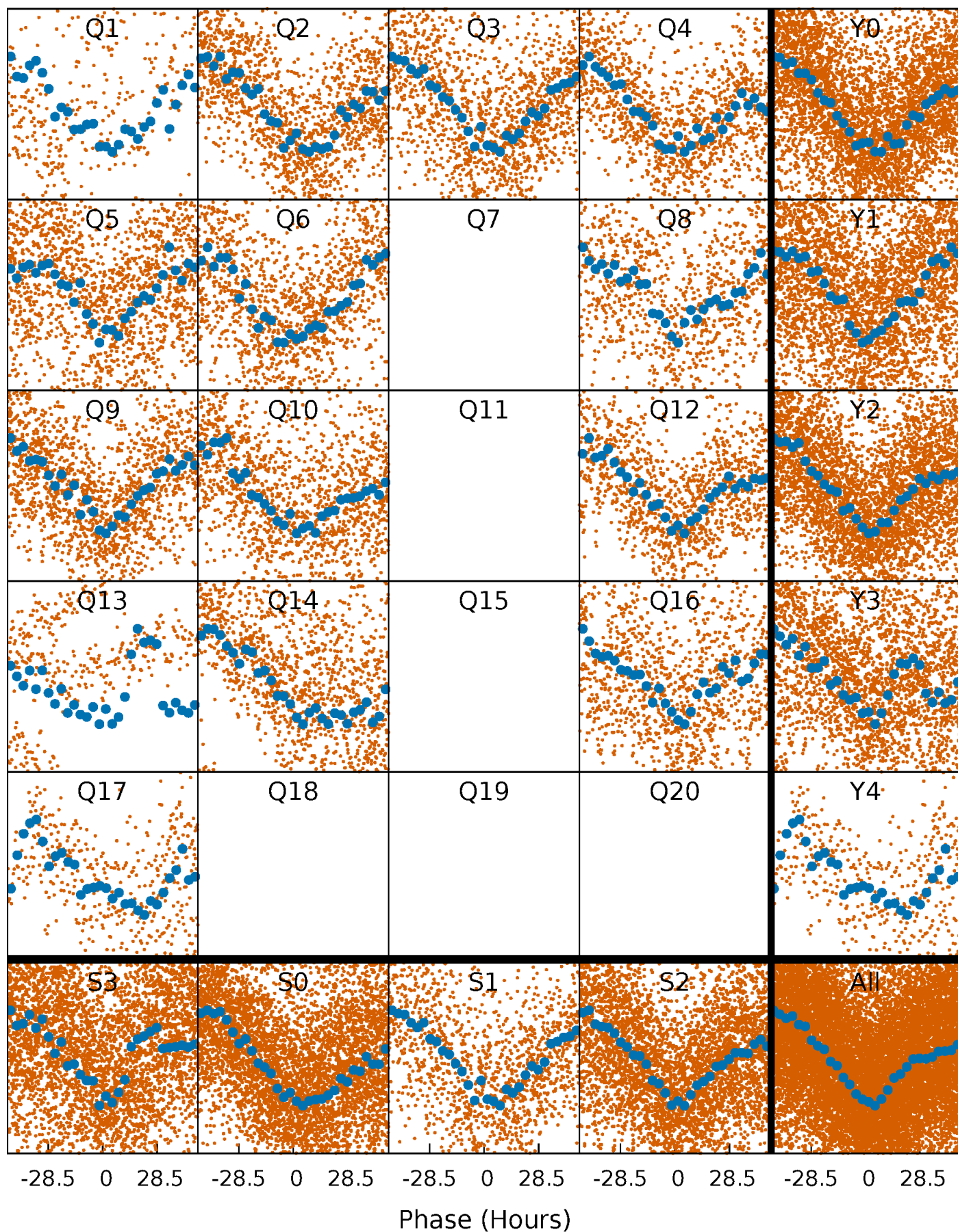


Non-Whitened Vs. Whitened Light Curve



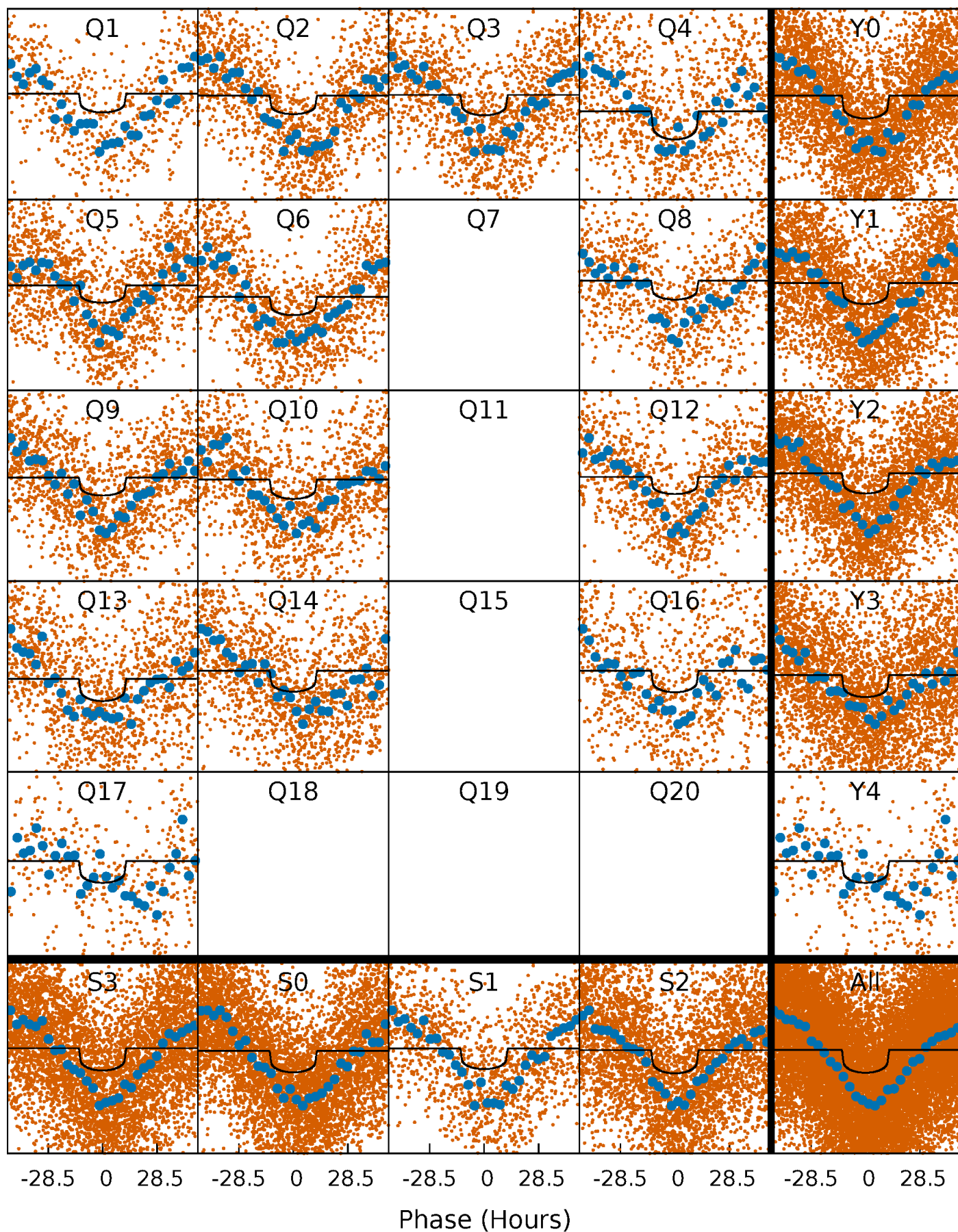
PDC Quarter-Phased Transit Curves

TCE 010356124-01 P= 12.374787 Days $T_0=137.856315$ (BKJD)



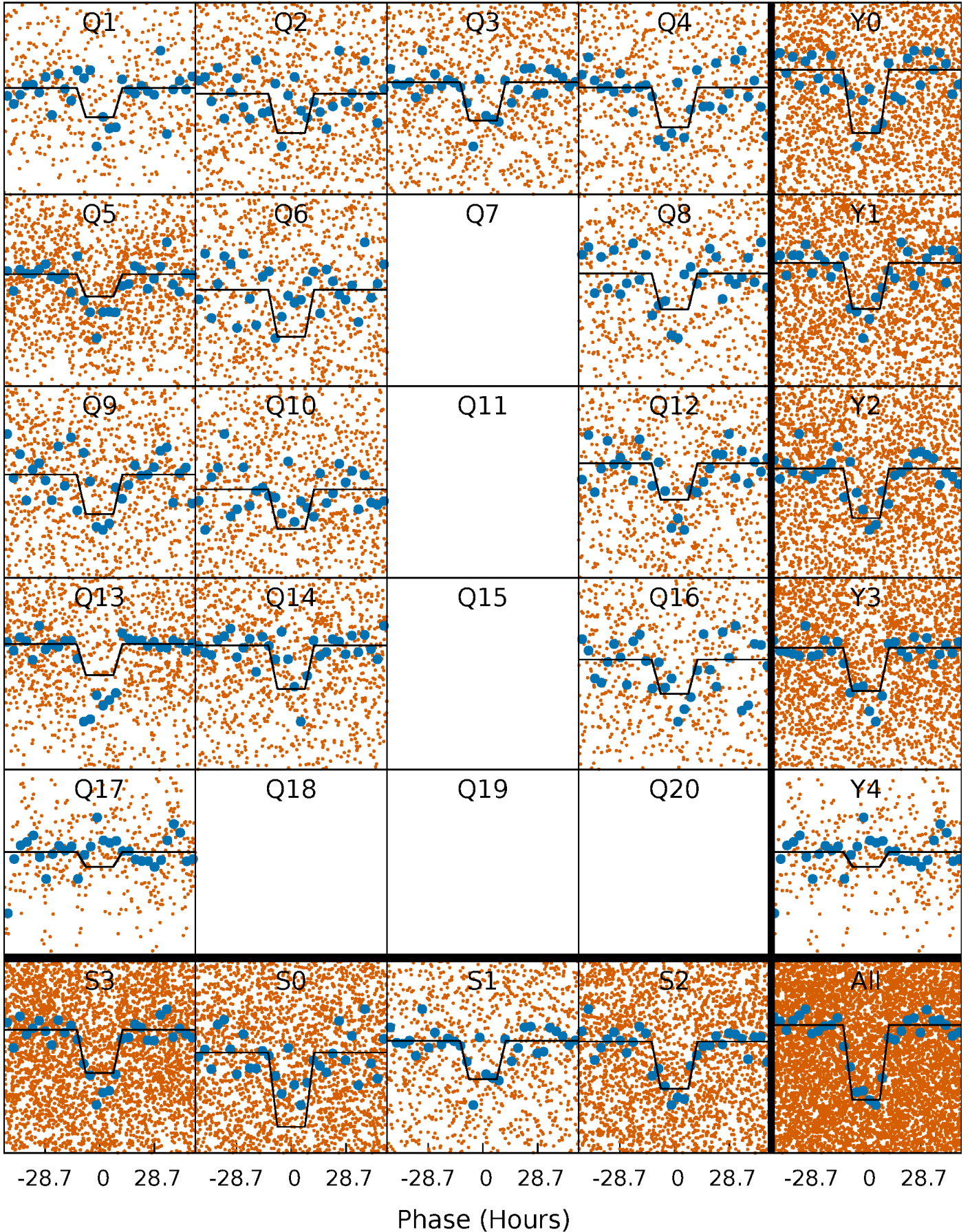
DV Quarter-Phased Transit Curves

TCE 010356124-01 P= 12.374787 Days $T_0=137.856315$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

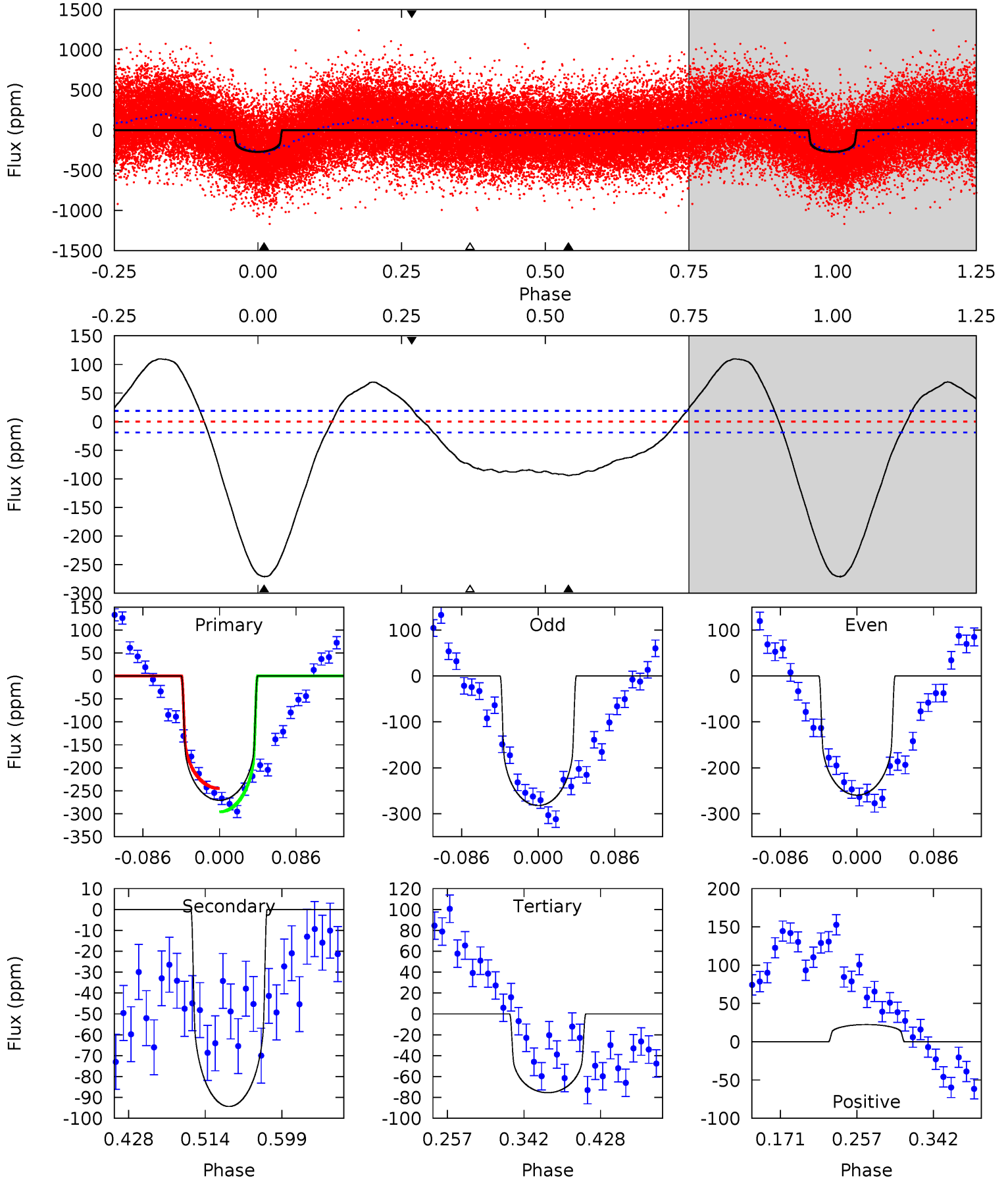
TCE 010356124-01 P= 12.374825 Days $T_0=137.859462$ (BKJD)



DV Model-Shift Uniqueness Test

010356124-01, P = 12.374787 Days, E = 125.481528 Days

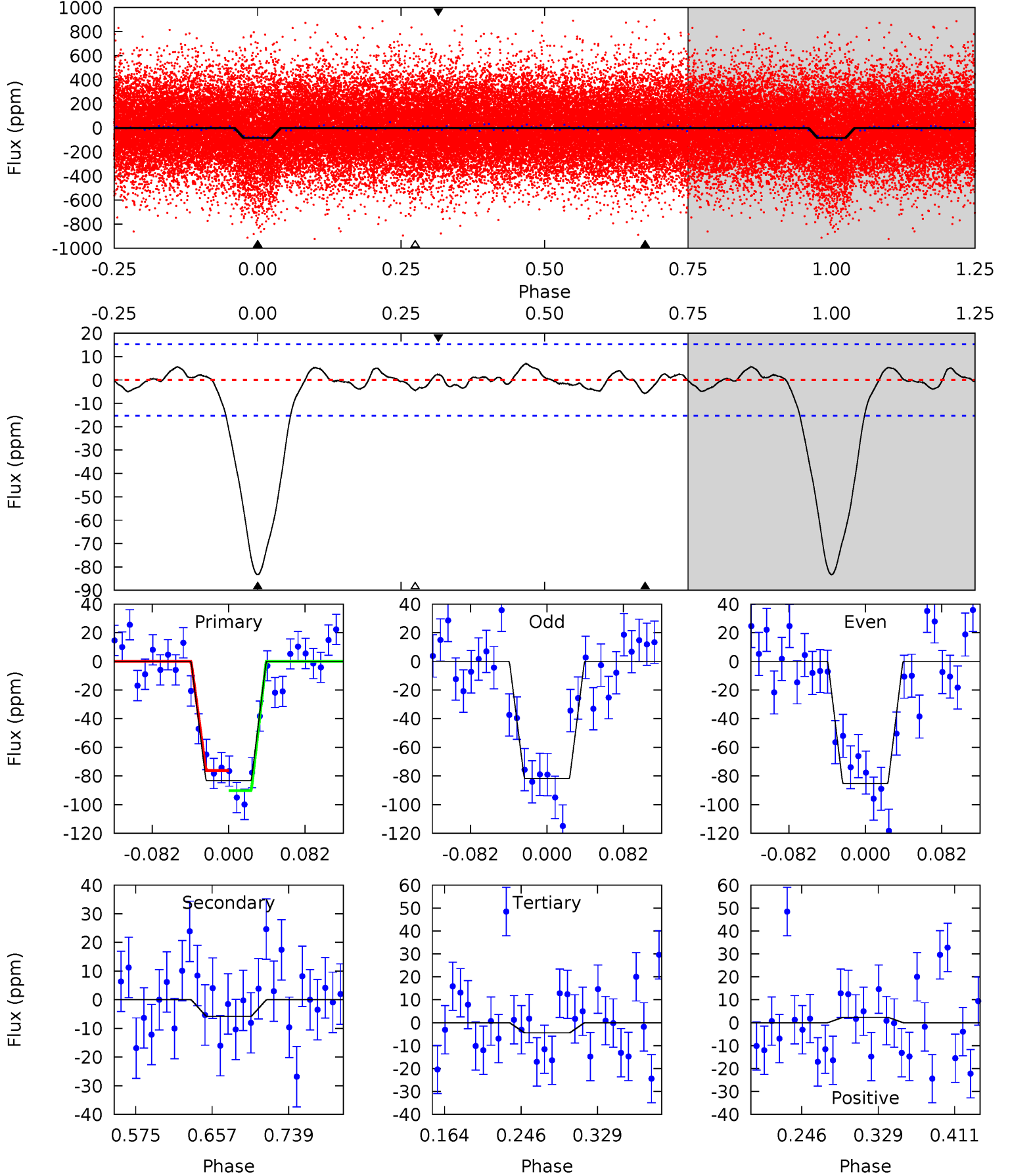
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
65.6	22.9	18.3	5.43	4.60	1.72	14.9	47.3	60.2	4.57	17.4	2.75	1.04	0.29	6.17



Alt Model-Shift Uniqueness Test

010356124-01, $P = 12.374825$ Days, $E = 125.484637$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.0	1.73	1.32	0.71	4.61	1.74	0.84	23.7	24.3	0.40	1.02	0.51	0.93	0.08	2.10



Stellar Parameters For KIC 010356124

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5165^{+155}_{-155}	$3.491^{+0.602}_{-0.215}$	$-0.120^{+0.300}_{-0.300}$	$3.598^{+1.060}_{-1.817}$	$1.462^{+0.223}_{-0.519}$	$0.044^{+0.366}_{-0.027}$
	+3%/-3%	+17%/-6%	+250%/-250%	+29%/-51%	+15%/-35%	+828%/-62%
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 010356124-01 / KOI 4832.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-94 ± 4	$4.30^{+1.08}_{-1.31}$	1721^{+176}_{-245}	4804^{+232}_{-217}	39^{+37}_{-13}
Alt.	-6 ± 3	$3.51^{+0.95}_{-1.15}$	1730^{+170}_{-271}	3126^{+285}_{-399}	$3.447^{+4.146}_{-2.065}$

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

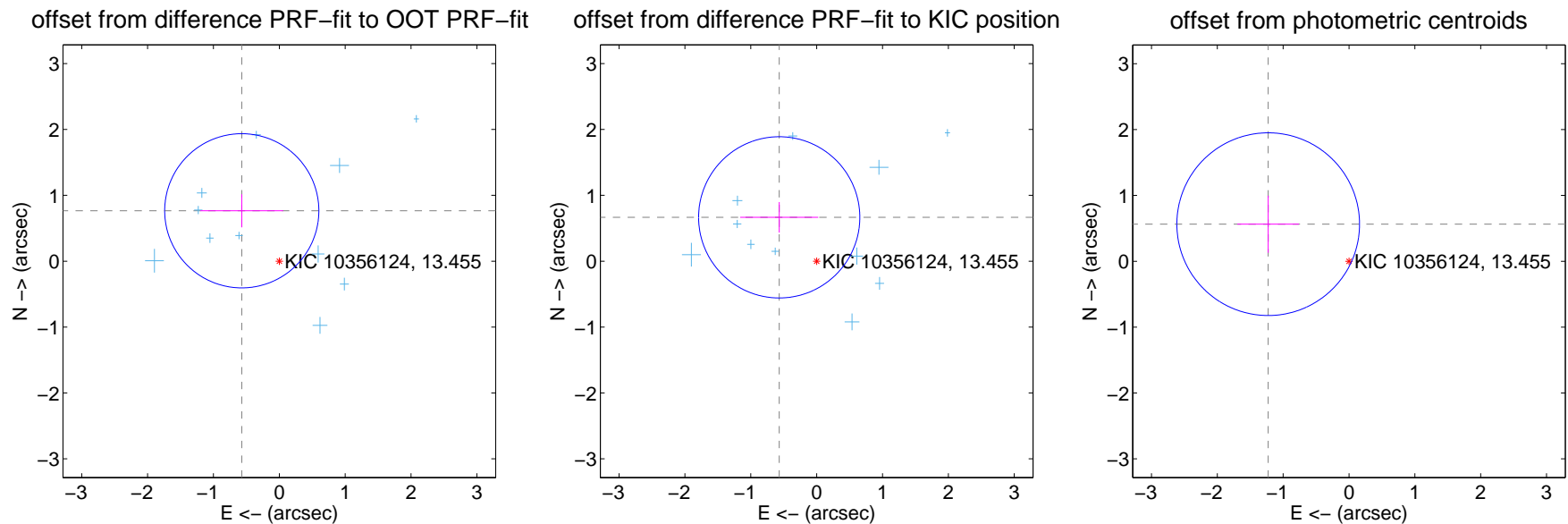
DV Centroid Data

Supplemental centroid analysis for 010356124-01. Kepler magnitude: 13.46. Transit SNR 9.16

There are 11 quarters with good PRF difference image offsets

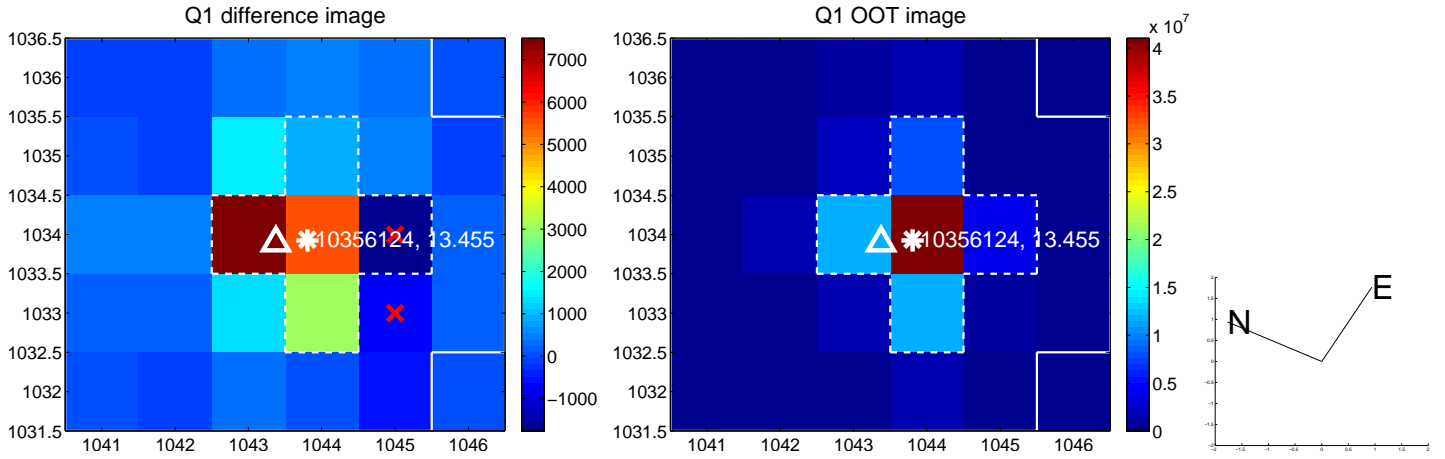
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.954 ± 0.390	2.45	0.570 ± 0.628	0.765 ± 0.251
PRF-fit source offset from KIC position	0.876 ± 0.408	2.15	0.569 ± 0.592	0.666 ± 0.232
photometric centroid source offset	1.35 ± 0.46	2.92	1.23 ± 0.47	0.56 ± 0.43

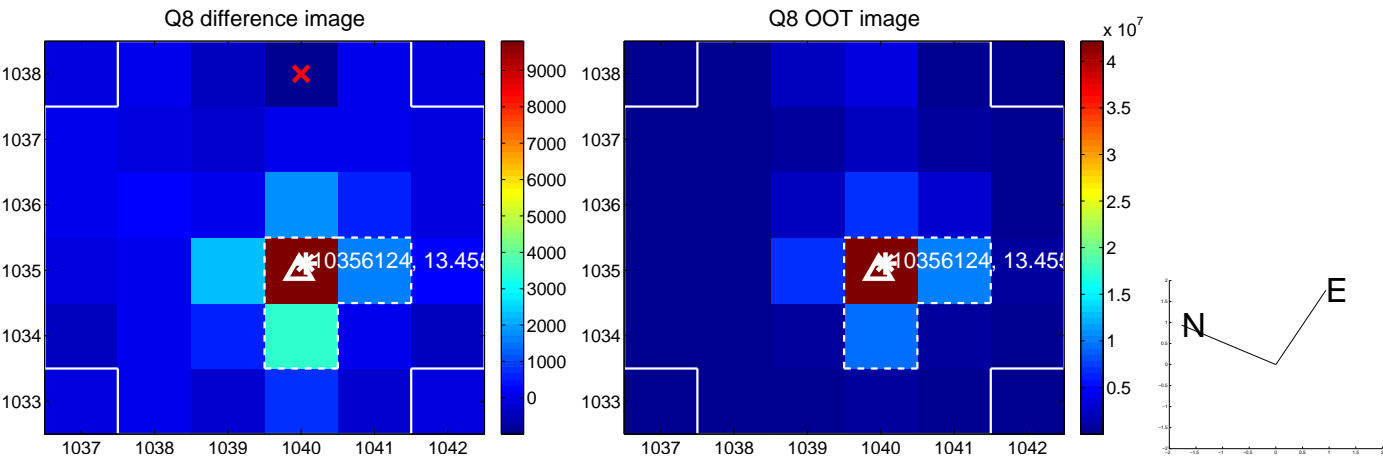
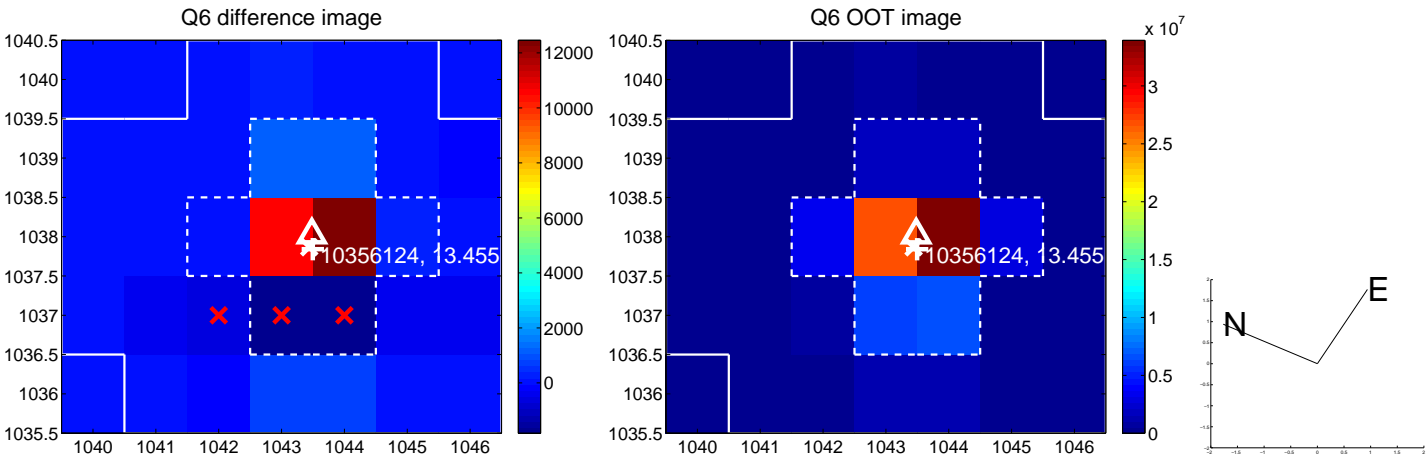
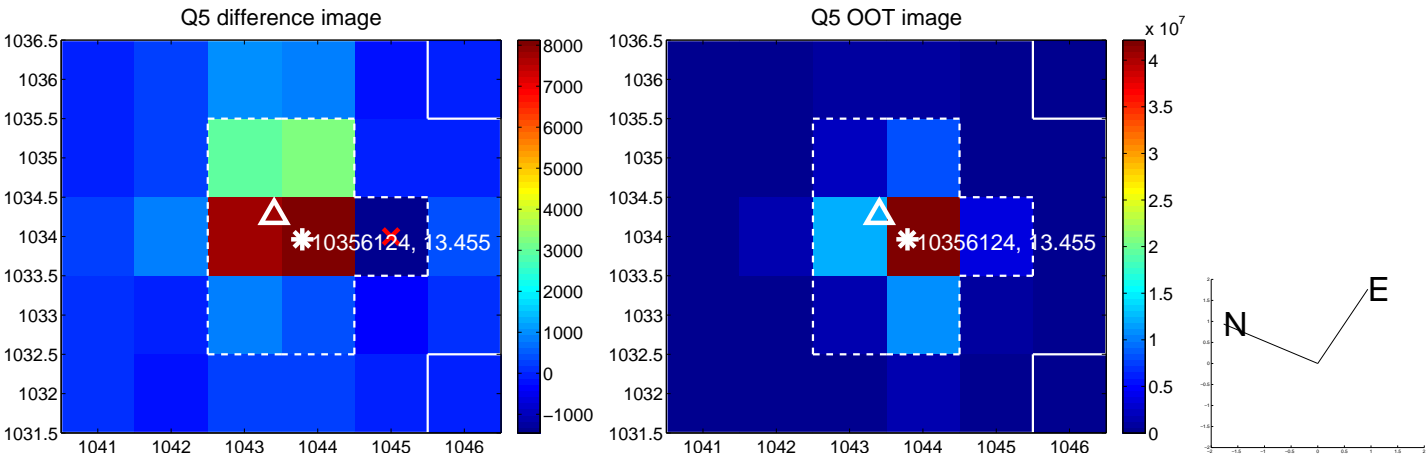


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

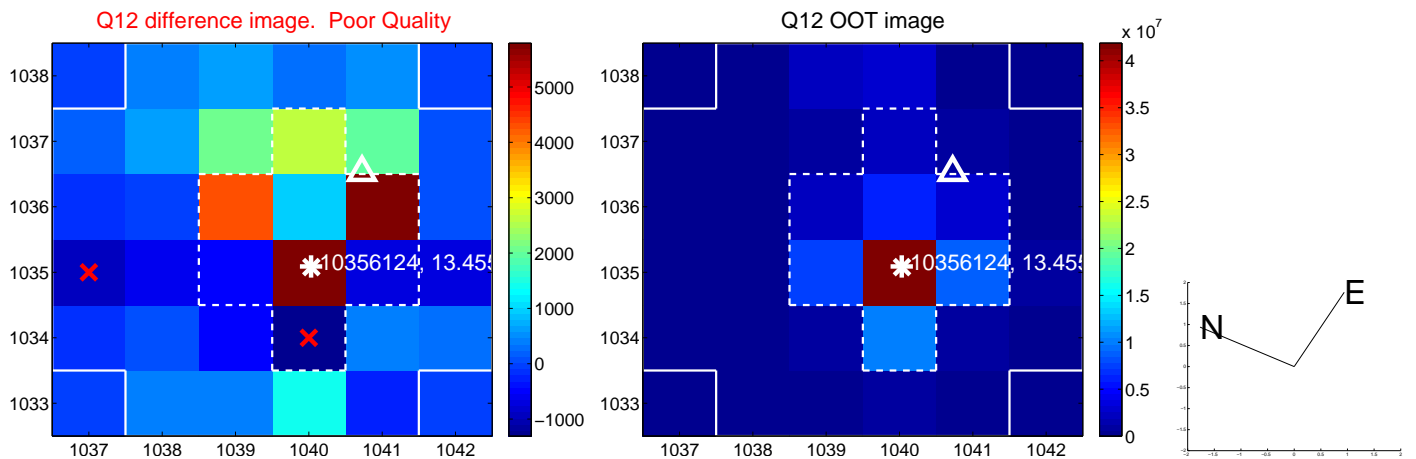
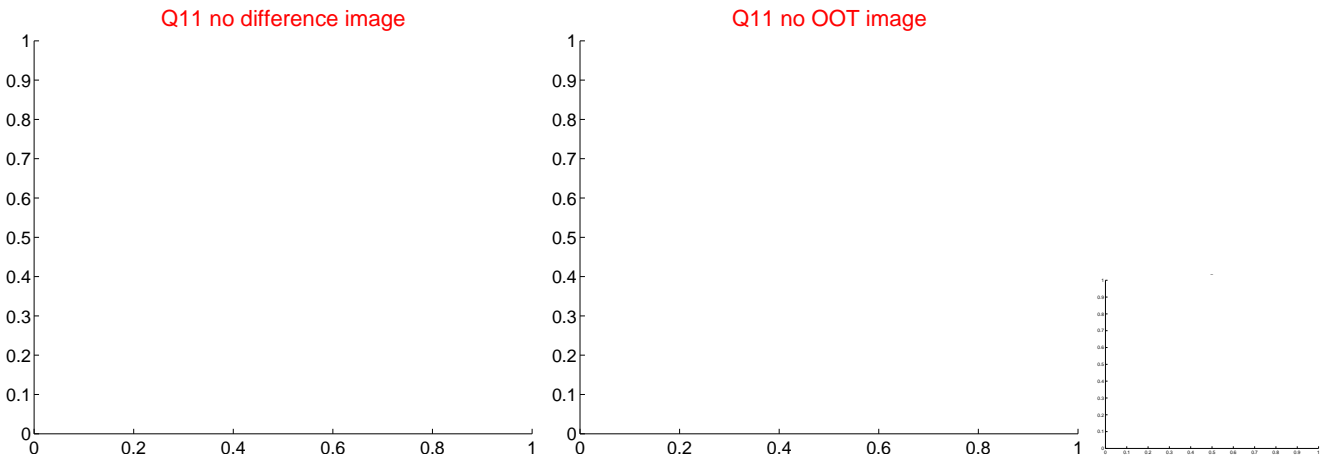
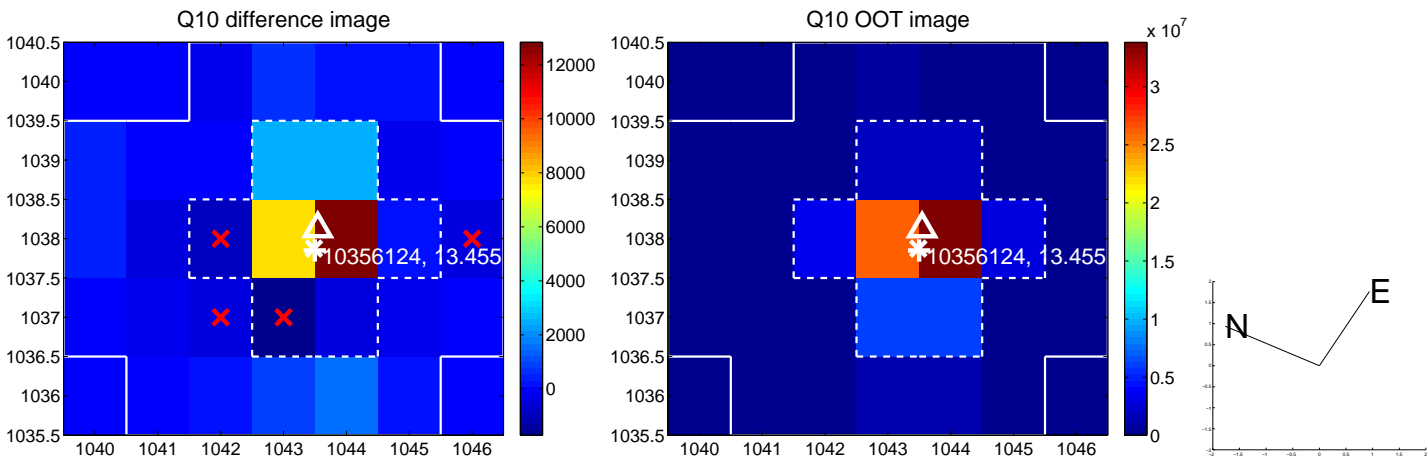
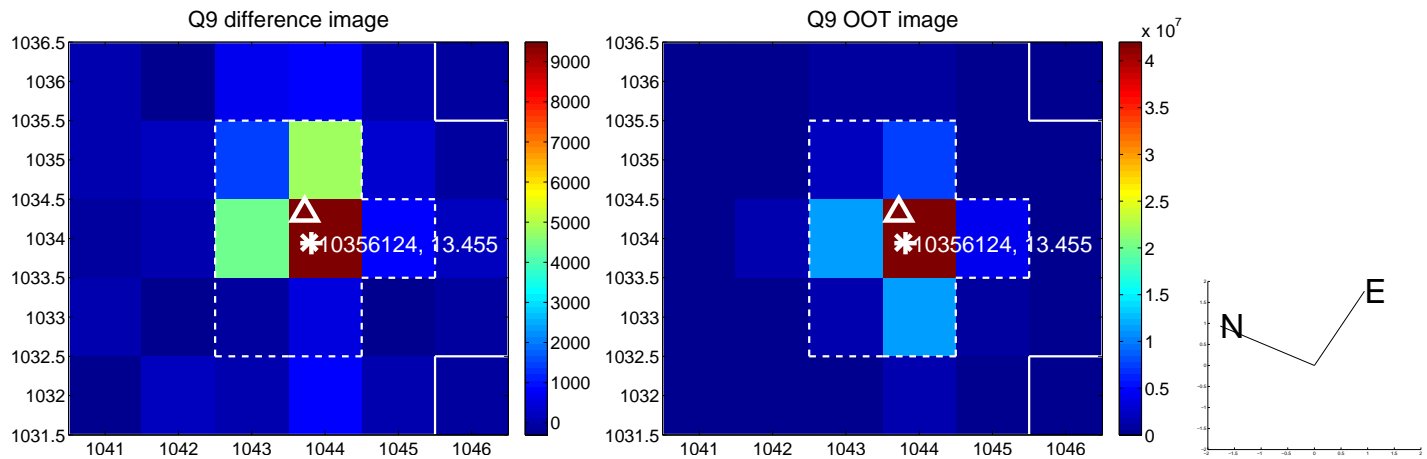
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



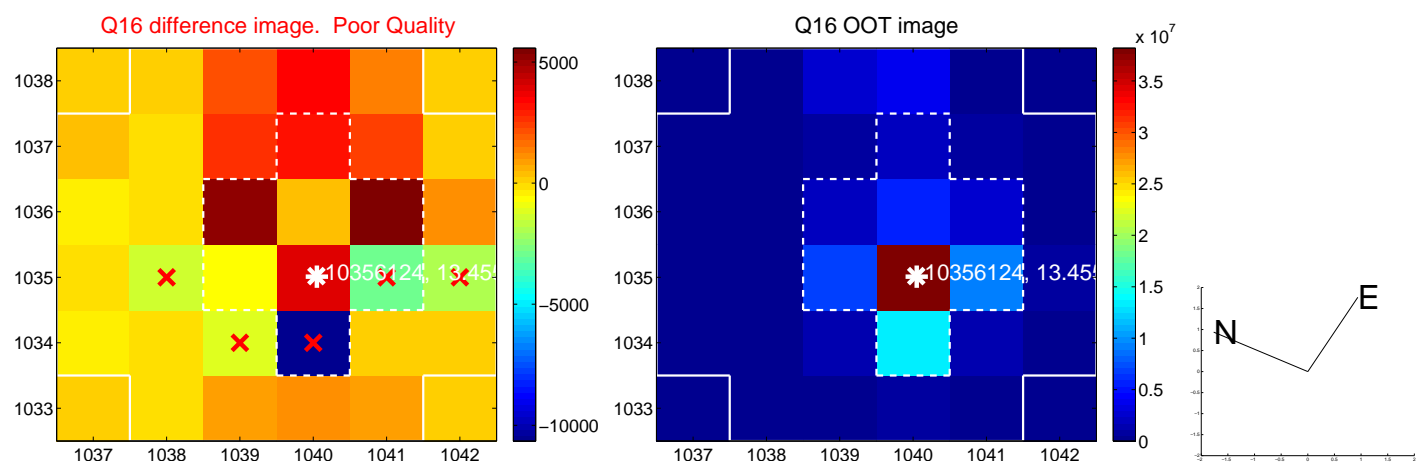
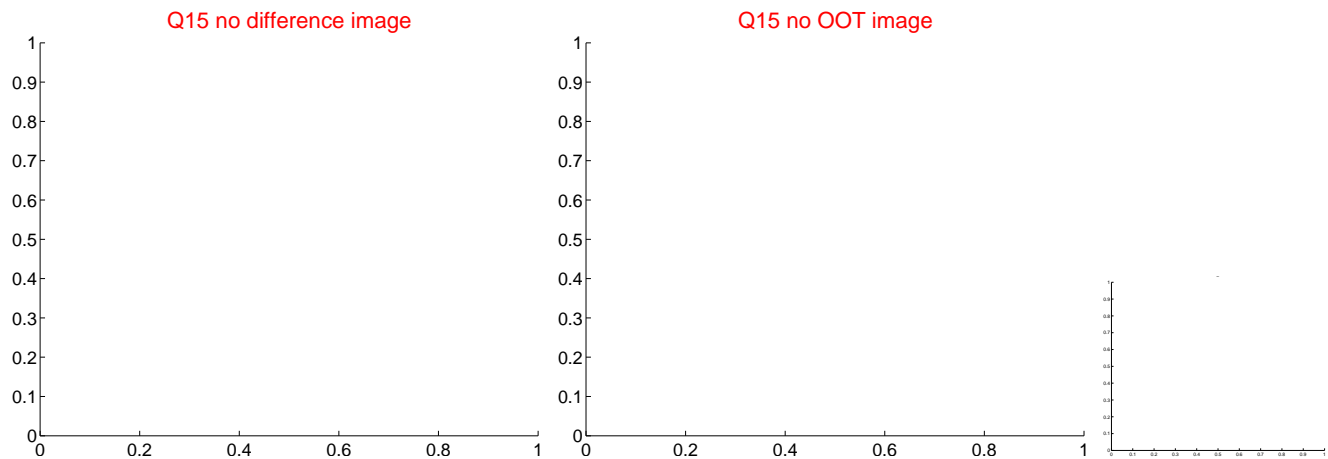
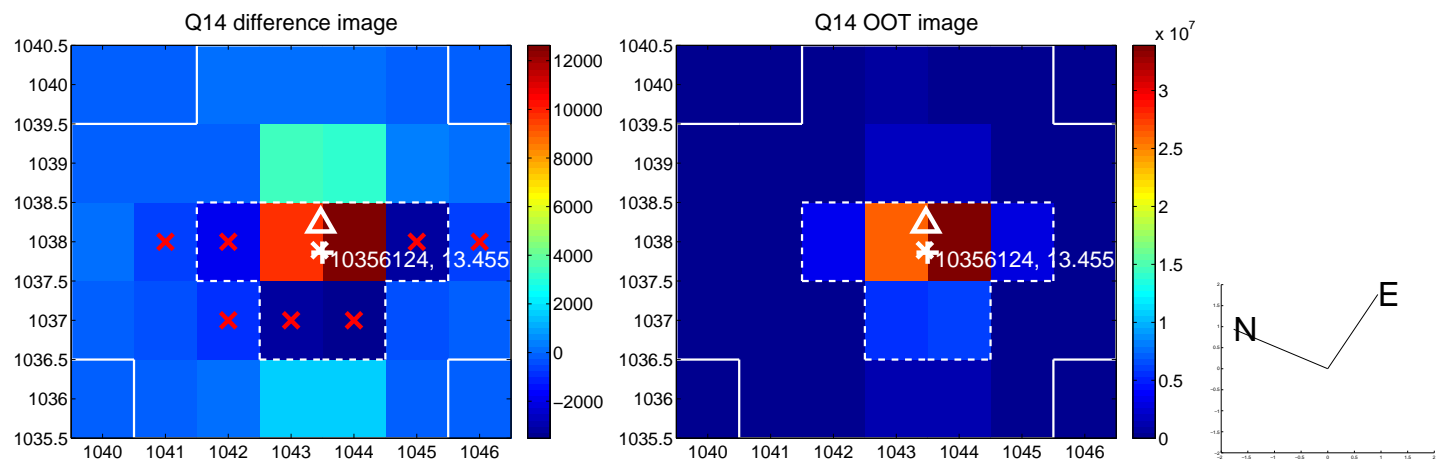
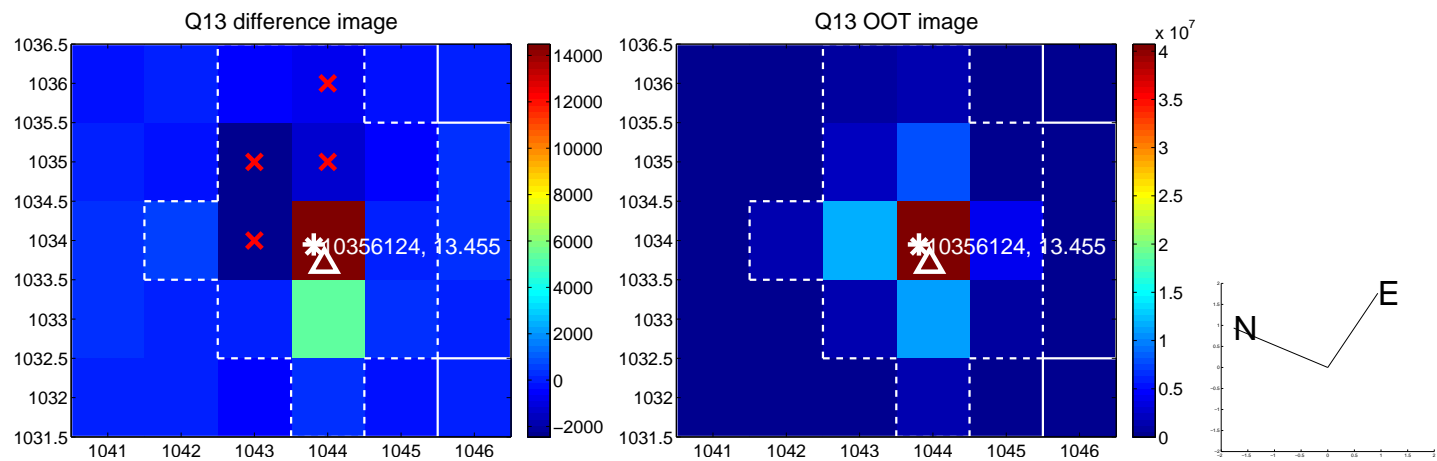
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



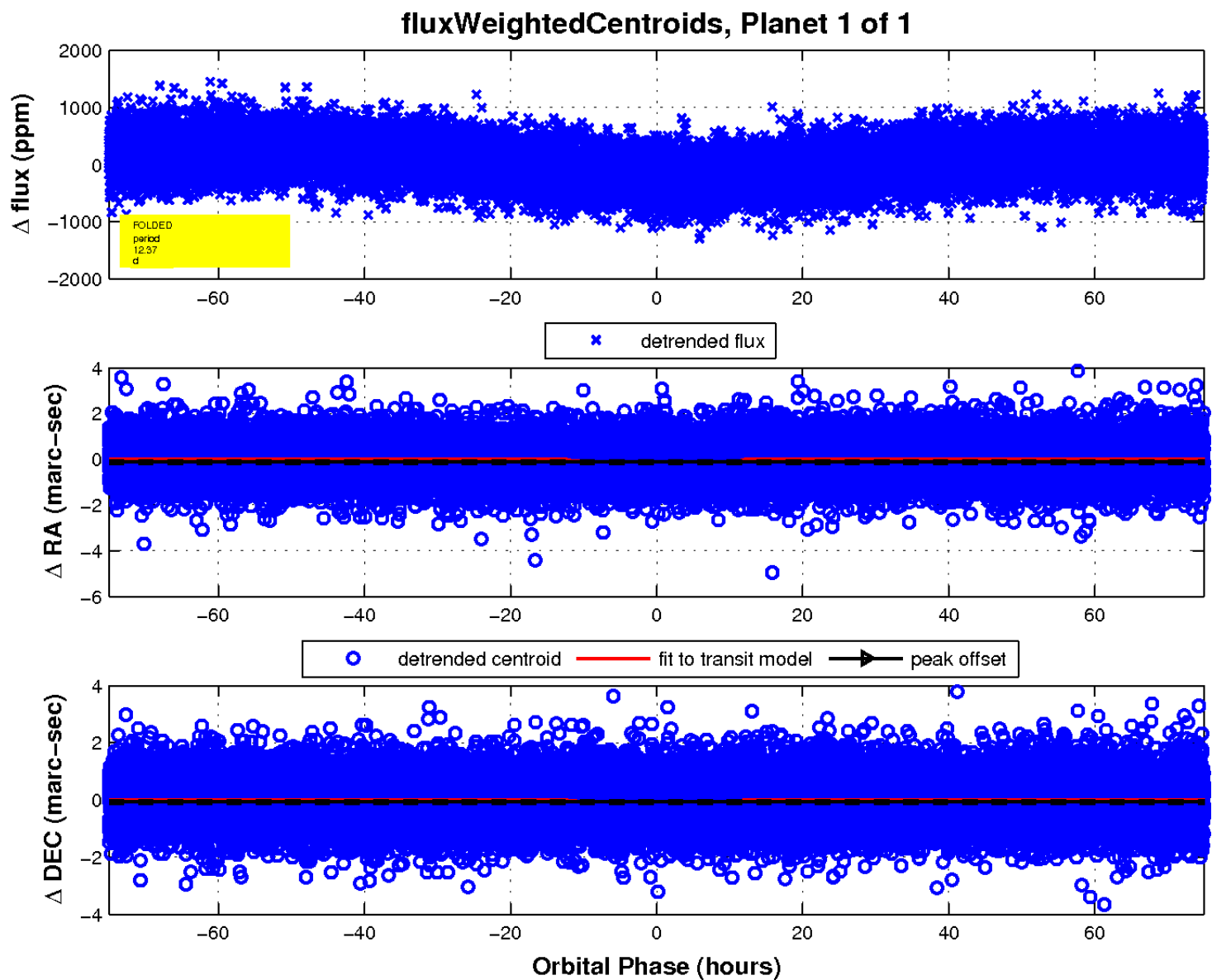
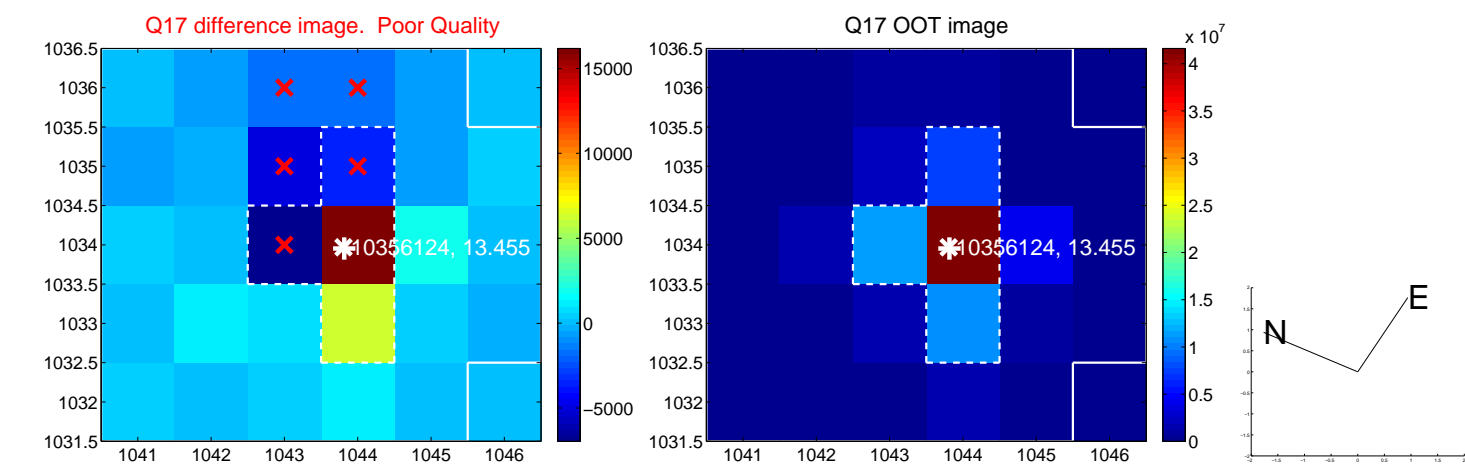
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UKIRT Image

Declination

